



2018 Annual Report



Elenith is enrolled in a Phase 2 preventative trial of crenezumab in cognitively healthy individuals in Colombia with a risk of developing Alzheimer's disease. Families carry a genetic mutation for early-onset Alzheimer's and Elenith doesn't know whether she will develop the disease. "It has haunted me all of my life but I want to be prepared if possible," she says. *Credit: Greg Kendall-Ball/Nature*



Contents:

- Letter to our Shareholders
- 2018 SEC Form 20-F Annual Report
- 2018 Annual Statutory Financial Statements
- 2018 Compensation Report

Lausanne, 31 May 2019

Invitation to the Ordinary Shareholders' Meeting

Date: 28 June 2019, at 11:30 am Swiss time
Place: Rosa Parks Learning Center, ACI offices, EPFL Innovation Park, Building G, South, 1st Floor, 1015 Lausanne

Dear Shareholder,

In 2018, AC Immune continued to shape the future by discovering and developing breakthrough therapies to treat neurodegenerative diseases, one of the most important societal challenges of our day, through pioneering science and precision medicine. Specifically, our two validated proprietary discovery platforms, SupraAntigen™ and Morphomer™, already have and are continuing to produce value-creating innovative potential therapeutics and diagnostics for neurodegenerative diseases.

AC Immune's partnerships with global leaders in neurodegeneration, Eli Lilly, Genentech (a Roche company) and Janssen, have generated close to CHF300 million in funds and are a testament to our approach. Our cash position, CHF300 million as of 31 March 2019, funds the company through Q3 2023, allowing us to achieve multiple potentially transformative goals, even as we accelerate implementation of our strategy to new high value therapeutic targets, like neuroinflammation.

We are glad to report that our strategy and ongoing development programs closely match the evolving views of key opinion leaders. The recent setbacks in Abeta development, including the discontinuation by our partner Roche of the Phase 3 crenezumab program, were very disappointing. Viewed positively and taken together with other recent scientific findings, these events served to further elucidate the roadmap for developing effective therapies and diagnostics to treat Alzheimer's disease (AD) and other neurodegenerative diseases.

We are already implementing the new strategies recommended by KOLs going forward: 1) pursue Abeta in earlier-stage patients to prevent rather than treating AD and; 2) target Tau, which has been shown to correlate with disease progression; 3) run trials of Abeta therapeutics in more homogeneous populations (e.g. in our case, Down syndrome¹ and familial AD²); 4) pursue combination therapies; 5) pursue neuroinflammation. To succeed with the above, it is necessary to develop/access and utilize novel diagnostics allowing earlier treatment and more specific identification of patients' pathologies applying Precision Medicine to neurodegenerative diseases

In the short- to medium-term, we and others in the industry are increasingly focused on clinical trials of Tau therapies to treat early and late stage AD based on emerging clinical evidence that Tau pathology drives disease progression^{3,4}. We are also actively pursuing other strategies, such as targeting neuroinflammation^{5,6}, and look forward to communicating specifics on this soon.

In addition, we are targeting earlier therapeutic intervention and prevention, for example by testing new diagnostic tools in the clinic that will allow us to identify and track patients earlier and throughout the course of the disease. Effective diagnostics will allow us to detect and track specific pathologies, making possible the study of combination therapies and prevention studies in pre-symptomatic patients, who could not otherwise have been diagnosed.

Discovery platforms underpin pipeline progress

The AC Immune pipeline, all of which originated from the SupraAntigen™ and Morphomer™ platforms, is broad and robust. It includes nine therapeutic and three diagnostic product

1. Strydom A, et al., *Alzheimers Dement (N Y)* 2018;

3. Pontecorvo MJ, et al., *Brain* 2019;

5. Heneka MT et al., *Nat Rev Neurosci.* 2018;

2. Lott IT and Head E., *Nat Rev Neurol.* 2019

4. Gordon BA, et al., *Brain* 2019

6. Wang S et al., *Int Immunopharmacol.* 2019

candidates, with three product candidates currently in four Phase 2 trials, as well as highly-valued preclinical assets targeting Tau, a-syn and TDP-43.

In December 2018, we initiated a transformative license agreement with Lilly to research and develop small molecule Tau Morphomer™ aggregation inhibitors to treat AD and other neurodegenerative diseases. The terms include upfront payment of CHF 80 million, USD 50 million convertible equity note, CHF 60 million in potential near-term milestones, as well as additional potential milestones of approximately CHF 1.68 billion, plus tiered royalty payments in the low double digits.

Genentech commenced recruitment for a second Phase 2 trial of AC Immune's anti-Tau monoclonal antibody in moderate AD, supplementing a separate Phase 2 trial to evaluate its efficacy and safety in participants with prodromal to mild AD. We expect data readout from the latter in 2020.

Crenezumab continues to be studied in a landmark trial of cognitively healthy individuals in Colombia with an autosomal dominant mutation who are at risk of developing familial AD, under the Alzheimer's Prevention Initiative (API). The goal is to show that crenezumab will prevent or delay disease onset and progression of AD, and continuing this study has been encouraged by KOLs since amyloid is still considered a critical genetic and molecular pathology leading to the emergence of AD. The current prevailing view is that Abeta treatment was tested too late in the course of the disease to have an impact and that Abeta monotherapy should be applied in primary or secondary prevention studies as tested in the API study.

We initiated a Phase 2 clinical trial with an adaptive design for evaluation of ACI-24 (anti-Abeta vaccine) in patients with mild AD, and completed recruitment of the ACI-24 Phase 1b study for the treatment of AD-like characteristics in adults with Down syndrome. We expect interim data in 2019 and a potential decision to start Phase 2 ahead of plan.

There are several other milestones approaching in 2019, including lead selection of a-synuclein and TDP-43 antibodies and proof-of-concept of the first candidate targeting neuroinflammation. The Morphomer™ Tau Phase 1 study by Lilly is expected to start in Q2 2019, and Phase 2 testing of ACI-35 is anticipated to start in H1 2019.

Management Appointments

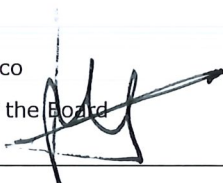
On the personnel front, we strengthened the executive management team with the appointments of Dr. Marie Kosco-Vilbois, as Chief Scientific Officer, with a strong background in immunology and inflammation. We also appointed Piergiorgio Donati as Head of Technical Operations and Program Management and Dr. Sonia Poli as Head of Translational Science.

Conclusion

The achievements of AC Immune – not just in 2018 but looking back to the foundation of the company more than 15 years ago – have been enabled by the commitment and support of you, our highly valued shareholders. We would like to take this opportunity to extend our gratitude for your continued interest and engagement in our work in such an exciting and challenging field, which is one of the greatest unmet medical needs as well as one of the biggest opportunities in healthcare. We always appreciate your different and sometimes challenging insights and feedback, all of which contribute to our growth and success, and we look forward to keeping you up to date on the exciting developments ahead of us in 2019.

Together, we can look forward to taking AC Immune forward to developing innovative treatments and diagnostics that shape how we address neurodegenerative diseases.

Martin Velasco
Chairman of the Board



Prof. Andrea Pfeifer
CEO



Kindly find hereafter the agenda items and proposals of the Board of Directors in connection with the third ordinary annual meeting of AC Immune SA as a public company:

Agenda Items and Proposals of the Board of Directors

1. Approval of the Annual Report, Annual Statutory Financial Statements and Financial Statements under IFRS of AC Immune SA for the year 2018

The Board proposes to approve the Annual Report, the Annual Statutory Financial Statements and the Financial Statements under IFRS of AC Immune SA for the year 2018, and to take note of the Reports of the Auditors. Copies of these documents are available for download in the "Investors" section of our website (www.acimmune.com).

2. Appropriation of Loss

The Board of Directors proposes that the net loss of the year 2018 in the amount of KCHF 48'894 is added to the loss brought forward of KCHF 58'426 resulting in a new balance of loss brought forward of KCHF 107'320. Under IFRS accounting principles, the net loss for the business year 2018 amounted to KCHF 50'951.

3. Discharge of the Members of the Board of Directors and the Executive Committee

The Board proposes that the members of the Board and the Executive Committee are discharged from their liabilities for their activities in the financial year 2018.

4. Compensation for the Members of the Board of Directors and the Executive Committee

The Board of Directors proposes to hold the following separate votes on the non-performance-related and the variable compensation of the Board of Directors (size unchanged) and the Executive Committee (size increased from four persons in the previous year to six persons in the current year):

4.a Vote on Total Non-Performance-Related Compensation for Members of the Board of Directors from 1 July 2019 to 30 June 2020

The Board of Directors proposes that shareholders approve the total maximum amount of non-performance-related compensation for the members of the Board of Directors covering the period from 1 July 2019 to 30 June 2020, *i.e.*, CHF 547'000 (cash base compensation plus social security costs).

4.b Vote on Equity for Members of the Board of Directors

The Board of Directors proposes that shareholders approve the maximum grant of equity or equity linked instruments for the members of the Board of Directors from 1 July 2019 to 30 June 2020 with maximum value of CHF 626'000 (equity or equity linked instruments value plus social security costs).

4.c Vote on Total Non-Performance-Related Compensation for Members of the Executive Committee from 1 July 2019 to 30 June 2020

The Board of Directors proposes that shareholders approve the total maximum amount of non-performance-related cash compensation for the members of the Executive Committee from 1 July 2019 to 30 June 2020, *i.e.*, CHF 2'407'000 (cash base compensation plus social security costs).

4.d Vote on Total Variable Compensation for Members of the Executive Committee for the current year 2019

The Board of Directors proposes that shareholders approve the total maximum amount of variable compensation for the members of the Executive Committee for the current year 2019, *i.e.*, CHF 1'195'000 (cash compensation plus social security costs).

4.e Vote on Equity for Members of the Executive Committee

The Board of Directors proposes that shareholders approve the maximum grant of equity or equity linked instruments for the members of the Executive Committee from 1 July 2019 to 30 June 2020 with maximum value of CHF 3'126'000 (equity or equity linked instruments value plus social security costs).

5. Election of the Members of the Board

The Board of Directors proposes for a term until the end of the next ordinary General Meeting

- the re-election of Douglas Williams as member and election as Chairman of the Board,
- the re-election of Martin Velasco as member and election as Vice-Chairman of the Board,
- the re-election Peter Bollmann, Friedrich von Bohlen, Andrea Pfeifer, Tom Graney and Werner Lanthaler and election of Roy Twyman as members of the Board of Directors

Prof. Riesner has taken his retirement and will not stand for re-election.

- Dr. Roy E. Twyman: Dr. Roy Twyman is a neurologist and currently CEO and founder, Amron Neuroscience, LLC, a private consulting company focused on neuroscience drug development. Prior to this, Dr. Twyman spent almost 20 years at Janssen Research & Development, LLC (a Johnson & Johnson company) and was a member of the Neuroscience Therapeutic Area Leadership team responsible for clinical R&D and strategic planning of CNS neurology and psychiatry pipeline products. Since 2012 until March 2018 he was a Senior Vice President in the Neuroscience Therapeutic Area overseeing the Alzheimer's Disease Area. He currently participates as an independent board member or as a scientific advisory board member for a number of small biotech or pharmaceutical companies. Academic training and appointments include MD at University of Kentucky; Neurology Residency and Neurophysiology Fellowship at University of Michigan; Assistant Professor Department of Neurology at University of Michigan; Associate Professor with tenure in Departments of Neurology and Pharmacology & Toxicology; and Huntsman Cancer Institute, Human Molecular Biology Eccles Institute of Genetics and Neuroscience Program appointments at University of Utah.

5.a Re-election of Douglas Williams as member and election as Chairman of the Board of Directors

5.b Re-election of Martin Velasco as member and election as Vice-Chairman of the Board of Directors

5.c Re-election of Peter Bollmann

5.d Re-election of Friedrich von Bohlen

5.e Re-election of Andrea Pfeifer

5.f Re-election of Tom Graney

5.g Re-election of Werner Lanthaler

5.h Election of Roy Twyman

6. Election to the Compensation, Nomination & Corporate Governance Committee

The Board of Directors proposes the re-election of Martin Velasco, Tom Graney and Douglas Williams as members of the Compensation, Nomination & Corporate Governance Committee, each until the end of the next ordinary General Meeting.

6.a Re-election of Tom Graney

6.b Re-election of Martin Velasco

6.c Re-election of Douglas Williams

7. Election of the independent proxy

The Board of Directors proposes to elect Reymond & Associés, represented by Denis Cherpillod, avocat, Avenue de la Gare 1, case postale 7255, 1002 Lausanne, as the independent proxy of the Company until the end of the next ordinary General Meeting.

8. Re-election of the Auditors

The Board of Directors proposes to re-elect PricewaterhouseCoopers SA, in Pully, for a term of office of one year.

9. Authorized Share Capital

As the previous timeline for the increase of authorized capital expired on 20 October 2017, the Board of Directors proposes to replace the existing first paragraph of article 3a (*Authorized Capital Increase of Share Capital*) of the articles of association pertaining to the authorized share capital to authorize the Board of Directors to issue up to 13'500'000 registered common shares of CHF 0.02 nominal value each until 27 June 2021 and to amend article 3a, paragraph 1 of the articles of association as set out below:

<p>The Board of Directors is authorized to increase the share capital, in one or several steps until 27 June 2021, by a maximum amount of CHF 270'000 by issuing a maximum of 13'500'000 registered shares with a par value of CHF 0.02 each, to be fully paid up. An increase of the share capital (i) by means of an offering underwritten by a financial institution, a syndicate or another third party or third parties, followed by an offer to the then-existing shareholders of the Company and (ii) in partial amounts shall also be permissible.</p>	<p>Le conseil d'administration est autorisé à augmenter le capital-actions, en une ou plusieurs étapes jusqu'au 27 juin 2021, d'un montant maximum de CHF 270'000 par l'émission d'un nombre maximum de 13'500'000 actions nominatives d'une valeur nominale de CHF 0.02 chacune, à libérer entièrement. Une augmentation de capital (i) par souscription d'actions par une institution financière, un syndicat ou un tiers ou des tiers, suivie par une souscription d'actions par les actionnaires de la société alors existants et (ii) par montants partiels, est également autorisée.</p>
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10. Conditional Capital Increase for Bonds and Similar Debt Instruments

With a view of resetting the Company's conditional share capital subsequent to the equity issuance related to the license and collaboration agreement entered into with Eli Lilly in December 2018, the Board of Directors proposes to replace the existing first paragraph of article 3b (*Conditional Capital Increase for Bonds and Similar Debt Instruments*) of the articles of association pertaining to the conditional capital increase for bonds and similar debt instruments to create conditional share capital for the same purpose in the maximum amount of CHF 91'560.94 by the issuance of 4'578'047 registered common shares of CHF 0.02 nominal value each and to amend article 3b, paragraph 1 of the articles of association as set out below:

<p>The share capital of the Company shall be increased by a maximum amount of CHF 91'560.94 through the issue of a maximum of 4'578'047 registered shares, payable in full, each with a nominal value of CHF 0.02 through the exercise of conversion and/or option or warrant rights granted in connection with bonds or similar instruments, issued or to be issued by the Company or by subsidiaries of the Company, including convertible debt instruments.</p>	<p>Le capital-actions de la société peut être augmenté d'un montant maximum de CHF 91'560.94 par l'émission d'un maximum de 4'578'047 actions nominatives, d'une valeur nominale de CHF 0.02 chacune, à libérer entièrement, suite à l'exercice de droits de conversion et/ou d'option ou de bons de souscription accordés en relation avec des obligations ou d'instruments similaires, émis ou devant être émis par la société ou par des filiales de la société, y compris les instruments d'emprunt convertibles.</p>
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11. Conditional Capital Increase for Employee Benefit Plans

The Board of Directors proposes to replace the existing first paragraph of article 3c (*Conditional Capital Increase for Employee Benefit Plans*) of the articles of association pertaining to the conditional capital increase for employees and individuals of comparable positions, to create conditional share capital for the same purpose in the maximum amount of CHF 70'460 by the issuance of 3'523'000 registered common shares of CHF 0.02 nominal value each and to amend article 3c, paragraph 1 of the articles of association as set out below:

<p>The share capital of the Company shall be increased by an amount not exceeding CHF 70'460 through the issue of a maximum of 3'523'000 registered shares, payable in full, each with a nominal value of CHF 0.02, in connection with the exercise of option rights granted to any employee of the Company or a subsidiary, and any consultant, members of the Board of Directors, or other person providing services to the Company or a subsidiary.</p>	<p>Le capital social de la société sera augmenté d'un montant ne dépassant pas CHF 70'460 par l'émission d'un maximum de 3'523'000 actions nominatives, entièrement libérées, chacune avec une valeur nominale de CHF 0.02, dans le cadre de l'exercice de droits d'option accordés à tout employé de la Société ou d'une succursale, et à tout consultant, aux membres du conseil d'administration, ou à autres personnes fournissant des services en faveur de la société ou d'une filiale.</p>
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Please participate electronically or mail as per the Organizational Matters section at the end of this invitation to vote in this Shareholders' Meeting.

For the Board of Directors:



Martin Velasco, Chairman



Andrea Pfeifer, CEO

Organizational Matters

1 Financial Statements

The Annual Statutory Financial Statements and the Financial Statements under IFRS of AC Immune SA for the year 2018 as well as the corresponding Auditor's reports are available for download in the "Investors" section of our website (www.acimmune.com).

2 Invitation and Attendance

Shareholders registered in the share register maintained by our transfer agent, Computershare Trust Company N.A. at 5:00 pm Eastern Standard Time ("EST") / 11:00 pm Swiss time on 23 May 2019 are entitled to participate in and vote at the Annual General Meeting. On 31 May 2019, the invitation and proxy form will be mailed to all holders of record as at 23 May 2019 at 5:00 pm EST / 11:00 pm Swiss time. The invitation is available for download in the "Investors" section of our website (www.acimmune.com).

If you wish to attend the Annual General Meeting in person, you will be required to present the enclosed proxy form and a valid government issued proof of identification and present yourself at the admission desk at the latest 20 minutes prior to the beginning of the Annual General Meeting.

3 Representation

Shareholders of record, who do not attend the Annual General Meeting in person, may:

(a) grant a proxy to the current independent proxy of the Company for the Annual General Meeting, Bugnion Ballansat Ehrler, represented by Gérald Virieux, avocat, rue de Rive 6, case postale 3143, CH-1211 Geneva 3 in writing or electronically as described below; or

(b) grant a proxy in writing to another shareholder or other third party who must present him- or herself at the admission desk at the latest 20 minutes prior to the beginning of the Annual General Meeting.

Proxies to the independent proxy must be mailed to and received by our transfer agent, Computershare Trust Company N.A. by 12:00 pm EST / 6:00 pm Swiss time on 25 June 2019. Proxies received after such time will not be considered. Please do not send your proxy card directly to the independent proxy.

The login information for electronic instructions is set forth on the proxy form. Electronic instructions must be received no later than 11:59 pm EST on 25 June 2019 / 5:59 am Swiss time on 26 June 2019.

Shareholders that have granted a proxy to the independent proxy, in writing or electronically, may not vote their shares at the Annual General Meeting.

4 Registration as Shareholder with Voting Rights

Instructions on how a "street name" holder may become a holder of record are available in the "Investors" section of our website (www.acimmune.com). Between 5:00 pm EST / 11:00 pm Swiss time on 23 May 2019 and 12:00 pm EST / 6:00 pm Swiss time on 28 June 2019, no new shareholder will be registered for voting purposes. Computershare Trust Company N.A. will continue to register transfers of shares in the share register in its capacity as transfer agent.

5 Trading Restrictions

The registration of shareholders for voting purposes does not impact trading of AC Immune shares held by registered shareholders before, during or after the Annual General Meeting. Shareholders selling their shares in AC Immune prior to the meeting are excluded from voting.

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 20-F

(Mark One)

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
for the fiscal year ended December 31, 2018

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
Date of event requiring this shell company report

Commission file number: 001-37891

AC IMMUNE SA
(Exact name of Registrant as specified in its charter)

Switzerland
(Jurisdiction of incorporation)

EPFL INNOVATION PARK
Building B
1015 Lausanne
Switzerland
(Address of principal executive offices)

Andrea Pfeifer
Tel: +41 21 345 91 21
EPFL INNOVATION PARK
Building B
1015 Lausanne
Switzerland
(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Copies to:

Richard D. Truesdell, Jr.
Derek J. Dostal
Davis Polk & Wardwell LLP
450 Lexington Avenue
New York, NY 10017
(212) 450-4000

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Shares, nominal value CHF 0.02 per share	The Nasdaq Global Market

Securities registered or to be registered pursuant to Section 12(g) of the Act:

None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

None

Indicate the number of outstanding shares of each of the issuer's classes of capital stock or common stock as of the close of the period covered by the annual report.

Common shares: 67,562,333

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See definition of “large accelerated filer,” “accelerated filer,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer
Emerging growth company

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

US GAAP

International Financial Reporting Standards as
issued by the International Accounting
Standards Board

Other

If “Other” has been checked in response to the previous question indicate by check mark which financial statement item the registrant has elected to follow.

Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No

AC IMMUNE SA

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PRESENTATION OF FINANCIAL AND OTHER INFORMATION

Unless otherwise indicated or the context otherwise requires, all references in this annual report on Form 20-F (the “Annual Report”) to “AC Immune” or the “Company,” “we,” “our,” “ours,” “us” or similar terms refer to AC Immune SA. The Company owns various unregistered trademarks, including Morphomer™, SupraAntigen™ and its corporate logo. All other trademarks, trade names and service marks of other companies appearing in this Annual Report are the property of their respective owners. Solely for convenience, the trademarks and trade names in this Annual Report may be referred to without the ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto. The Company does not intend to use or display other companies’ trademarks and trade names to imply a relationship with, or endorsement or sponsorship of the Company by, any other companies.

Financial Statements

Our financial statements are presented in Swiss Francs and in accordance with International Financial Reporting Standards, or IFRS, as issued by the International Accounting Standards Board, or IASB. None of the financial statements were prepared in accordance with generally accepted accounting principles in the United States. The terms “dollar” and “USD” refer to U.S. dollars and the term “Swiss Franc” and “CHF” refer to the legal currency of Switzerland, unless otherwise indicated. We have made rounding adjustments to some of the figures included in this Annual Report. Accordingly, any numerical discrepancies in any table between totals and sums of the amounts listed are due to rounding.

FORWARD-LOOKING STATEMENTS

This Annual Report contains statements that constitute forward-looking statements. All statements other than statements of historical facts contained in this Annual Report, including statements regarding our future results of operations and financial position, business strategy, product candidates, product pipeline, ongoing and planned clinical studies, including those of our collaboration partners, regulatory approvals, research and development costs, timing and likelihood of success, as well as plans and objectives of management for future operations are forward-looking statements. Many of the forward-looking statements contained in this Annual Report can be identified by the use of forward-looking words such as “anticipate,” “believe,” “could,” “expect,” “should,” “plan,” “intend,” “estimate,” “will” and “potential,” among others.

Forward-looking statements appear in a number of places in this Annual Report and include, but are not limited to, statements regarding our intent, belief or current expectations. Forward-looking statements are based on our management’s beliefs and assumptions and on information currently available to our management. Such statements are subject to risks and uncertainties, and actual results may differ materially from those expressed or implied in the forward-looking statements due to various factors, including, but not limited to, those identified under “Item 3. Key Information – D. Risk Factors” in this Annual Report. These risks and uncertainties include factors relating to:

- The success of our and our collaboration partners’ clinical studies, and our and their ability to obtain regulatory approval and to commercialize crenezumab, anti-Tau antibody, ACI-24, ACI-35, Morphomer Tau and Tau-PET Imaging tracer;
- The ability of our competitors to discover, develop or commercialize competing products before or more successfully than we do;
- The identification of serious adverse, undesirable or unacceptable side effects related to our product candidates;
- Our ability to maintain our current strategic relationships with our collaboration partners;
- Failure to protect our, and not infringe on third parties’, intellectual property rights throughout the world;
- Our ability to raise capital when needed in order to continue our product development programs or commercialization efforts;
- The Food and Drug Administration’s and applicable foreign regulatory authorities’ acceptance of data from studies we conduct within and outside the United States now and in the future;

- Our foreign private issuer status, the loss of which would require us to comply with the Exchange Act’s domestic reporting regime and cause us to incur significant legal, accounting and other expenses;
- Our incorporation in Switzerland, the laws of which govern our corporate affairs and may differ from those applicable to companies incorporated in the United States; and
- The other risk factors discussed under “Item 3. Key Information – D. Risk Factors.”

These forward-looking statements speak only as of the date of this Annual Report and are subject to a number of risks, uncertainties and assumptions described under the sections in this Annual Report entitled “Item 3. Key Information—D. Risk Factors” and “Item 5. Operating and Financial Review and Prospects” and elsewhere in this Annual Report. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Moreover, we operate in an evolving environment. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise.

ENFORCEMENT OF JUDGMENTS

We are organized under the laws of Switzerland and our registered office and domicile is located in Ecublens, near Lausanne, Canton of Vaud, Switzerland. Moreover, a number of our directors and executive officers are not residents of the United States, and all or a substantial portion of the assets of such persons are located outside the United States. As a result, it may not be possible for investors to effect service of process within the United States upon us or upon such persons or to enforce against them judgments obtained in U.S. courts, including judgments in actions predicated upon the civil liability provisions of the federal securities laws of the United States. We have been advised by our Swiss counsel that there is doubt as to the enforceability in Switzerland of original actions, or in actions for enforcement of judgments of U.S. courts, of civil liabilities to the extent solely predicated upon the federal and state securities laws of the United States. Original actions against persons in Switzerland based solely upon the U.S. federal or state securities laws are governed, among other things, by the principles set forth in the Swiss Federal Act on Private International Law. This statute provides that the application of provisions of non-Swiss law by the courts in Switzerland shall be precluded if the result would be incompatible with Swiss public policy. Also, mandatory provisions of Swiss law may be applicable regardless of any other law that would otherwise apply. Switzerland and the United States do not have a treaty providing for reciprocal recognition of and enforcement of judgments in civil and commercial matters. The recognition and enforcement of a judgment of the courts of the United States in Switzerland is governed by the principles set forth in the Swiss Federal Act on Private International Law. This statute provides in principle that a judgment rendered by a non-Swiss court may be enforced in Switzerland only if:

- the non-Swiss court had jurisdiction pursuant to the Swiss Federal Act on Private International Law;
- the judgment of such non-Swiss court has become final and non-appealable;
- the judgment does not contravene Swiss public policy;
- the court procedures and the service of documents leading to the judgment were in accordance with the due process of law; and
- no proceeding involving the same parties and the same subject matter was first brought in Switzerland, or adjudicated in Switzerland, or was earlier adjudicated in a third state and this decision is recognizable in Switzerland.

PART I

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

A. Directors and senior management

Not applicable.

B. Advisers

Not applicable.

C. Auditors

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

A. Offer statistics

Not applicable.

B. Method and expected timetable

Not applicable.

ITEM 3. KEY INFORMATION

A. Selected Financial Data

We have derived the selected statements of comprehensive loss for the years ended December 31, 2018, 2017 and 2016 presented below and the selected balance sheet data as of December 31, 2018 and 2017 presented below from our audited financial statements included elsewhere in this Annual Report on Form 20-F. The selected statement of comprehensive income for the years ended December 31, 2015 and 2014 and the selected balance sheet data as of December 31, 2016, 2015 and 2014 have been derived from our audited financial statements not included in this Annual Report on Form 20-F.

Our historical results are not necessarily indicative of the results that may be expected in the future. The following summary financial data should be read in conjunction with “Item 5. Operating and Financial Review and Prospects” and our financial statements included elsewhere in this Annual Report.

We maintain our books and records and our audited financial statements in Swiss Francs (CHF).

(in CHF thousands)	For the Years Ended December 31,				
	2018	2017	2016	2015	2014
Income Statement Data:					
Contract revenue	7,194	20,255	23,214	39,090	30,269
Research and development expenses	(44,277)	(32,663)	(25,774)	(17,049)	(16,116)
General and administrative expenses	(12,467)	(10,131)	(7,896)	(3,417)	(3,436)
Operating income / (loss)	(49,550)	(22,539)	(10,456)	18,624	10,717
Finance result—net	(1,401)	(3,872)	3,360	1,646	27
Net income / (loss) before tax	(50,951)	(26,411)	(7,096)	20,270	10,744
Income taxes	—	—	—	—	—
Net income / (loss) for the period	(50,951)	(26,411)	(7,096)	20,270	10,744

(in CHF '000 except for share and per share data)	For the Years Ended December 31,				
	2018	2017	2016	2015	2014
Earnings / (Loss) per share in CHF (basic)(1)(2)	(0.82)	(0.46)	(0.14)	0.47	0.25
Earnings / (Loss) per share in CHF (fully diluted)(2)	(0.82)	(0.46)	(0.14)	0.44	0.24
Weighted-average number of shares used to compute earnings per share basic	61,838,228	57,084,295	50,096,859	43,412,250	42,684,750
Weighted-average number of shares used to compute earnings per share fully diluted	61,838,228	57,084,295	50,096,859	46,043,198	45,552,500

- (1) For the periods prior to the closing of our initial public offering on September 23, 2016, earnings per share includes preferred shares outstanding. These preferred shares were converted on a one-for-one basis upon closing of our initial public offering on September 23, 2016. Amounts for fiscal years 2015 and 2014 have also been adjusted for the 250-for-1 stock split effective October 23, 2015.
- (2) Earnings per share calculations do not give effect to the Series E Private Placement Extension or the CS AG Share Issuance effected in 2016.

(in CHF thousands)	As of December 31,				
	2018	2017	2016	2015	2014
Cash and cash equivalents	156,462	124,377	152,210	76,522	3,306
Short-term financial assets	30,000	—	—	—	—
Total assets	196,556	132,013	156,100	79,931	30,296
Accumulated losses	(121,877)	(72,607)	(46,921)	(40,381)	(60,455)
Total shareholder's equity	177,623	116,839	142,380	71,043	23,467
Total shareholder's equity and liabilities	196,556	132,013	156,100	79,931	30,296
Share capital	1,351	1,147	1,135	928	854

B. Capitalization and indebtedness

Not applicable.

C. Reasons for the offer and use of proceeds

Not applicable.

D. Risk factors

You should carefully consider the risks and uncertainties described below and the other information in this Annual Report before making an investment in our common shares. Our business, financial condition or results of operations could be materially and adversely affected if any of these risks occurs, and as a result, the market price of our common shares could decline and you could lose all or part of your investment. This Annual Report also contains forward-looking statements that involve risks and uncertainties. See "Forward-Looking Statements." Our actual results could differ materially and adversely from those anticipated in these forward-looking statements as a result of certain factors.

Risks Related to Our Business

We depend heavily on the success of our clinical and, to a lesser extent, pre-clinical products. Our clinical product candidates include crenezumab, anti-Tau antibody, ACI-24 for Alzheimer's disease, or AD, ACI-24 for Down syndrome, or DS, ACI-35, Morphomer Tau and Tau-PET Imaging tracer. If our clinical studies are unsuccessful, we or our collaboration partners do not obtain regulatory approval or we or our collaboration partners are unable to commercialize crenezumab, anti-Tau antibody, ACI-24 for AD and DS, ACI-35, Morphomer Tau and Tau-PET Imaging tracer, or we experience significant delays in doing so, our business, financial condition and results of operations will be materially adversely affected.

We currently have no products approved for sale and have invested a significant portion of our efforts and financial resources in the development of crenezumab, anti-Tau antibody, ACI-24 for AD and DS, ACI-35, Morphomer Tau and Tau-PET Imaging tracer, all of which are in clinical development. Our ability to generate product revenues, which we do not expect will occur for at least the next several years, if ever, will depend heavily on successful clinical development, obtaining regulatory approval and eventual commercialization of these product candidates. In this regard, we rely heavily on our collaboration partners for clinical development of certain of our product candidates, and they may choose to discontinue the clinical development process in certain cases. For example, in January 2019, Roche, the parent of our collaboration partner, discontinued the CREAD 1 and CREAD 2 Phase III studies of crenezumab in people with prodromal to mild sporadic Alzheimer's disease (AD). The decision came after an interim analysis conducted by the Independent Data Monitoring Committee, or IDMC. The IDMC analysis indicated that crenezumab was unlikely to meet its primary endpoint of change from baseline in Clinical Dementia Rating-Sum of Boxes (CDR-SB) Score. However, the Phase 2 development of crenezumab continues in a preventive trial of cognitively healthy individuals in Colombia with a risk of developing AD. In addition, we currently generate no revenues from sales of any drugs or diagnostics, and we may never be able to develop or commercialize a marketable drug or diagnostic. The success of our current and future product candidates will depend on several factors, including the following:

- completing clinical studies that demonstrate the efficacy, safety and clinical utility of our product candidates;
- receiving marketing approvals from applicable regulatory authorities;
- establishing commercial manufacturing capabilities;
- launching commercial sales, marketing and distribution operations;
- acceptance of our product candidates by patients, the medical community and third-party payors;
- a continued acceptable safety profile following approval;
- competing effectively with other therapies or diagnostic approaches; and
- qualifying for, obtaining, maintaining, enforcing and defending our intellectual property rights and claims and not infringing on third parties' intellectual property rights.

If we or our collaboration partners do not achieve one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize our current or future product candidates, which would materially adversely affect our business, financial condition and results of operations.

Results of early clinical studies may not be predictive of future study results.

Positive or timely results from preclinical or early stage studies do not ensure positive or timely results in late stage clinical studies or product approval by the U.S. Food and Drug Administration, or the FDA, the European Medicines Agency, or the EMA, or comparable foreign regulatory authorities. Products that show positive preclinical or early clinical results may not show sufficient safety or efficacy in later stage clinical studies and therefore may fail to obtain regulatory approvals. In addition, preclinical and clinical data are often susceptible to varying interpretations and analyses. Many companies that believed their product candidates performed satisfactorily in preclinical and clinical studies have nonetheless failed to obtain marketing approval for the product candidates. The FDA, the EMA and comparable foreign regulatory authorities have substantial discretion in the approval process and in determining when or whether regulatory approval will be obtained for any of our product candidates. Even if we believe the data collected from clinical studies of our product candidates are promising, such data may not be sufficient to support approval by the FDA, the EMA or any other regulatory authority.

In some instances, there can be significant variability in safety and/or efficacy results between different studies of the same product candidate due to numerous factors, including changes in study procedures set forth in protocols, differences in the size and type of the patient populations, adherence to the dosing regimen and other study protocols and the rate of dropout among clinical study participants. In the case of our later stage clinical product candidates, results may differ in general on the basis of the larger number of clinical study sites and additional countries and languages involved in these clinical studies.

Clinical studies are, or will be, based on patient reported outcomes, some of which are or will be captured daily by study participants with electronic diaries. We have no assurance and cannot rely on past experience that the high frequency of questioning is not influencing the measured outcome. In addition, low compliance with daily reporting requirements may impact the studies' validity or statistical power. We cannot assure you that any Phase 2, Phase 3 or other clinical studies that either we or our collaboration partners may conduct will demonstrate consistent or adequate efficacy and safety to obtain regulatory approval to market our product candidates.

If we or our collaboration partners are required to conduct additional clinical studies or other testing of any of our current or future product candidates that we or our collaboration partners develop beyond the studies and testing that we or our collaboration partners contemplate, if we or our collaboration partners are unable to successfully complete clinical studies of our product candidates or other testing, if the results of these studies or tests are unfavorable or are only modestly favorable or if there are safety concerns associated with our current or future product candidates, we may:

- be delayed in obtaining marketing approval for our product candidates;
- not obtain marketing approval;
- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or significant safety warnings, including boxed warnings;
- be subject to additional post-marketing testing or other requirements; or
- remove the product from the market after obtaining marketing approval.

Our product development costs will also increase if we experience delays in testing or marketing approvals and we may be required to obtain additional funds to complete clinical studies. We cannot assure you that our clinical studies will begin as planned or be completed on schedule, if at all, or that we will not need to restructure our studies after they have begun. Significant clinical study delays also could shorten any periods during which we or our collaboration partners may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do or shorten any periods during which we or our collaboration partners have the exclusive right to commercialize our product candidates, which may harm our business and results of operations. In addition, some of the factors that cause, or lead to, clinical study delays may ultimately lead to the denial of regulatory approval of our product candidates.

Additional competitors could enter the market with generic versions of our products, which may result in a material decline in sales of affected products.

Under the Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch-Waxman Act, a pharmaceutical manufacturer may file an abbreviated new drug application, or ANDA, seeking approval of a generic copy of an approved innovator product. Under the Hatch-Waxman Act, a manufacturer may also submit a new drug application, or NDA, under section 505(b)(2) that references the FDA's prior approval of the innovator product. A 505(b)(2) NDA product may be for a new or improved version of the original innovator product. Hatch-Waxman also provides for certain periods of regulatory exclusivity, which preclude FDA approval (or in some circumstances, FDA filing and reviewing) of an ANDA or 505(b)(2) NDA. These include, subject to certain exceptions, the period during which an FDA-approved drug is subject to orphan drug exclusivity. In addition to the benefits of regulatory exclusivity, an innovator NDA holder may have patents claiming the active ingredient, product formulation or an approved use of the drug, which would be listed with the product in the FDA publication, "Approved Drug Products with Therapeutic Equivalence Evaluations," known as the "Orange Book." If there are patents listed in the Orange Book, a generic or 505(b)(2) applicant that seeks to market its product before expiration of the patents must include in the ANDA what is known as a "Paragraph IV certification," challenging the validity or enforceability of, or claiming non-infringement of, the listed patent or patents. Notice of the certification must be given to the innovator, too, and if within 45 days of receiving notice the innovator sues to protect its patents, approval of the ANDA is stayed for 30 months, or as lengthened or shortened by the court.

Accordingly, if crenezumab, anti-Tau antibody, ACI-24 for AD and DS, ACI-35, Morphomer Tau or Tau-PET Imaging tracer are approved, competitors could file ANDAs for generic versions of crenezumab, anti-Tau antibody, ACI-24 for AD and DS, ACI-35 and Morphomer Tau, or 505 (b) (2) NDAs that reference crenezumab, anti-Tau antibody, ACI-24 for AD and DS, ACI-35, Morphomer Tau or anti-Tau antibody candidate, respectively. If there are patents listed for crenezumab, anti-Tau antibody, ACI-24 for AD or DS, ACI-35 and Morphomer Tau in the Orange Book, those ANDAs and 505(b) (2) NDAs would be required to include a certification as to each listed patent indicating whether the ANDA applicant does or does not intend to challenge the patent. We cannot predict whether any patents issuing from our pending patent applications will be eligible for listing in the Orange Book, how any generic competitor would address such patents, whether we would sue on any such patents, or the outcome of any such suit.

We may not be successful in securing or maintaining proprietary patent protection for products and technologies we develop or license. Moreover, if any patents that are granted and listed in the Orange Book are successfully challenged by way of a Paragraph IV certification and subsequent litigation, the affected product could immediately face generic competition and its sales would likely decline rapidly and materially. Should sales decline, we may have to write off a portion or all of the intangible assets associated with the affected product and our results of operations and cash flows could be materially and adversely affected.

One of our collaboration partners is evaluating a product candidate in the same indication as our lead product candidate crenezumab.

Our collaboration partner Genentech is a subsidiary of Roche, which is evaluating gantenerumab, a product candidate for the same indication as our lead product candidate crenezumab, and Roche's collaboration partner MorphoSys AG initiated multiple phase 3 programs for gantenerumab in patients with prodromal to mild AD. Gantenerumab is also being studied as part of the DIAN-TU trial, a worldwide clinical study evaluating multiple compounds in individuals at risk for or with a type of early-onset AD caused by a genetic mutation. Our collaboration agreement with Genentech for crenezumab provides Genentech with control over, and responsibility for, the clinical development process, including obtaining regulatory and marketing approvals, manufacturing costs and sales and marketing costs. In addition, the collaboration agreement provides that Genentech may terminate the agreement at any time by providing three months' notice to us. As a result, Genentech may choose to devote more time and resources to advancing gantenerumab instead of crenezumab, which could render crenezumab non-competitive and limit or make it more difficult for us to achieve or maintain profitability with crenezumab. Should this occur, our business, financial condition and results of operations could be materially impacted.

The successful commercialization of our product candidates will depend in part on the extent to which governmental authorities and health insurers establish adequate coverage and reimbursement levels and pricing policies.

The successful commercialization of our product candidates will depend, in part, on the extent to which coverage and reimbursement for our products will be available from government and health administration authorities, private health insurers and other third-party payors. To manage healthcare costs, many governments and third-party payors increasingly scrutinize the pricing of new technologies and require greater levels of evidence of favorable clinical outcomes and cost-effectiveness before extending coverage. In light of such challenges to prices and increasing levels of evidence of the benefits and clinical outcomes of new technologies, we cannot be sure that coverage will be available for any of our current or future product candidates that we or our collaboration partners will commercialize and, if available, that the reimbursement rates will be adequate in each respective region. If we are unable to obtain adequate levels of coverage and reimbursement for our product candidates, their marketability will be negatively and materially impacted.

Third party payors may deny coverage and reimbursement status altogether of a given drug product, or cover the product but may also establish prices at levels that are too low to enable us to realize an appropriate return on our investment in product development. Because the rules and regulations regarding coverage and reimbursement change frequently, in some cases at short notice, even when there is favorable coverage and reimbursement, future changes may occur that adversely impact the favorable status. Further, the net reimbursement for drug products may be subject to additional reductions if proposed changes by the Trump administration to Medicare drug reimbursement policies, which presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States, are enacted by the United States Congress. In addition, legislative or regulatory changes in U.S. trade policy, such as imposition of heightened tariffs on imported medicine, may adversely impact our financial results.

The unavailability or inadequacy and variability of third-party coverage and reimbursement could have a material adverse effect on the market acceptance of our product candidates and the future revenues we may expect to receive from those products. In addition, we are unable to predict what additional legislation or regulation relating to the healthcare industry or third-party coverage and reimbursement may be enacted in the future, or what effect such legislation or regulation would have on our business.

Our products may not gain market acceptance, in which case we or our collaboration partners may not be able to generate product revenues, which will materially adversely affect our business, financial condition and results of operations.

Even if the FDA, the EMA or other regulatory authority approves the marketing of any product candidates that we develop, physicians, healthcare providers, patients or the medical community may not accept or use them. Efforts to educate the medical community and third-party payors on the benefits of our product candidates may require significant resources and may not be successful. If any of our current or future product candidates does not achieve an adequate level of acceptance, we may not generate significant product or royalty revenues or any profits from operations. The degree of market acceptance of our product candidates that are approved for commercial sale will depend on a variety of factors, including:

- how clinicians and potential patients perceive our novel products;
- the timing of market introduction;
- the number and clinical profile of competing products;
- our ability to provide acceptable evidence of safety and efficacy or clinical utility;
- the prevalence and severity of any side effects;
- relative convenience and ease of administration;
- cost-effectiveness;
- patient diagnostics and screening infrastructure in each market;
- marketing and distribution support;
- availability of coverage, reimbursement and adequate payment from health maintenance organizations and other third-party payors, both public and private; and
- other potential advantages over alternative treatment methods.

If our product candidates fail to gain market acceptance, this will have a material adverse impact on our ability to generate revenues to provide a satisfactory, or any, return on our investments. Even if some products achieve market acceptance, the market may prove not to be large enough to allow us to generate significant revenues.

In addition, the potential market opportunity of our product candidates is difficult to precisely estimate. Our estimates of the potential market opportunity are predicated on several key assumptions such as industry knowledge and publications, third-party research reports and other surveys. These assumptions involve the exercise of significant judgment on the part of our management, are inherently uncertain and the reasonableness of these assumptions could not have been assessed by an independent source in every detail. If any of the assumptions proves to be inaccurate, then the actual market for our product candidates could be smaller than our estimates of the potential market opportunity. If the actual market for our product candidates is smaller than we expect, or if any approved products fail to achieve an adequate level of acceptance by physicians, health care payors and patients, our product or royalty revenue may be limited and it may be more difficult for us to achieve or maintain profitability.

We depend on enrollment of patients in our clinical studies for our product candidates. If we are unable to enroll patients in our clinical studies, our research and development efforts could be materially adversely affected.

Successful and timely completion of clinical studies will require that we enroll a sufficient number of patient candidates. Studies may be subject to delays as a result of patient enrollment taking longer than anticipated or patient withdrawal. Patient enrollment depends on many factors, including the size and nature of the patient population, eligibility criteria for the study, the proximity of patients to clinical sites, the design of the clinical protocol, the availability of competing clinical studies, the availability of new drugs approved for the indication the clinical study is investigating, and clinicians' and patients' perceptions as to the potential advantages of the drug being studied in relation to other available therapies.

Generally, the specific target population of patients and therapeutic time windows may make it difficult for us to enroll enough patients to complete clinical studies for our products in a timely and cost-effective manner. Delays in the completion of any clinical study of our product candidates will increase our costs, slow down our product candidate development and approval process and delay or potentially jeopardize our or our collaboration partners' ability to commence product sales and generate revenue. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical studies may also ultimately lead to the denial of regulatory approval of our product candidates.

If serious adverse, undesirable or unacceptable side effects are identified during the development of our product candidates or following approval, if any, we may need to abandon our development of such product candidates, the commercial profile of any approved label may be limited, or we may be subject to other significant negative consequences following marketing approval, if any.

If our product candidates are associated with serious adverse, undesirable or unacceptable side effects, we may need to abandon their development or limit development to certain uses or sub-populations in which such side effects are less prevalent, less severe or more acceptable from a risk-benefit perspective. Many compounds that initially showed promise in preclinical or early stage testing have later been found to cause side effects that restricted their use and prevented further development of the compound for larger indications.

Genentech has not disclosed detailed information about serious adverse events associated with crenezumab either publicly or to us. However, at the 2014 Alzheimer's Association International Conference, it was reported that in the combined Phase 2 study populations, serious adverse events occurred at similar rates in patients treated with crenezumab (16.5%) and in patients given a placebo (11.9%). In addition, adverse events identified in the clinical studies of crenezumab initiated to date have included inflammation of the throat and nasal passages, urinary tract infections and upper respiratory infections. At the 2016 Clinical Trials on Alzheimer's Disease (CTAD) AAIC meeting it was reported that in a Phase 1 clinical trial no dose-limiting toxicities were observed at doses of crenezumab of up to 120mg/kg. At the 2017 AAIC meeting it was reported that in a Phase 1b study to evaluate higher doses of crenezumab, no dose-limiting toxicities occurred. Twelve non drug related serious adverse events were observed in nine AD patients during the randomized and active extension phases including malignant melanoma; an accidental overdose; pneumonia; fall; subdural hematoma; contusion; nephrolithiasis; non-cardiac chest pain; pulmonary emboli; urinary bladder hemorrhage; subdural hematoma and atypical chest pain.

In January 2019, Roche announced that no safety signals for crenezumab were observed in an interim analysis but that it will only continue the trial of cognitively healthy individuals and will discontinue the CREAD 1 and CREAD 2 studies.

As previously reported, five serious adverse events were observed in three patients during clinical studies of ACI-35. Three of them occurred in two patients and were study drug-related. Acute pyelonephritis and dizziness were observed in one patient and sick sinus syndrome was reported for a second patient, and these were labeled as possibly related due to the close timing proximity with the last administration of ACI-35. In the third patient, urosepsis and pyelonephritis were described and classified as unlikely related to the drug.

Fifteen non-drug related serious adverse events have been observed during clinical studies of ACI-24 in AD patients so far. Fourteen were reported in the phase 1/2 study: one malignant colon polyp, one wound infection associated with a planned hip replacement, one radius fracture, one intra-abdominal cancer of unknown origin followed by the death of the patient, one fall complicated by vertebral compression fracture, one acute chest pain, one death due to Alzheimer's disease, one death considered to be due to complications from coronary artery disease, one case of pneumonia, one case of breast cancer, three successive episodes of pancreatitis in addition to gallstones in one patient and inguinal hernia in one patient. Another serious adverse event, urinary retention, also considered unrelated to study drug, has been reported in the ongoing phase 2 study. There have been no serious adverse events to date in the ACI-24 Down syndrome study. None of the adverse events to date have been classified as related to the study drug.

Occurrence of serious procedure- or treatment-related side effects could impede clinical study enrollment and receipt of marketing approval from the FDA, the EMA and comparable foreign regulatory authorities. Adverse events could also adversely affect physician or patient acceptance of our product candidates.

Additionally if one or more of our product candidates receives marketing approval, and we or others later identify undesirable side effects caused by such products, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw approvals of such product and require us to take any approved products off the market;
- regulatory authorities may require the addition of labeling statements, specific warnings, a contraindication or field alerts to physicians and pharmacies;
- we may be required to create a medication guide outlining the risks of such side effects for distribution to patients;
- we may be required to change the way the product is administered, conduct additional studies or change the labeling of the product;
- we may be subject to limitations in how we promote the product;
- sales of the product may decrease significantly;
- we could be sued and held liable for harm caused to patients; and
- our reputation and physician or patient acceptance of our products may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the particular product candidate, if approved, and could significantly harm our business, results of operations and prospects.

We operate in highly competitive and rapidly changing industries, which may result in others discovering, developing or commercializing competing products before or more successfully than we do.

The biopharmaceutical and pharmaceutical industries are highly competitive and subject to significant and rapid technological change. Our success is highly dependent on our ability to discover, develop and obtain marketing approval for new and innovative products on a cost-effective basis and to market them successfully. In doing so, we face and will continue to face intense competition from a variety of businesses, including large, fully integrated pharmaceutical companies, specialty pharmaceutical companies and biopharmaceutical companies, academic institutions, government agencies and other private and public research institutions in Europe, the United States and other jurisdictions. Many of our potential competitors, alone or with their strategic partners, have substantially greater financial, technical and human resources than we do and significantly greater experience in the discovery and development of product candidates, obtaining FDA and other regulatory approvals of treatments and the commercialization of those treatments. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated among a smaller number of our competitors. The commercial opportunity for our products could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market.

We believe that our key competitor product candidates are (i) aducanumab (Biogen), gantenerumab (Roche) and BAN2401 (Eisai/Biogen) for crenezumab; (ii) CAD-106 (Novartis), UB-311 (United Neuroscience) and ABvac 40 (Araclon Biotech) for ACI-24; (iii) AADVAC1 (Axon Neurosciences) for ACI-35; BIIB092 (Biogen), ABBV-8E12 (Abbvie) and LY-3303560 for anti-Tau antibody and (iv) Flortaucipir (Eli Lilly) and MK-6240 (Cerveau/Merck) for Tau-PET imaging tracer, as described under “Item 4. Information on the Company – B. Business Overview – Competition”

The highly competitive nature of and rapid technological changes in the biotechnology and pharmaceutical industries could render our product candidates or our technology obsolete or non-competitive. Our competitors may, among other things:

- develop and commercialize products that are safer, more effective, less expensive, or more convenient or easier to administer;
- obtain quicker regulatory approval;
- establish superior intellectual property and proprietary positions;
- have access to more manufacturing capacity;
- implement more effective approaches to sales, marketing and distribution; or
- form more advantageous strategic alliances.

Should any of these occur, our business, financial condition and results of operations could be materially adversely affected.

We may not be successful in our efforts to use and expand our Morphomer proprietary technology platform to build additional product candidates for our pipeline.

A key element of our strategy is to use and expand our Morphomer proprietary technology platform to create unique drug therapies for conformational diseases, such as AD, and progress these product candidates through clinical development. Although our research and development efforts to date have resulted in a pipeline of product candidates, we may not be able to develop product candidates that are safe and effective in the future. Even if we are successful in continuing to build our pipelines, the potential product candidates that we identify may not be suitable for clinical development, potentially as a result of having harmful side effects or other characteristics indicating they may be unlikely to receive marketing approval and achieve market acceptance. If we or our collaboration partners do not continue to successfully develop and begin to commercialize product candidates, we will face difficulty in obtaining product or royalty revenues in the future, which could result in significant harm to our financial position and adversely affect the price of our common shares.

Our business is subject to economic, political, regulatory and other risks associated with international operations.

Our business is subject to risks associated with conducting business internationally. We and a number of our suppliers and collaborative and clinical study relationships are located outside the United States. Accordingly, our future results could be harmed by a variety of factors, including:

- economic weakness, including inflation, or political instability in particular non-U.S. economies and markets;
- differing regulatory requirements for drug approvals in non-U.S. countries;
- potentially reduced protection for intellectual property rights;
- difficulties in compliance with non-U.S. laws and regulations;
- changes in non-U.S. regulations and customs, tariffs and trade barriers;
- changes in non-U.S. currency exchange rates and currency controls;
- changes in a specific country's or region's political or economic environment;
- trade protection measures, import or export licensing requirements or other restrictive actions such as sanctions by U.S. or non-U.S. governments;
- negative consequences from changes in tax laws;

- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- difficulties associated with staffing and managing international operations, including differing labor relations;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geo-political actions, including war and terrorism, or natural disasters including earthquakes, typhoons, floods and fires.

We have no history of commercializing pharmaceutical products, which may make it difficult to evaluate the prospects for our future viability.

We began our operations in 2003. Our operations to date have been limited to financing and staffing our company, developing our technology and developing our product candidates as well as early stage clinical trials. We have not yet demonstrated an ability to successfully complete a large-scale, pivotal clinical study, obtain marketing approval, manufacture a commercial scale product or conduct sales and marketing activities necessary for successful product commercialization. Consequently, predictions about our future success or viability may not be as accurate as they could be if we had a history of successfully developing and commercializing pharmaceutical products.

Our future growth and ability to compete depends on retaining our key personnel and recruiting additional qualified personnel.

Our success depends upon the continued contributions of our key management, scientific and technical personnel, many of whom have substantial experience with or been instrumental for us and our projects. Members of our key management include Dr. Andrea Pfeifer, our Chief Executive Officer; Dr. Marie Kosco-Vilbois, our Chief Scientific Officer (who joined our team on January 3, 2019); Dr. Sonia Poli, our Head of Translational Science; Piergiorgio Donati, our Head of Technical Operations and Program Management; Dr. Olivier Sol, our Head of Clinical Team; Joerg Hornstein, our Chief Financial Officer; and Jean-Fabien Monin, our Chief Administrative Officer.

The loss of our key managers and senior scientists could delay our research and development activities. Laws and regulations on executive compensation, including legislation in our home country, Switzerland, may restrict our ability to attract, motivate and retain the required level of qualified personnel. In Switzerland, legislation affecting public companies has been passed that, among other things, (i) imposes an annual binding shareholders' "say on pay" vote with respect to the compensation of executive management, including executive officers and the board of directors; (ii) prohibits severance, advances, transaction premiums and similar payments to executive officers and directors; and (iii) requires companies to specify various compensation-related matters in their articles of association, thus requiring them to be approved by a shareholders' vote. In addition, the competition for qualified personnel in the biopharmaceutical and pharmaceutical field is intense, and our future success depends upon our ability to attract, retain and motivate highly-skilled scientific, technical and managerial employees. We face competition for personnel from other companies, universities, public and private research institutions and other organizations. If our recruitment and retention efforts are unsuccessful in the future, it may be difficult for us to implement our business strategy, which could have a material adverse effect on our business.

We expect to expand our development, and regulatory capabilities, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.

We expect to experience growth in the number of our employees and the scope of our operations. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Due to our limited financial resources, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. The expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

We may become exposed to costly and damaging liability claims, either when testing our product candidates in the clinic or at the commercial stage; and our liability insurance may not cover all damages from such claims.

We are exposed to potential product liability and professional indemnity risks that are inherent in the research, development, manufacturing, marketing and use of pharmaceutical products. Currently we have no products that have been approved for commercial sale; however, our current and future use of product candidates in clinical studies, and the sale of any approved products in the future, may expose us to liability claims. These claims might be made by patients that use the product, healthcare providers, pharmaceutical companies or others selling such products. Any claims against us, regardless of their merit, could be difficult and costly to defend and could materially adversely affect the market for our product candidates or any prospects for commercialization of our product candidates.

Although the clinical study process is designed to identify and assess potential side effects, it is always possible that a drug, even after regulatory approval, may exhibit unforeseen side effects. If any of our product candidates were to cause adverse side effects during clinical studies or after approval of the product candidate, we may be exposed to substantial liabilities. Physicians and patients may not comply with any warnings that identify known potential adverse effects and patients who should not use our product candidates.

We purchase liability insurance in connection with the clinical studies that we undertake in amounts that we consider to be consistent with industry norms. It is possible that our liabilities could exceed our insurance coverage. We intend to expand our insurance coverage to include the sale of commercial products if we obtain marketing approval for any of our product candidates. However, we may not be able to maintain insurance coverage at a reasonable cost or obtain insurance coverage that will be adequate to satisfy any liability that may arise. If a successful product liability claim or series of claims is brought against us for uninsured liabilities or in excess of insured liabilities, our assets may not be sufficient to cover such claims and our business operations could be impaired.

Should any of the events described above occur, this could have a material adverse effect on our business, financial condition and results of operations.

We may seek to obtain orphan drug designation for certain of our product candidates. Orphan drug designation may not ensure that we will enjoy market exclusivity in a particular market, and if we fail to obtain or maintain orphan drug exclusivity for such product candidates, we may be subject to earlier competition and our potential revenue will be reduced.

Under the Orphan Drug Act, the FDA may designate a product as an orphan drug if it is intended to treat a rare disease or condition, defined as a patient population of fewer than 200,000 in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States. In the European Union, the EMA's Committee for Orphan Medicinal Products, or COMP, grants orphan drug designation to promote the development of products which meet the following criteria: a) they are intended for the diagnosis, prevention, or treatment of a life-threatening or chronically debilitating condition affecting not more than five in 10,000 persons in the European Union or for products that are intended for the diagnosis, prevention, or treatment of a life-threatening, seriously debilitating or serious and chronic condition when, without incentives, it is unlikely that sales of the drug in the European Union would be sufficient to justify the necessary investment in developing the drug or biological product; and b) there is no satisfactory method of diagnosis, prevention, or treatment, or, if such a method exists, the medicine must be of significant benefit to those affected by the condition.

In the United States, orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical study costs, tax advantages and user-fee waivers. In addition, if a product receives the first FDA approval for the indication for which it has orphan designation, the product is entitled to orphan drug exclusivity, which means the FDA may not approve any other application to market the same drug for the same indication for a period of seven years, except in limited circumstances, such as a showing of clinical superiority over the product with orphan exclusivity or where the manufacturer is unable to assure sufficient product quantity. In the European Union, orphan drug designation entitles a party to financial incentives such as reduction of fees or fee waivers and ten years of market exclusivity for the orphan indication following drug or biological product approval, provided that the criteria for orphan designation are still applicable at the time of the granting of the marketing authorization. This period may be reduced to six years if at the end of the fifth year, the orphan drug designation criteria are no longer met, including where it is shown that the product is sufficiently profitable not to justify maintenance of market exclusivity.

We may not be able to obtain orphan drug designation for any of our product candidates, and even if we do, we may not be the first to obtain marketing approval for any particular orphan indication due to the uncertainties associated with developing pharmaceutical products. Further, even if we obtain orphan drug designation for a product, that exclusivity may not effectively protect the product from competition because different drugs with different active moieties can be approved for the same condition. Orphan drug designation neither shortens the development time or regulatory review time of a drug nor gives the drug any advantage in the regulatory review or approval process.

Due to our limited resources and access to capital, we must prioritize development of certain product candidates.

Because we have limited resources and access to capital to fund our operations, we must decide which product candidates to pursue and the amount of resources to allocate to each. Our decisions concerning the allocation of research, collaboration, management and financial resources toward particular compounds, product candidates or therapeutic areas may not lead to the development of viable commercial products and may divert resources away from better opportunities. Similarly, our potential decisions to delay, terminate or collaborate with third parties in respect of certain product development programs may also prove not to be optimal and could cause us to miss valuable opportunities. If we make incorrect determinations regarding the market potential of our product candidates or misread trends in the biopharmaceutical industry, in particular for neurological disorders, our business, financial condition and results of operations could be materially adversely affected.

Our research and development activities could be affected or delayed as a result of possible restrictions on animal testing.

Certain laws and regulations require us to test our product candidates on animals before initiating clinical studies in humans. Animal testing activities have been the subject of controversy and adverse publicity. Animal rights groups and other organizations and individuals have attempted to stop animal testing activities by pressing for legislation and regulation in these areas and by disrupting these activities through protests and other means. To the extent the activities of these groups are successful, our research and development activities may be interrupted, delayed or become more expensive.

Our internal computer systems, or those used by our third-party research institution collaborators, CROs or other contractors or consultants, may fail or suffer security breaches.

Despite the implementation of security measures, our internal computer systems and those of our future CROs and other contractors and consultants may be vulnerable to damage from computer viruses and unauthorized access. Although to our knowledge we have not experienced any such material system failure or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our development programs and our business operations. For example, the loss of clinical trial data from completed, ongoing or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Likewise, we rely on our third-party research institution collaborators for research and development of our product candidates and other third parties for the manufacture of our product candidates and to conduct clinical trials, and similar events relating to their computer systems could also have a material adverse effect on our business. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or systems, or inappropriate disclosure of confidential or proprietary information or personal data of our employees, partners and study subjects, we could incur liability and the further development and commercialization of our product candidates could be delayed.

A breakdown or breach of our information technology systems and cyber security efforts could subject us to liability, reputational damage or interrupt the operation of our business.

We are increasingly dependent upon technology systems and data. Our computer systems continue to increase in multitude and complexity due to the growth in our business, making them potentially vulnerable to breakdown, malicious intrusion and random attack. Likewise, data privacy or security breaches by individuals authorized to access our technology systems or others may pose a risk that sensitive data, including intellectual property, trade secrets or personal information belonging to us, our patients or other business partners, may be exposed to unauthorized persons or to the public. Cyber-attacks are increasing in their frequency, sophistication and intensity, and are becoming increasingly difficult to detect. They are often carried out by motivated, well-resourced, skilled and persistent actors including nation states, organized crime groups, “hacktivists” and

employees or contractors acting with malicious intent. Cyber-attacks could include the deployment of harmful malware and key loggers, ransomware, a denial-of-service attack, a malicious website, the use of social engineering and other means to affect the confidentiality, integrity and availability of our technology systems and data. Our key business partners face similar risks and any security breach of their systems could adversely affect our security posture. While we continue to build and improve our systems and infrastructure and believe we have taken appropriate security measures to reduce these risks to our data and information technology systems, there can be no assurance that our efforts will prevent breakdowns or breaches in our systems that could adversely affect our business and operations and/or result in the loss of critical or sensitive information, which could result in financial, legal, business or reputational harm to us. In addition, our liability insurance may not be sufficient in type or amount to cover us against claims related to security breaches, cyber-attacks and other related breaches.

Business disruptions could seriously harm our future revenue and financial condition and increase our costs and expenses.

Our operations, and those of our third-party research institution collaborators, CROs, CMOs, suppliers, and other contractors and consultants, could be subject to earthquakes, power shortages, telecommunications failures, water shortages, floods, hurricanes, typhoons, fires, extreme weather conditions, medical epidemics, and other natural or man-made disasters or business interruptions, for which we are partly uninsured. In addition, we rely on our third-party research institution collaborators for conducting research and development of our product candidates, and they may be affected by government shutdowns or withdrawn funding. The occurrence of any of these business disruptions could seriously harm our operations and financial condition and increase our costs and expenses. We rely on third party manufacturers to produce and process our product candidates. Our ability to obtain clinical supplies of our product candidates could be disrupted if the operations of these suppliers are affected by a man-made or natural disaster or other business interruption.

All of our operations including our corporate headquarters are located in Ecublens, near Lausanne, Canton of Vaud, Switzerland. Damage or extended periods of interruption to our corporate, development or research facilities due to fire, natural disaster, power loss, communications failure, unauthorized entry or other events could cause us to cease or delay development of some or all of our product candidates. Although we maintain property damage and business interruption insurance coverage on these facilities, our insurance might not cover all losses under such circumstances and our business may be seriously harmed by such delays and interruption.

We have never commercialized a product candidate before and may lack the necessary expertise, personnel and resources to successfully commercialize our products on our own or together with suitable partners.

We have never commercialized a product candidate, and we currently have no sales force, marketing or distribution capabilities. To achieve commercial success for our product candidates, we will have to develop our own sales, marketing and supply organization or outsource these activities to a third party.

Factors that may affect our ability to commercialize our product candidates on our own include recruiting and retaining adequate numbers of effective sales and marketing personnel, obtaining access to or persuading adequate numbers of physicians to prescribe our drug candidates and other unforeseen costs associated with creating an independent sales and marketing organization. Developing a sales and marketing organization requires significant investment, is time-consuming and could delay the launch of our product candidates. We may not be able to build an effective sales and marketing organization. If we are unable to build our own distribution and marketing capabilities or to find suitable partners for the commercialization of our product candidates, we may not generate revenues from them or be able to reach or sustain profitability.

Risks Related to Our Relationships with Third Parties

If we fail to maintain our current strategic relationships with Genentech, Eli Lilly and Company (“Lilly”), Janssen Pharmaceuticals, Inc. (“Janssen”), Life Molecular Imaging SA (“Life Molecular”) (formerly Piramal Imaging SA) and other of our current or future strategic partners, our business, commercialization prospects and financial condition may be materially adversely affected.

We have two partnerships with Genentech. In 2006, we granted Genentech an exclusive, worldwide license for crenezumab. In 2012, we entered into a second partnership to commercialize anti-Tau antibodies for use as immunotherapies. In December 2018, we signed a license agreement with Lilly to research and develop Morphomer Tau small molecules for the treatment of Alzheimer’s disease and other neurodegenerative diseases. The collaboration commenced in the first quarter of 2019. We partner with Janssen to develop and

commercialize therapeutic anti-Tau vaccines for the treatment of AD and potentially other Tauopathies. We also have a diagnostic partnership with Life Molecular for a compound from our Morphomer chemical library that binds pathogenic Tau for use as a positron emission tomography, or PET, tracer. Genentech has the right to terminate its agreements with us at any time and for any reason upon providing us with a certain notice period. After a specified amount of time, Janssen and Life Molecular will also each have the right to terminate their agreements with us for any reason upon providing us with a certain notice period. If Genentech, Lilly, Janssen, Life Molecular or other of our current or future strategic partners terminates its agreement with us at any time, it could delay or prevent development of our product candidates and materially harm our business, financial condition, commercialization prospects and results of operations.

Good relationships with Genentech, Lilly, Janssen, Life Molecular and other of our current or future strategic partners are important for our business prospects. If our relationships with Genentech, Lilly, Janssen, Life Molecular or other of our current or future strategic partners were to deteriorate substantially or Genentech, Lilly, Janssen, Life Molecular or other of our current or future strategic partners were to challenge our use of their intellectual property or our calculations of the payments we are owed under our agreements, our business, financial condition, commercialization prospects and results of operations could be materially adversely affected.

Lastly, our collaboration agreement with Genentech for crenezumab provides Genentech with control over, and responsibility for, the clinical development process, including obtaining regulatory and marketing approvals, manufacturing costs and sales and marketing costs. Our other existing collaboration agreements provide our collaboration partners with similar control over the clinical development process and future collaboration agreements may also relinquish development control to our partners. Genentech or our other current or future collaboration partners may separately pursue competing products, therapeutic approaches or technologies to develop treatments for the diseases targeted by us or our collaborative efforts. Even if our partners continue their contributions to the collaborative agreements to which we are a party, they may nevertheless determine not to actively pursue the development or commercialization of any resulting products. Our partners may also fail to perform their obligations under the collaboration agreements or may be slow in performing their obligations. Any of these circumstances could result in a material adverse impact on our business, financial condition, commercialization prospects or results of operations.

We may seek to form additional strategic alliances in the future with respect to our product candidates, and if we do not realize the benefits of such alliances, our business, financial condition, commercialization prospects and results of operations may be materially adversely affected.

Our product development programs and the potential commercialization of our product candidates will require substantial additional liquidity to fund expenses and may require expertise, such as sales and marketing expertise, which we do not currently possess. Therefore, in addition to our relationships with Genentech, Lilly, Janssen and Life Molecular, we may decide to enter into strategic alliances, or create joint ventures or collaborations with pharmaceutical or biopharmaceutical companies for the further development and potential commercialization of those and other of our product candidates.

We face significant competition in seeking appropriate collaborators. Collaborations are complex and time-consuming to negotiate, document and manage. Any delays in entering into new strategic partnership agreements related to our product candidates could delay the development and commercialization of our product candidates and reduce their competitiveness even if they reach the market. We may also be restricted under existing and future collaboration agreements from entering into strategic partnerships or collaboration agreements on certain terms with other potential collaborators. We may not be able to negotiate collaborations on acceptable terms, or at all, for any of our existing or future product candidates and programs because the potential partner may consider that our research and development pipeline is insufficiently developed to justify a collaborative effort, or that our product candidates and programs do not have the requisite potential to demonstrate safety and efficacy in the target population. If we are unsuccessful in establishing and maintaining a collaboration with respect to a particular product candidate, we may have to curtail the development of that product candidate, reduce the scope of or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of our sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense for which we have not budgeted. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we will not be able to bring our product candidates to market and generate product revenue. Even if we are successful in establishing a new strategic partnership or entering into a collaboration agreement, we cannot be certain that, following such a strategic transaction or license, we will be able to progress the development and commercialization of the applicable product candidates as envisaged, or that we will achieve the revenues that would justify such transaction, and we could be subject to the following risks, each of which may materially harm our business, commercialization prospects and financial condition:

- we may not be able to control the amount and timing of resources that the collaboration partner devotes to the product development program;
- the collaboration partner may experience financial difficulties;
- we may be required to grant or otherwise relinquish important rights such as marketing, distribution and intellectual property rights;
- a collaboration partner could move forward with a competing product developed either independently or in collaboration with third parties, including our competitors; or
- business combinations or significant changes in a collaboration partner's business strategy may adversely affect our willingness to continue any arrangement.

We rely on third parties to conduct our nonclinical and clinical studies and perform other tasks for us. If these third parties do not successfully carry out their contractual duties, meet expected deadlines, or comply with regulatory requirements, we may not be able to obtain regulatory approval for or commercialize our product candidates and our business could be substantially harmed.

We have relied upon and plan to continue to rely upon third-party clinical research organizations, or CROs, to monitor and manage data for our ongoing nonclinical and clinical programs, including the clinical studies of our product candidates. We rely on these parties for execution of our nonclinical and clinical studies and control only certain aspects of their activities. Nevertheless, we are responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards and our reliance on the CROs does not relieve us of our regulatory responsibilities. We and our CROs and other vendors are required to comply with current good manufacturing practices, or cGMP, current good clinical practice, or cGCP, and Good Laboratory Practice, or GLP, which are regulations and guidelines enforced by the FDA, the Competent Authorities of the Member States of the European Union and comparable foreign regulatory authorities for all of our product candidates in nonclinical and clinical development. Regulatory authorities enforce these regulations through periodic inspections of study sponsors, principal investigators, study sites and other contractors. If we or any of our CROs or vendors fail to comply with applicable regulations, the data generated in our nonclinical and clinical studies may be deemed unreliable and the EMA, FDA, other regulatory authorities may require us to perform additional nonclinical and clinical studies before approving our marketing applications. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that all of our clinical studies comply with cGCP regulations. In addition, our clinical studies must be conducted with products produced under cGMP regulations. Our failure to comply with these regulations may require us to repeat clinical studies, which would delay the regulatory approval process.

If any of our relationships with these third-party CROs terminates, we may not be able to enter into arrangements with alternative CROs or do so on commercially reasonable terms. In addition, our CROs are not our employees, and except for remedies available to us under our agreements with such CROs, we cannot control whether or not they devote sufficient time and resources to our on-going nonclinical and clinical programs. If CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the data they obtain is compromised due to the failure to adhere to our protocols, regulatory requirements, or for other reasons, our clinical studies may be extended, delayed, or terminated and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. CROs may also generate higher costs than anticipated. As a result, our results of operations and the commercial prospects for our product candidates would be harmed, our costs could increase, and our ability to generate revenue could be delayed.

Switching or adding additional CROs involves additional cost and requires management time and focus. In addition, there is a natural transition period when a new CRO commences work. As a result, delays occur, which can materially impact our ability to meet our desired clinical development timelines. Though we carefully manage our relationships with our CROs, there can be no assurance that we will not encounter similar challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, financial condition and prospects.

We currently rely on third-party suppliers and other third parties for production of our product candidates and our dependence on these third parties may impair the advancement of our research and development programs and the development of our product candidates.

We currently rely on and expect to continue to rely on third parties, for the manufacturing and supply of chemical compounds for the clinical studies of our current and future product candidates. For the foreseeable future, we expect to continue to rely on such third parties for the manufacture of any of our product candidates on a clinical or commercial scale, if any of our product candidates receives regulatory approval. Reliance on third-party providers may expose us to different risks than if we were to manufacture product candidates ourselves. The facilities used by our contract manufacturers to manufacture our product candidates must be approved by the FDA or other regulatory authorities pursuant to inspections that will be conducted after we submit our NDA or comparable marketing application to the FDA or other regulatory authority. We do not have control over a supplier's or manufacturer's compliance with these laws, regulations and applicable cGMP standards and other laws and regulations, such as those related to environmental health and safety matters. If our contract manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA or others, they will not be able to secure and/or maintain regulatory approval for their manufacturing facilities. In addition, we have no control over the ability of our contract manufacturers to maintain adequate quality control, quality assurance and qualified personnel. If the FDA or a comparable foreign regulatory authority does not approve these facilities for the manufacture of our product candidates or if it withdraws any such approval in the future, we may need to find alternative manufacturing facilities, which would significantly impact our ability to develop, obtain regulatory approval for or market our product candidates, if approved. Any failure to achieve and maintain compliance with these laws, regulations and standards could subject us to the risk that we may have to suspend the manufacturing of our product candidates or that obtained approvals could be revoked, which would adversely affect our business and reputation.

Third-party providers may breach agreements they have with us because of factors beyond our control. Contract manufacturers often encounter difficulties involving production yields, quality control and quality assurance, as well as shortages of qualified personnel. They may also terminate or refuse to renew their agreements because of their own financial difficulties or business priorities, potentially at a time that is costly or otherwise inconvenient for us. If we were unable to find adequate replacement or another acceptable solution in time, our clinical studies could be delayed or our commercial activities could be harmed.

In addition, the fact that we are dependent on our suppliers and other third parties for the manufacture, storage and distribution of our product candidates means that we are subject to the risk that our product candidates and, if approved, commercial products may have manufacturing defects that we have limited ability to prevent or control. The sale of products containing such defects could result in recalls or regulatory enforcement action that could adversely affect our business, financial condition and results of operations.

Growth in the costs and expenses of components or raw materials may also adversely influence our business, financial condition and results of operations. Supply sources could be interrupted from time to time and, if interrupted, we cannot be certain that supplies could be resumed (whether in part or in whole) within a reasonable timeframe and at an acceptable cost or at all. Our current and anticipated future dependence upon others for the manufacturing of our current and future product candidates may adversely affect our future profit margins and our, or our collaborations partners' ability to commercialize any products that receive marketing approval on a timely and competitive basis.

Our collaboration arrangements with our strategic partners may make us an attractive target for potential acquisitions under certain circumstances.

Under certain circumstances, due to the structure of our collaboration arrangements with our strategic partners, our strategic partners may prefer to acquire us rather than paying the milestone payments or royalties under the collaboration arrangements, which may bring additional uncertainties to our business development and prospects. For example, under our collaboration arrangements with Genentech, Lilly and Janssen, we may become entitled to substantial milestone payments and royalties. As a result, rather than paying the milestone payments or royalties, Genentech, Lilly or Janssen, or one of their affiliates including Roche or Johnson & Johnson, may choose to acquire us.

Risks Related to Intellectual Property

We may not have sufficient patent terms to effectively protect our products and business.

Patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after it is filed. Although various extensions or adjustments may be available, such as adjustments based on certain delays caused by the United States Patent and Trademark Office, or the USPTO, the life of a patent, and the protection it affords, is limited. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned, co-owned and licensed patent portfolios may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours or otherwise provide us with a competitive advantage. Even if patents covering our product candidates are obtained and unchallenged, once the patent life has expired for a product, we may be open to competition from generic medications.

While patent term extensions under the Hatch-Waxman Act, in the United States and under supplementary protection certificates in Europe may be available to extend the patent exclusivity term for our products, we cannot provide any assurances that any such patent term extension will be obtained and, if so, for how long. The Hatch-Waxman Act permits a patent extension term of up to five years as compensation for patent term lost during the FDA regulatory review process. A patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent may be extended and only those claims covering the approved drug, a method for using it or a method for manufacturing it may be extended. However, we may not be granted any extension because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension or the term of any such extension is less than we request, such result could have a material adverse effect on our business.

We or our licensing or collaboration partners may become subject to intellectual property-related litigation or other proceedings to protect or enforce our patents or the patents of our licensors or collaborators, any of which could be expensive, time consuming, and unsuccessful, and may ultimately result in our loss of ownership of intellectual property.

Competitors may infringe our patents or the patents of our licensors or collaborators. To counter such infringement, we may be required to file claims against those competitors, which can be expensive and time-consuming. If we or one of our licensing or collaboration partners were to initiate legal proceedings against a third party to enforce a patent covering one of our product candidates, the defendant could counterclaim that the patent covering our product candidate is invalid or unenforceable, or that we infringe the defendant's patents. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, obviousness-type double patenting, lack of written description, or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. In addition, third parties may raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, post grant review, *inter partes* review, interference and derivation proceedings as well as equivalent proceedings in foreign jurisdictions. The outcome following legal assertions of invalidity and unenforceability is unpredictable. Such proceedings or patent litigations could result in the revocation or cancellation of or amendment to our patents in such a way that they no longer cover our product candidates or otherwise provide any competitive advantage. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which the patent examiner and we or our licensing or collaboration partners were unaware during prosecution. A court may also refuse to stop a third party from using the technology in question on the grounds that our patents do not cover that technology. An adverse result in any proceeding could put one or more of our patents at risk of being invalidated or interpreted narrowly, which could have a material adverse effect on our business and financial condition.

Interference proceedings provoked by third parties or brought by us or declared by the USPTO may be necessary to determine the priority of inventions with respect to our patents or patent applications or those of our licensors or collaborators. An unfavorable outcome could require us or our licensing or collaboration partners to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be materially harmed if the prevailing party does not offer us or our licensing or collaboration partners a license on commercially reasonable terms or at all. If we or our licensing or collaboration partners are unsuccessful in any interference proceedings, we may lose our ownership of intellectual property or our patents may be narrowed or invalidated. There can be no assurance as to the outcome of the interference and opposition proceedings, and any of the foregoing could result in a material adverse effect on our business, financial condition, results of operations or prospects.

Our defense of litigation, interference proceedings or other intellectual property-related proceedings may fail and, even if successful, may result in substantial costs and distract our management and other employees from their normal responsibilities. Such litigation or proceedings could substantially increase our operating losses and could substantially reduce the funds necessary to continue our clinical studies, continue our research programs, license necessary technology from third parties, or enter into development partnerships that would help us bring our product candidates to market. We may not be able to prevent, alone or with our licensing or collaboration partners, misappropriation of our intellectual property rights, particularly in countries where the laws may not protect those rights as fully as in the United States.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions, decisions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of our common shares.

If we or our licensing or collaboration partners are unable to obtain and maintain effective patent rights for our technologies, product candidates or any future product candidates, or if the scope of the patent rights obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and our, or our collaboration partners' ability to successfully commercialize our products and technology may be adversely affected.

We rely upon a combination of patents, trade secret protection, and confidentiality agreements to protect the intellectual property related to our technologies and product candidates. Our success depends in large part on our and our licensing or collaboration partners' ability to obtain and maintain patent and other intellectual property protection in the United States and in other countries with respect to our proprietary technologies and product candidates. In particular, Genentech, Lilly, Janssen or our other licensing or collaboration partners may be dependent on a license with a third party for the development and commercialization of our product candidates. If such license is terminated, Genentech, Lilly, Janssen or other licensing or collaboration partners may be required to cease development and commercialization of crenezumab or our other product candidates, any of which could have a material adverse effect on our business, financial condition, results of operations or prospects.

We have sought to protect our proprietary position by filing patent applications in the United States and abroad related to any of our novel technologies and products that are important to our business. This process is expensive, time consuming, and complex, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost, in a timely manner or in all jurisdictions. It is also possible that we will fail to identify patentable aspects of our or our licensing or collaboration partners' research and development output before it is too late to obtain patent protection. Moreover, in some circumstances, we do not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology that we license to or from third parties. Therefore, these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain and involves complex legal and factual questions for which legal principles remain unsolved. As a result, the inventorship, issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. The pending or future patent applications that we own, co-own or in-license may fail to issue, fail to result in issued patents with claims that cover our product candidates in the United States or in other foreign countries, or fail to effectively prevent others from commercializing competitive technologies and product candidates. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the scope of our patent protection.

We may not be aware of all third-party intellectual property rights potentially relating to our technologies or product candidates. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions remain confidential for a period of time after filing, and some remain so until issued. Therefore, we cannot be certain that we were the first to file any patent application related to our product candidates or technologies, or whether we were the first to make the inventions claimed in our owned or co-owned patents or pending patent applications, nor can we know whether those from whom we license patents were the first to make the inventions claimed or were the first to file.

There is no assurance that all potentially relevant prior art relating to our patents and patent applications has been found, which can invalidate a patent or prevent a patent from issuing from a pending patent application. Even if patents do successfully issue, and even if such patents cover our product candidates, third parties may challenge their validity, enforceability, or scope, which may result in such patents being narrowed, found unenforceable or invalidated, which could allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our or our collaboration partners' inability to manufacture or commercialize products without infringing third party patent rights. Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property, provide exclusivity for our product candidates, prevent others from designing around our claims or provide us with a competitive advantage. Any of these outcomes could impair our ability to prevent competition from third parties, which may have a material adverse effect on our business.

We may be subject to claims challenging the inventorship of our patents and other intellectual property.

We may be subject to claims that former employees, collaborators or other third parties have an interest in our patents or other intellectual property as an inventor or co-inventor. For example, we may have inventorship disputes arise from conflicting obligations of consultants or others who are involved in developing our product candidates. Litigation may be necessary to defend against these and other claims challenging inventorship or our ownership of our patents or other intellectual property. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or the right to use, valuable intellectual property. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

Patent policy and rule changes could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, thereby impairing our ability to protect our technologies and products.

Changes in either the patent laws or interpretation of the patent laws in the United States could increase the uncertainties and costs surrounding the prosecution of patent applications and the enforcement or defense of issued patents. Assuming the other requirements for patentability are met, in the United States prior to March 15, 2013, the first to make the claimed invention is entitled to the patent, while outside the United States, the first to file a patent application is entitled to the patent. After March 15, 2013, under the Leahy-Smith America Invents Act, or the Leahy-Smith Act, enacted on September 16, 2011, the United States has moved to a first-to-file system. Under a first-to-file system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to the patent on an invention regardless of whether a third party was the first to invent the invention. The Leahy-Smith Act also includes a number of significant changes that affect the way patent applications will be prosecuted and may also affect patent litigation. These include allowing third-party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent by the USPTO administered post grant proceedings, including reexamination proceedings, *inter partes* review, post-grant review and derivation proceedings. The effects of these changes on the operation of our business are currently unclear as, among other reasons, the USPTO must still implement various regulations and courts must interpret these changes. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

In addition, the patent positions of companies in the development and commercialization of biologics and pharmaceuticals are particularly uncertain. Recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. This combination of events has created uncertainty with respect to the validity and enforceability of patents, once obtained. Depending on future actions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that could have a material adverse effect on our existing patent portfolio and our ability to protect and enforce our intellectual property in the future.

If we are unable to maintain effective proprietary rights for our technologies, product candidates or any future product candidates, we may not be able to compete effectively in our markets.

In addition to the protection afforded by patents, we rely on trade secret protection and confidentiality agreements to protect proprietary know-how that is not patentable or that we elect not to patent, processes for which patents are difficult to enforce and any other elements of our product candidate discovery and development processes that involve proprietary know-how, information or technology that is not covered by patents. However, trade secrets can be difficult to protect and some courts inside and outside the United States are less willing or unwilling to protect trade secrets. Because we rely on our advisors, employees and third-party contractors and consultants to research and develop and to manufacture our product candidates, we must, at times, share our intellectual property with them. We seek to protect our intellectual property and other proprietary technology in part by entering into confidentiality agreements and, if applicable, material transfer agreements, consulting agreements or other similar agreements with our advisors, employees, contractors, consultants, licensing and collaboration partners, and other third parties. These agreements typically limit the rights of these third parties to use or disclose our confidential information, including our intellectual property and trade secrets. These agreements also typically restrict the ability of third parties to publish data potentially relating to our intellectual property, although our agreements may contain certain limited publication rights. For example, any academic institution that we may collaborate with in the future may expect to be granted rights to publish data arising out of such collaboration, provided that we may have the right to be notified in advance and given the opportunity to delay publication for a limited time period in order for us to secure patent protection of intellectual property rights arising from the collaboration, in addition to the opportunity to remove confidential or trade secret information from any such publication. In the future, we may also conduct joint research and development programs that may require us to share intellectual property under the terms of our research and development or similar agreements. However, we cannot guarantee that we have entered into such agreements with each party that may have or have had access to our trade secrets or other confidential information or proprietary technology and processes or that such agreements will not be breached or that our trade secrets or other confidential information will not otherwise be disclosed. Despite the contractual provisions employed when working with these advisors, employees and third party contractors and consultants, the need to share intellectual property and other confidential information increases the risk that such confidential information becomes known by our competitors, is inadvertently incorporated into the product development of others or is disclosed or used in violation of these agreements.

We also seek to preserve the integrity and confidentiality of our data and trade secrets by maintaining physical security of our premises and physical and electronic security of our information technology systems. Despite our efforts to protect our intellectual property, our competitors may discover our trade secrets through breach of our agreements with third parties, where we may not have adequate remedies for any breach, independent development or publication of information by any of our licensing or collaboration partners. Additionally, if the steps taken to maintain our trade secrets are deemed inadequate, we may have insufficient recourse against third parties for misappropriating such trade secrets. Misappropriation or unauthorized disclosure of our trade secrets could impair our competitive position and may have a material adverse effect on our business. Moreover, if any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, we would have no right to prevent such competitor or other third party from using that technology or information to compete with us. A competitor's or other third party's discovery of our intellectual property would impair our competitive position and have a material adverse effect on our business.

Further, the laws of some foreign countries do not protect proprietary rights to the same extent or in the same manner as the laws of the United States. As a result, we may encounter significant problems in protecting and defending our intellectual property both in the United States and abroad. If we are unable to prevent material disclosure of the intellectual property related to our technologies to third parties, we will not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, financial condition and results of operations.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance fees, renewal fees, annuity fees and various other government fees on a patent and patent application are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent and patent application. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. We employ reputable law firms and other professionals to help us comply with these requirements and we are also dependent on our licensors or collaboration partners to take the necessary action to comply with these requirements with respect to certain of our intellectual property. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. In such an event, our competitors might be able to enter the market, which would have a material adverse effect on our business.

The patent protection and patent prosecution for some of our product candidates is dependent on third parties.

While we normally seek to obtain the right to control prosecution, maintenance and enforcement of the patents relating to our product candidates, there may be times when the filing and prosecution activities for patents relating to our product candidates are controlled by our licensors or collaboration partners. If any of our current or future licensing or collaboration partners fail to prosecute, maintain and enforce such patents and patent applications in a manner consistent with the best interests of our business, including by payment of all applicable fees for patents covering our product candidates, we could lose our rights to the intellectual property or our exclusivity with respect to those rights, our or our collaboration partners' ability to develop and commercialize those product candidates may be adversely affected and we may not be able to prevent competitors from making, using, and selling competing products. In addition, even where we have the right to control patent prosecution of patents and patent applications we have licensed to and from third parties, we may still be adversely affected or prejudiced by actions or inactions of our licensees, our licensors and their counsel that took place prior to the date upon which we assumed control over patent prosecution.

If we fail to comply with the obligations in our intellectual property agreements, including those under which we license intellectual property and other rights to or from third parties, or otherwise experience disruptions to our business relationships with our licensees, our licensors and partners, we could lose intellectual property rights that are important to our business.

We are a party to a number of intellectual property license and co-ownership agreements that are important to our business and expect to enter into additional such agreements in the future. Under certain circumstances, the royalties payable to us under these agreements are subject to certain reductions, which may have a materially adverse effect on our business, financial condition, results of operations and prospects. In addition, our existing agreements impose, and we expect that future agreements will impose, various diligence, commercialization, milestone payment, royalty and other obligations on us. If we fail to comply with our obligations under these agreements, or we are subject to a bankruptcy, we may be required to make certain payments to the licensor, we may lose the exclusivity of our license, or the licensor may have the right to terminate the license, in which event we would not be able to develop or market products covered by the license.

Licensing of intellectual property is of critical importance to our business and involves complex legal, business, and scientific issues. Disputes may arise regarding intellectual property subject to a licensing or co-ownership agreement, including:

- the scope of rights granted under the agreement and other interpretation-related issues;
- the extent to which our technology and processes infringe or otherwise violate intellectual property of the licensor, the licensee or partner that is not subject to the agreement;
- the sublicensing of patent and other rights;
- the diligence, development and commercialization obligations under the agreement and what activities satisfy those obligations;
- the ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors or collaboration partners and us; and
- the priority of invention of patented technology.

If disputes over intellectual property and other rights that we have licensed or co-own prevent or impair our ability to maintain our current licensing or exclusivity arrangements on acceptable terms, we or our collaboration partners may be unable to successfully develop and commercialize the affected product candidates.

In addition, certain provisions in the agreements under which we currently license intellectual property or technology to and from third parties may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, increase what we believe to be our financial or other obligations under the relevant agreement, or decrease the third party's financial or other obligations under the relevant agreement, any of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

We may not be successful in obtaining or maintaining necessary rights to our product candidates through acquisitions and in-licenses.

Our programs may in the future require the use of proprietary rights held by third parties, the growth of our business will likely depend in part on our ability to acquire, in-license, maintain or use these proprietary rights. In addition, our product candidates may require specific formulations to work effectively and efficiently and the rights to these formulations may be held by others. We may be unable to acquire or in-license any compositions, methods of use, processes, or other third-party intellectual property rights from third parties that we identify as necessary for our product candidates. The licensing and acquisition of third-party intellectual property rights is a competitive area, and a number of more established companies may pursue strategies to license or acquire third-party intellectual property rights that we may consider attractive or necessary. These established companies may have a competitive advantage over us due to their size, cash resources, and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to license or acquire third-party intellectual property rights on terms that would allow us to make an appropriate return on our investment.

For example, we sometimes collaborate with U.S. and foreign academic institutions to accelerate our preclinical research or development under written agreements with these institutions. Typically, these institutions provide us with an option to negotiate a license to any of the institution's rights in technology resulting from the collaboration. Regardless of such option, we may be unable to negotiate a license within the specified timeframe or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to other parties, potentially blocking our ability to pursue our applicable product candidate or program.

If we are unable to successfully obtain a license to third-party intellectual property rights necessary for the development of a product candidate or program, we may have to abandon development of that product candidate or program and our business and financial condition could suffer.

Third-party claims of intellectual property infringement may expose us to substantial liability or prevent or delay our or our collaboration partners' development and commercialization efforts.

Our commercial success depends on our ability and the ability of our licensees or collaborators to develop, manufacture, market and sell our product candidates and use our proprietary technology without infringing, misappropriating, or otherwise violating the proprietary rights and intellectual property of third parties. The biotechnology and pharmaceutical industries are characterized by extensive and complex litigation regarding patents and other intellectual property rights. We may in the future become party to, or be threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to our product candidates and technology, including patent infringement lawsuits, interferences, oppositions, reexamination proceedings, *inter partes* review, derivation proceedings and post grant review before the USPTO and corresponding foreign patent offices.

Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are developing product candidates. For example, we are aware of third party patents that may be construed to cover one or more of our product candidates. If these patents are asserted against us or our licensing or collaboration partners and either we or our licensing or collaboration partners are found to infringe any of these patents, and are unsuccessful in demonstrating that such patents are invalid or unenforceable, then we and our licensing or collaboration partners could be required to pay substantial monetary damages or cease further development or commercialization of one or more of our product candidates. There may also be other third-party patents or patent applications with claims to materials, formulations, methods of manufacture, or methods of treatment related to the use or manufacture of our product candidates and technology. Although we generally conduct a freedom to operate search and review with respect to our product candidates, we cannot guarantee that our search and review is complete and thorough, nor can we be sure that we have identified each and every patent and pending application in the United States and abroad that is relevant or necessary to the commercialization of our product candidates or use of our technology. Because patent applications can take many years to issue, there may be currently pending patent applications that may later result in issued patents that our product candidates may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents.

Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future, regardless of merit. Even if we believe such claims are without merit, a court of competent jurisdiction could hold that these third party patents are valid, enforceable and infringed, which could materially and adversely affect our or our collaboration partners' ability to commercialize our product candidates or technologies covered by the asserted third party patents. If we are found to infringe a third party's valid and enforceable intellectual property rights, we could be required to obtain a license from such third party to continue developing, manufacturing and marketing our product candidates and technology. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive; thereby giving our competitors and other third parties access to the same technologies licensed to us and it could require us to make substantial payments to the licensor.

Parties making claims against us may also obtain injunctive or other equitable relief, which could effectively block our or our collaboration partners' ability to further develop and commercialize one or more of our product candidates. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of management and employee resources from our business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, pay royalties, redesign our infringing products or obtain one or more licenses from third parties, which may be impossible or require substantial time and monetary expenditure. Any of the foregoing could have a material and adverse effect on our business, financial conditions, results of operations and prospects.

In addition, claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business, financial condition, results of operations and prospects.

There could also be public announcements of the results of hearings, motions, decisions, or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of our common shares.

Some of our competitors may have substantially greater resources and more mature and developed intellectual property portfolios than we do and may be able to sustain the costs of complex intellectual property litigation to a greater degree and for longer periods of time than we could. In addition, patent holding companies that focus solely on extracting royalties and settlements by enforcing patent rights may target us. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our product candidates may be subject to claims of infringement of the patent rights of third parties. The uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace.

We may be subject to claims that our employees, consultants, or independent contractors have wrongfully used or disclosed confidential information of third parties or that our employees have wrongfully used or disclosed alleged trade secrets of their former employers.

We employ and utilize the services of individuals who were previously employed or provided services to universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we try to ensure that our employees, consultants, and independent contractors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or our employees, consultants, or independent contractors have inadvertently or otherwise used or disclosed intellectual property, including trade secrets or other proprietary information, of any of our employee's, consultant's or independent contractor's former employer or other third parties. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel, which could adversely impact our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

In addition, while it is our policy to require our employees, consultants and independent contractors who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who, in fact, conceives or develops intellectual property that we regard as our own. The assignment of intellectual property rights may not be self-executing or the assignment agreements may be breached, and we may be forced to bring claims against third parties, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property.

We may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as the laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. In the ordinary course of prosecution and maintenance activities, we determine whether to seek patent protection outside the U.S. and in which countries. This also applies to patents we have acquired or in-licensed from third parties. In some cases, we, or our predecessors in interest or licensors of patents within our portfolio, have sought patent protection in a limited number of countries for patents covering our product candidates. Competitors may use our technologies in jurisdictions where we have not obtained or are unable to adequately enforce patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing, which would have a material adverse effect on our business and financial positions.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets, and other intellectual property protection, particularly those relating to biotechnology products, which could make it difficult for us to stop the infringement, misappropriation or other violations of our intellectual property and proprietary rights. Proceedings to enforce our patent rights in foreign jurisdictions, whether or not successful, could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Risks Related to Our Financial Condition and Capital Requirements

We are a clinical-stage company and have a history of operating losses. We anticipate that we will continue to incur losses for the foreseeable future.

We are a clinical-stage biopharmaceutical company. Since 2003, while we have received upfront and milestone payments from our collaboration partners and certain other contract revenue, we have also incurred significant operating losses. For example, we incurred net losses (defined as net loss attributable to owners of the company) of CHF 50.9 million for the year ended December 31, 2018. In addition, we had accumulated losses of CHF 121.9 million as of December 31, 2018.

Our losses have resulted principally from research and development expenses and from general business and administrative expenses. We expect to continue to incur significant operating losses in the future as we continue our research and development efforts for our current and future product candidates and seek to obtain regulatory approval and commercialization of such product candidates.

To date, the Company has financed its liquidity requirements primarily from revenues from collaboration agreements, share issuances, the proceeds of its initial public offering and the proceeds from three offerings of its common shares in July 2018. We have no products approved for commercialization and have never generated any revenues from product sales. Biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of risk. It may be several years, if ever, before we or our collaboration partners complete pivotal clinical studies and have a product candidate approved for commercialization and we begin to generate revenue or royalties from product sales.

While we have generated revenues from upfront and milestone payments related to our collaboration agreements, we have never generated any revenue from product sales and may never be profitable.

While we have generated revenue from upfront and milestone payments related to our collaboration agreements, we have no products approved for commercialization and have never generated any revenue from product sales. Our ability to generate revenue and achieve profitability depends on our ability to successfully

complete the development of, and obtain the marketing approvals necessary to commercialize, one or more of our product candidates. We do not anticipate generating revenue from product sales unless and until we or our collaboration partners obtain regulatory approval for, and commercialize, our product candidates. Our ability to generate future revenue from product sales depends heavily on our and our collaboration partners' success in many areas, including but not limited to:

- completing research and clinical development of our product candidates, including us or our collaboration partners, as the case may be, successfully completing a Phase 2 clinical study of crenezumab, a Phase 2 clinical study of anti-Tau antibody, a Phase 2 clinical study of ACI-24 for AD, a Phase 1b clinical study of ACI-24 in Down syndrome, a Phase 1b/2a clinical study of ACI-35 and a Phase 1 for Tau-PET Imaging tracer;
- obtaining marketing approvals for our product candidates, including crenezumab, ACI-24 for AD and DS, ACI-35, Morphomer Tau or anti-Tau antibody, for which we complete clinical studies;
- developing a sustainable and scalable manufacturing process for any approved product candidates and maintaining supply and manufacturing relationships with third parties that can conduct the process and provide adequate (in amount and quality) products to support clinical development and the market demand for our product candidates, if approved;
- launching and commercializing product candidates for which we obtain marketing approval, either directly or with a collaborator or distributor;
- obtaining market acceptance of our product candidates as viable treatment options;
- addressing any competing technological and market developments;
- identifying, assessing, acquiring and/or developing new product candidates;
- negotiating favorable terms in any collaboration, licensing, or other similar arrangements into which we may enter;
- maintaining, protecting, and expanding our portfolio of intellectual property rights, including patents, trade secrets and know-how; and
- attracting, hiring and retaining qualified personnel.

Because of the numerous risks and uncertainties with pharmaceutical product development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to achieve profitability. Our expenses could increase beyond expectations if we are required by the FDA, the EMA, or other regulatory agencies, domestic or foreign, to change our manufacturing processes, or to perform clinical, nonclinical, or other types of studies in addition to those that we currently anticipate. In cases where we are successful in obtaining regulatory approvals to market one or more of our product candidates, our revenue will be dependent, in part, upon the size of the markets in the territories for which we gain regulatory approval, the accepted price for the product, the ability to obtain coverage and reimbursement at any price, and whether we own the commercial rights for that territory. If the number of our addressable patients is not as significant as we estimate, the indication approved by regulatory authorities is narrower than we expect, or the treatment population is narrowed by competition, physician choice or treatment guidelines, we may not generate significant revenue from sales of such products, even if approved. Accordingly, we may not be profitable in the future from the sale of any approved products.

We or our collaboration partners may be unable to develop and commercialize any of our current or future product candidates and, even if we do, may not achieve profitability in the future. Even if we do achieve profitability in the future, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to be profitable in the future would decrease the value of our company and could impair our ability to raise capital, expand our business or continue our operations. A decline in the value of our company could cause you to lose all or part of your investment.

We expect that we will need substantial additional funding before we can expect to become profitable from royalties on sales of our products. If we are unable to raise capital when needed, we could be forced to delay, reduce or eliminate our product development programs or commercialization efforts.

We are currently advancing our product candidates through clinical development, either together with a collaboration partner (crenezumab, ACI-35 and anti-Tau antibody, Tau-PET imaging tracer, Morphomer Tau) or independently (ACI-24 for AD and Down syndrome). We expect our research and development expenses to continue to increase in connection with our ongoing activities, particularly as we and/or our collaboration partners continue our ongoing studies and initiate new studies of crenezumab, ACI-24 for AD and DS, ACI-35, Morphomer Tau, Tau-PET imaging tracer and anti-Tau antibody and initiate preclinical and clinical development of our other product candidates. As of December 31, 2018, we had cash and cash equivalents of CHF 156.5 million and short-term financial assets of CHF 30.0 million for total liquidity of CHF 186.5 million. We currently believe that our existing capital resources, not including potential milestone payments, will be sufficient to meet our projected operating requirements through at least the third quarter of fiscal year 2023. We have based this estimate on assumptions that may prove to be wrong, and we could exhaust our capital resources sooner than we currently expect. Our future funding requirements will depend on many factors, including but not limited to:

- the scope, rate of progress, results and cost of our pre-clinical and clinical studies and other related activities;
- the cost of manufacturing clinical supplies and establishing commercial supplies of our existing product candidates and any other products we may develop;
- the cost, timing, and outcomes of regulatory approvals;
- the cost and timing of establishing sales, marketing and distribution capabilities;
- the terms and timing of any collaborative, licensing, and other arrangements that currently exist or that we may establish in the future, including any required milestone and royalty payments thereunder;
- the emergence of competing technologies or other adverse market developments; and
- the potential cost and timing of managing and protecting our portfolio of intellectual property.

We expect that we will require additional capital to commercialize certain of our product candidates. If we receive regulatory approval for our current and future product candidates, and if we have not already licensed such product candidate to a collaboration partner and choose to commercialize such product candidate independently, we expect to incur significant commercialization expenses related to product manufacturing, sales, marketing, distribution and establishing a regulatory structure, depending on where we choose to commercialize. Our costs have also increased as a result of our being a publicly traded company. Additional funds may not be available on a timely basis, on favorable terms, or at all, and such funds, if raised, may not be sufficient to enable us to continue to implement our long-term business strategy. If we are not able to raise capital when needed, we could be forced to delay, reduce or eliminate our product development programs or commercialization efforts.

Raising additional capital may cause dilution to our shareholders, restrict our operations or require us to relinquish rights to our intellectual property or future revenue streams.

Until such time, if ever, as we can generate substantial product royalty revenue, we expect to finance our liquidity needs through a combination of equity offerings, debt financings, grants and license and development agreements in connection with collaborations. We do not have any committed external source of funds. In the event we need to seek additional funds, we may raise additional capital through the sale of equity, convertible debt or other securities. In such an event, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a holder of our common shares. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or proposing dividends to our shareholders.

If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to grant or otherwise relinquish valuable rights to our intellectual property or future revenue streams. If we are unable to raise additional funds when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Our ability to use tax loss carryforwards in Switzerland may be limited.

As of December 31, 2018, we reported tax loss carryforwards from financial years 2012 until 2018 for purposes of Swiss corporate income tax in the aggregate amount of CHF 109.3 million that could be available to offset future taxable income. If not used, these tax losses will expire seven years after the year in which they were incurred. Due to our limited income, there is a high risk that the tax loss carryforwards will expire partly or entirely and cannot be used to offset future taxable income thereafter for Swiss corporate income tax purposes.

Exchange rate fluctuations may materially affect our results of operations and financial condition.

Under our existing agreements, we receive and make a significant amount of payments in Swiss Franc, USD and Euro. As a result, changes and fluctuations in currency exchange rates between the Swiss Franc and other currencies, especially the USD and Euro could have a materially adverse effect on our operating results. Since our reporting currency is the Swiss Franc, financial line items are converted into Swiss Francs at the applicable exchange rates. We also expect that in the future, a significant portion of our revenues and expenses will be denominated in Swiss Franc, USD and Euro. Therefore, unfavorable developments in the value of the Swiss Franc as compared to the USD and Euro or any other currency could have a material adverse effect on our business, financial condition and results of operations.

Risks Related to the Regulatory Environment

We cannot give any assurance that any of our product candidates will receive regulatory approval, which is necessary before they can be commercialized.

Our future success is dependent on our and our collaboration partners' ability to successfully develop, obtain regulatory approval for, and then successfully commercialize one or more product candidates. We currently have one product candidate that has completed Phase 2 clinical studies and is in a Phase 2 study in people with an autosomal dominant mutation who are at risk of developing familial AD. We are not permitted to market or promote any of our product candidates before we receive regulatory approval from the FDA, EMA or comparable foreign regulatory authorities, and we may never receive such regulatory approval for any of our product candidates.

We cannot be certain that any of our product candidates will be successful in clinical studies or receive regulatory approval. Applications for our product candidates could fail to receive regulatory approval for many reasons, including but not limited to the following:

- the FDA, EMA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical studies;
- the population studied in the clinical program may not be sufficiently broad or representative to assure safety in the full population for which we seek approval;
- the FDA, EMA or comparable foreign regulatory authorities may disagree with our interpretation of data from nonclinical or clinical studies;
- the data collected from clinical studies of our product candidates may not be sufficient to support the submission of an NDA or other submission or to obtain regulatory approval in the United States or elsewhere;
- we may be unable to demonstrate to the FDA, EMA or comparable foreign regulatory authorities that a product candidate's risk-benefit ratio for its proposed indication is acceptable;
- the FDA, EMA or other regulatory authorities may fail to approve the manufacturing processes, test procedures and specifications, or facilities of third-party manufacturers with which we contract for clinical and commercial supplies; and
- the approval policies or regulations of the FDA, EMA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

We generally plan to seek regulatory approval to commercialize our product candidates in the United States, the European Union and in additional foreign countries where we have commercial rights. To obtain regulatory approval in other countries, we must comply with numerous and varying regulatory requirements of such other countries regarding safety, efficacy, chemistry, manufacturing and controls, clinical studies, commercial sales, pricing, marketing and distribution of our product candidates. Even if we are successful in obtaining approval in one jurisdiction, we cannot ensure that we will obtain approval in any other jurisdictions. Failure to obtain marketing authorization for our product candidates will result in our being unable to market and sell such products, which would materially adversely affect our business, financial condition and results of operation. If we fail to obtain approval in any jurisdiction, the geographic market for our product candidates could be limited. Similarly, regulatory agencies may not approve the labeling claims that are necessary or desirable for the successful commercialization of our product candidates.

Clinical drug development involves a lengthy and expensive process with uncertain timelines and uncertain outcomes. If clinical studies of our product candidates are prolonged or delayed, we may be unable to obtain required regulatory approvals, and therefore be unable to commercialize our product candidates on a timely basis or at all.

To obtain the requisite regulatory approvals to market and sell any of our product candidates, we must demonstrate through extensive preclinical and clinical studies that our products are safe and effective in humans. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical study process. The results of preclinical and early clinical studies of our product candidates may not be predictive of the results of later-stage clinical studies. For example, the positive results generated to date in clinical studies for our product candidates do not ensure that later clinical studies will demonstrate similar results. Product candidates in later stages of clinical studies may fail to show the desired safety and efficacy traits despite having progressed through preclinical studies and initial clinical studies. A number of companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical studies due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier studies. Our future clinical study results may not be successful.

Clinical studies must be conducted in accordance with FDA, EMA and comparable foreign regulatory authorities' legal requirements, regulations or guidelines, and are subject to oversight by these governmental agencies and Institutional Review Boards, or IRBs, at the medical institutions where the clinical studies are conducted. In addition, clinical studies must be conducted with supplies of our product candidates produced under cGMP and other requirements. We depend on medical institutions and CROs, to conduct our clinical studies in compliance with cGCP standards. To the extent the CROs fail to enroll participants for our clinical studies, fail to conduct the study to cGCP standards or are delayed for a significant time in the execution of studies, including achieving full enrollment, we may be affected by increased costs, program delays or both, which may harm our business.

To date, neither we nor our collaboration partners have completed all clinical studies required for the approval of any of our product candidates. In January 2019, Roche, the parent of our collaboration partner discontinued the CREAD 1 and CREAD 2 Phase III studies of crenezumab in patients with prodromal to mild sporadic Alzheimer's disease (AD). The Phase 2 development of crenezumab continues in a preventive trial of cognitively healthy individuals in Colombia with a risk of developing familial AD. ACI-24 for AD is in a Phase 2 clinical study, ACI-24 for Down syndrome completed recruitment for a high dose cohort of the Phase 1b clinical study, ACI-35 completed a Phase 1b clinical study, anti-Tau antibody is in a Phase 2 clinical study and Tau-PET imaging tracer completed a Phase 1 clinical study. The development of our other product candidates is less advanced and studies have not yet started.

The completion of clinical studies for our clinical product candidates may be delayed, suspended or terminated as a result of many factors, including but not limited to:

- the delay or refusal of regulators or IRBs to authorize us to commence a clinical study at a prospective study site or changes in regulatory requirements, policies and guidelines;
- delays or failure to reach agreement on acceptable terms with prospective CROs and clinical study sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and study sites;
- delays in patient enrollment and variability in the number and types of patients available for clinical studies;

- the inability to enroll a sufficient number of patients in studies to ensure adequate statistical power to detect statistically significant treatment effects;
- negative or inconclusive results, which may require us to conduct additional preclinical or clinical studies or to abandon projects that we expected to be promising;
- safety or tolerability concerns, which could cause us to suspend or terminate a study if we find that the participants are being exposed to unacceptable health risks;
- regulators or IRBs requiring that we or our investigators suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements or safety concerns, among others;
- lower than anticipated retention rates of patients and volunteers in clinical studies;
- our CROs or clinical study sites failing to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all, deviating from the protocol or dropping out of a study;
- delays relating to adding new clinical study sites;
- difficulty in maintaining contact with patients after treatment, resulting in incomplete data;
- delays in establishing the appropriate dosage levels;
- the quality or stability of the product candidate falling below acceptable standards;
- the inability to produce or obtain sufficient quantities of the product candidate to complete clinical studies; and
- exceeding budgeted costs due to difficulty in accurately predicting costs associated with clinical studies.

Any delays in completing our clinical studies will increase our costs, slow our product candidate development and approval process and jeopardize our ability to commence product sales and generate sales revenues. Any of these occurrences may harm our business, financial condition and prospects significantly. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical studies may also ultimately lead to the denial of regulatory approval of our product candidates.

Even if we obtain and maintain approval for our drug candidates from one jurisdiction, we may never obtain approval for our drug candidates in other jurisdictions, which would limit our market opportunities and adversely affect our business.

Sales by us of our approved drugs will be subject to U.S. and non-U.S. regulatory requirements governing clinical studies and regulatory approval, and we plan to seek regulatory approval to commercialize our drug candidates in the United States, the European Economic Area, and other countries. Clinical studies conducted in one country may not be accepted by regulatory authorities in other countries and regulatory approval in one country does not ensure approval in any other country, while a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory approval process in others. For example, approval in the United States by the FDA does not ensure approval by the regulatory authorities in other countries or jurisdictions, and similarly approval by a non-U.S. regulatory authority, such as the EMA, does not ensure approval by regulatory authorities in other countries, including by the FDA. However, the failure to obtain approval in one jurisdiction may have a negative impact on our ability to obtain approval elsewhere. Approval processes and regulatory requirements vary among countries and can involve additional drug testing and validation and additional administrative review periods. Even if a drug is approved, the FDA or EMA, as the case may be, may limit the indications for which the drug may be marketed, require extensive warnings on the drug labeling or require expensive and time-consuming clinical studies or reporting as conditions of approval. In many countries outside the United States, a drug candidate must be approved for reimbursement before it can be approved for sale in that country. In some cases, the price that would be charged for a drug is also subject to approval. Regulatory authorities in other countries also have their own requirements for approval of drug candidates with which we must comply prior to marketing in those countries. Obtaining non-U.S. regulatory

approvals and compliance with such non-U.S. regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our current and any future drugs, in certain countries. If we fail to comply with regulatory requirements in international markets or to obtain and maintain required approvals, or if regulatory approvals in international markets are delayed, our target market will be reduced and our ability to realize the full market potential of our drug candidates will be unrealized.

Even if our product candidates obtain regulatory approval, we will be subject to ongoing obligations and continued regulatory review, which may result in significant additional expense. Additionally, our product candidates, if approved, could be subject to labeling and other restrictions and market withdrawal and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our products.

If marketing authorization is obtained for any of our product candidates, the product will remain subject to continual regulatory review and therefore authorization could be subsequently withdrawn or restricted. Any regulatory approvals that we receive for our product candidates may also be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase 4 clinical studies and surveillance to monitor the safety and efficacy of the product candidate. In addition, if the FDA or a comparable foreign regulatory authority approves any of our product candidates, we will be subject to ongoing regulatory obligations and oversight by regulatory authorities, including with respect to the manufacturing processes, labeling, packing, distribution, adverse event reporting, storage, advertising and marketing restrictions, and recordkeeping and, potentially, other post-marketing obligations, all of which may result in significant expense and limit our or our collaboration partners' ability to commercialize such products. These requirements include submissions of safety and other post-marketing information and reports, registration, as well as continued compliance with cGMPs and cGCPs for any clinical studies that we conduct post-approval. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in, among other things:

- restrictions on the marketing or manufacturing of the product, withdrawal of the product from the market, or voluntary or mandatory product recalls;
- fines, warning letters or holds on clinical studies;
- refusal by the FDA to approve pending applications or supplements to approved applications filed by us, or suspension or revocation of product license approvals;
- regulatory constraints in promotion and distribution of drug products in various markets;
- product seizure or detention, or refusal to permit the import or export of products; and
- injunctions or the imposition of civil or criminal penalties.

If any of these events occurs, our ability to sell such product may be impaired, and we may incur substantial additional expense to comply with regulatory requirements, which could materially adversely affect our business, financial condition and results of operations. The FDA's policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained, which would adversely affect our business, prospects and ability to achieve or sustain profitability.

We have conducted and may in the future conduct clinical studies for our drug candidates outside the United States, and the FDA and applicable foreign regulatory authorities may not accept data from such studies.

We have conducted and may in the future choose to conduct one or more of our clinical studies outside the United States, including in Germany, Austria, Denmark, Sweden, Finland, the UK and Poland. The acceptance of study data from clinical studies conducted outside the United States or another jurisdiction by the FDA or applicable foreign regulatory authority may be subject to certain conditions. In cases where data from foreign clinical studies are intended to serve as the basis for marketing approval in the United States, the FDA will not

approve the application on the basis of foreign data alone unless the following are true: the data are applicable to the United States population and United States medical practice; the studies were performed by clinical investigators of recognized competence; and the data are considered valid without the need for an on-site inspection by the FDA or, if the FDA considers such an inspection to be necessary, the FDA is able to validate the data through an on-site inspection or other appropriate means. Additionally, the FDA's clinical study requirements, including sufficient size of patient populations and statistical powering, must be met. Many foreign regulatory bodies have similar requirements. In addition, such foreign studies would be subject to the applicable local laws of the foreign jurisdictions where the studies are conducted. There can be no assurance that the FDA or any applicable foreign regulatory authority will accept data from studies conducted outside of the United States or the applicable jurisdiction. If the FDA or any applicable foreign regulatory authority does not accept such data, it would result in the need for additional studies, which would be costly and time-consuming and delay aspects of our business plan, and which may result in our drugs or drug candidates not receiving approval or clearance for commercialization in the applicable jurisdiction.

Enacted and future legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates and may affect the prices we may set.

In the United States and the European Union, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system. These changes could prevent or delay marketing approval of our product candidates and restrict or regulate post-approval activities and affect our ability to profitably sell any products for which we obtain marketing approval.

In the United States, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or the Medicare Modernization Act, changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for drug purchases by the elderly and introduced a new reimbursement methodology based on average sale prices for physician-administered drugs. In addition, this legislation provided authority for limiting the number of drugs that will be covered in any therapeutic class. Cost-reduction initiatives and other provisions of this legislation could decrease the coverage and price that we receive for any approved products. While the Medicare Modernization Act applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from the Medicare Modernization Act may result in a similar reduction in payments from private payors.

In March 2010, former President Obama signed into law the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively, the Health Care Reform Law, a sweeping law intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for health care and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. The Health Care Reform Law, among other things, increased rebates a manufacturer must pay to the Medicaid program, addressed a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted or injected, established a new Medicare Part D coverage gap discount program, in which manufacturers must provide 50% point-of-sale discounts on products covered under Part D and implemented payment system reforms including a national pilot program on payment bundling to encourage hospitals, physicians and other providers to improve the coordination, quality and efficiency of certain healthcare services through bundled payment models. Further, the new law imposed a significant annual fee on companies that manufacture or import branded prescription drug products. Substantial new provisions affecting compliance were enacted, which may affect our business practices with health care practitioners.

In 2018, we continue to face uncertainties because of continued U.S. federal legislative and administrative efforts to repeal, substantially modify or invalidate some or all of the provisions of the Health Care Reform Law. In January 2017, Congress voted to adopt a budget resolution for fiscal year 2017, or the Budget Resolution, that authorized the implementation of legislation that would repeal portions of the Health Care Reform Law. Further, on January 20, 2017, President Trump signed an Executive Order directing federal agencies with authorities and responsibilities under Health Care Reform Law to waive, defer, grant exemptions from, or delay the implementation of any provision of Health Care Reform Law that would impose a fiscal or regulatory burden on states, individuals, healthcare providers, health insurers, or manufacturers of pharmaceuticals or medical devices. The practical implications of that order are unclear, and the future of the Health Care Reform Law is uncertain. Congress also could consider subsequent legislation to replace elements of the Health Care Reform Law that are repealed. There is no assurance that the Health Care Reform Law, as currently enacted or as amended in the future, will not adversely affect our business and financial results, and we cannot predict how future federal or state legislative or administrative changes relating to healthcare reform will affect our business.

Moreover, other legislative changes have also been proposed and adopted in the United States since the Health Care Reform Law was enacted. On August 2, 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least USD 1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions to Medicare payments to providers of 2% per fiscal year, which went into effect on April 1, 2013. On January 2, 2013, former President Obama signed into law the American Taxpayer Relief Act of 2012, or the ATRA, which, among other things, further reduced Medicare payments to several providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws may result in additional reductions in Medicare and other health care funding, which could have a material adverse effect on our customers and accordingly, our financial operations.

Our business is subject to complex and evolving U.S. and international laws and regulations regarding clinical trials reimbursement and privacy and data protection. Many of these laws and regulations are subject to change and uncertain interpretation and could result in claims, changes to our business practices, penalties, increased cost of operations, or declines in user growth or engagement, or otherwise harm our business.

Regulatory authorities around the world are considering a number of legislative and regulatory proposals concerning data protection, including measures to ensure that encryption of users' data does not hinder law enforcement agencies' access to that data. In addition, the interpretation and application of consumer and data protection laws in the U.S., Europe and elsewhere are often uncertain and in flux. It is possible that these laws may be interpreted and applied in a manner that is inconsistent with our data practices. These legislative and regulatory proposals, if adopted, and such interpretations could, in addition to the possibility of fines, result in an order requiring that we change our data practices, which could have an adverse effect on our business and results of operations. Complying with these various laws could cause us to incur substantial costs or require us to change our business practices in a manner adverse to our business.

In the European Union, new clinical trial regulations are scheduled to come into force in 2019. This new legislation will enforce the centralization of clinical trial applications and approvals, which will eliminate redundancy, but in some cases this may extend timelines for clinical study approvals due to potentially longer wait times. The new General Data Protection Regulation (GDPR), which became effective in May 2018 in all EU Member States, has created a range of new compliance obligations for companies that process personal data of European Union residents. Although it is expected that the GDPR will provide consistency across the territory of the EU, it imposes more onerous requirements concerning consent and the obligations of sponsors of clinical trials (acting as Data Controllers), among other measures, which may increase the costs and extend timelines of our product development efforts. Austerity measures in certain European nations may also affect the prices we are able to seek if our products are approved, as discussed below. Furthermore, the decision of the United Kingdom (UK) to withdraw from the European Union (EU) on March 29, 2019 will result in the relocation of the EMA in March 2019. While the EMA has developed and initiated a business continuity plan to deal with the uncertainty and workload implications linked to the Agency's relocation, it is likely that many of the Agency's operations will be disrupted for a certain period of time, resulting in reduced opportunities for scientific discussions on our product development plans and possible delays for product approvals.

Both in the United States and in the European Union, legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We do not know whether additional legislative changes will be enacted, or whether the regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our product candidates, if any, may be.

We could be subject to liabilities under environmental, health and safety laws or regulations, or fines, penalties or other sanctions, if we fail to comply with such laws or regulations or otherwise incur costs that could have a material adverse effect on the success of our business.

We are subject to numerous environmental, health and safety laws, regulations, and permitting requirements, including those governing laboratory procedures, decontamination activities and the handling, transportation, use, remediation, storage, treatment and disposal of hazardous materials, human substances and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials that produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials or wastes either at our sites or at third party disposal sites. In the event of such contamination or injury, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties. Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, human substances or other work-related injuries, this insurance may not provide adequate coverage against potential liabilities.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws, regulations or permitting requirements. Such laws, regulations and requirements are becoming increasingly more stringent and may impair our research, development or production efforts. Failure to comply with these laws, regulations and permitting requirements also may result in substantial fines, penalties or other sanctions.

Our relationships with clinical centers, customers and payors will be subject to applicable anti-kickback, fraud and abuse and other healthcare laws and regulations, which, if violated, could expose us to criminal sanctions, civil penalties, exclusion from government healthcare programs, contractual damages, reputational harm and diminished profits and future earnings.

Healthcare providers, physicians and others play a primary role in the recommendation and prescription of any products for which we obtain marketing approval. Our future arrangements with third-party payors and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations, primarily in the United States, that may constrain the business or financial arrangements and relationships through which we market, sell and distribute our products for which we obtain marketing approval. Restrictions under applicable healthcare laws and regulations include the following:

- the U.S. healthcare anti-kickback statute prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under U.S. government healthcare programs such as Medicare and Medicaid;
- the U.S. False Claims Act imposes criminal and civil penalties, including civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the U.S. government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government;
- the U.S. Health Insurance Portability and Accountability Act of 1996, or HIPAA, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the transparency requirements under the Health Care Reform Law require manufacturers of drugs, devices, biologics and medical supplies to report to the U.S. Department of Health and Human Services information related to payments and other transfers of value made by such manufacturers to physicians and teaching hospitals, and ownership and investment interests held by physicians or their immediate family members; and
- in various other jurisdictions, analogous laws and regulations, such as state anti-kickback and false claims laws, will apply to sales or marketing arrangements, consultancy and service agreements, and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring manufacturers to report information related to payments to physicians and other health care providers or marketing expenditures.

Because of the breadth of these laws and the narrowness of the statutory exceptions and safe harbors available under the U.S. federal Anti-Kickback Statute, it is possible that some of our future business activities could be subject to challenge under one or more of such laws. In addition, recent health care reform legislation has strengthened these laws. For example, the Health Care Reform Law, among other things, amends the intent requirement of the federal anti-kickback and criminal healthcare fraud statutes. A person or entity no longer needs to have actual knowledge of this statute or specific intent to violate it. Moreover, the Health Care Reform Law provides that the government may assert that a claim including items or services resulting from a violation of the federal anti-kickback statute constitutes a false or fraudulent claim for purposes of the False Claims Act.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, exclusion from U.S. government funded healthcare programs, such as Medicare and Medicaid, other foreign healthcare reimbursement and procurement programs and the curtailment or restructuring of our operations. If any of the physicians or other providers or entities with whom we expect to do business with is found to be not in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs.

Risks from the improper conduct of employees, agents, contractors, or collaborators could adversely affect our reputation and our business, prospects, operating results, and financial condition.

We cannot ensure that our compliance controls, policies, and procedures will in every instance protect us from acts committed by our employees, agents, contractors, or collaborators that would violate the laws or regulations of the jurisdictions in which we operate, including, without limitation, healthcare, employment, foreign corrupt practices, environmental, competition, and patient privacy and other privacy laws and regulations. Such improper actions could subject us to civil or criminal investigations, and monetary and injunctive penalties, and could adversely impact our operating results, ability to conduct business, and reputation.

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to comply with FDA or EMA regulations, to provide accurate information to the FDA or the EMA or intentional failures to report financial information or data accurately or to disclose unauthorized activities to us. Employee misconduct could also involve the improper use of information obtained in the course of clinical studies, which could result in regulatory sanctions and serious harm to our reputation. In June 2016, we adopted a code of conduct, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions.

Our business activities may be subject to the Foreign Corrupt Practices Act, or FCPA, and similar anti-bribery and anti-corruption laws.

Our business activities may be subject to the FCPA and similar anti-bribery or anti-corruption laws, regulations or rules of other countries in which we operate, including the U.K. Bribery Act. The FCPA generally prohibits offering, promising, giving, or authorizing others to give anything of value, either directly or indirectly, to a non-U.S. government official in order to influence official action, or otherwise obtain or retain business. The FCPA also requires public companies to make and keep books and records that accurately and fairly reflect the transactions of the corporation and to devise and maintain an adequate system of internal accounting controls. Our business is heavily regulated and therefore involves significant interaction with public officials, including officials of non-U.S. governments. Additionally, in many other countries, the health care providers who prescribe pharmaceuticals and the investigators who perform our studies are employed by their government, and the purchasers of pharmaceuticals are government entities; therefore, our dealings with these prescribers and purchasers are subject to regulation under the FCPA. Recently the Securities and Exchange Commission, or SEC, and Department of Justice have increased their FCPA enforcement activities with respect to pharmaceutical companies. There is no certainty that all of our employees, agents, contractors, or collaborators, or those of our affiliates, will comply with all applicable laws and regulations, particularly given the high level of complexity of these laws. Violations of these laws and regulations could result in fines, criminal sanctions against us, our officers, or our employees, the closing down of our facilities, requirements to obtain export licenses, cessation of business activities in sanctioned countries, implementation of compliance programs, and prohibitions on the conduct of our business. Any such violations could include prohibitions on our ability to offer our products in one or more countries and could materially damage our reputation, our brand, our international expansion efforts, our ability to attract and retain employees, and our business, prospects, operating results, and financial condition.

Risks Related to Our Common Shares

The price of our common shares may be volatile and may fluctuate due to factors beyond our control.

The share prices of publicly traded emerging biopharmaceutical and drug discovery and development companies have been highly volatile and are likely to remain highly volatile in the future. The market price of our common shares may fluctuate significantly due to a variety of factors, including:

- positive or negative results of testing and clinical studies by us, strategic partners, or competitors;
- delays in entering into strategic relationships with respect to development and/or commercialization of our product candidates or entry into strategic relationships on terms that are not deemed to be favorable to us;
- technological innovations or commercial product introductions by us or competitors;
- changes in government regulations;
- developments concerning proprietary rights, including patents and litigation matters;
- public concern relating to the commercial value or safety of any of our product candidates;
- financing or other corporate transactions;
- publication of research reports or comments by securities or industry analysts;
- general market conditions in the pharmaceutical industry or in the economy as a whole; or
- other events and factors beyond our control.

Broad market and industry factors may materially affect the market price of companies' stock, including ours, regardless of actual operating performance. Furthermore, issuers such as ourselves whose securities have historically had limited trading volumes and/or have been susceptible to relatively high volatility levels can be particularly vulnerable to short seller attacks and trading in our common shares by non-fundamental investors such as hedge funds and others who may enter and exit positions in our common shares frequently and suddenly, causing increased volatility of our share price. Short selling is the practice of selling securities that the seller does not own but rather has borrowed or intends to borrow from a third party with the intention of buying identical securities at a later date to return to the lender, and profit from a decline in the value of the securities in the process. The publication of any commentary by short sellers with the intent of creating negative market momentum may bring about a temporary, or possibly long term, decline in the market price of our common stock.

There is only a limited free float of our common shares; this may have a negative impact on the liquidity of and the market price for our common shares

As of the date hereof, shareholders reported as each controlling 5% or more of our common shares will, in the aggregate, hold approximately 59.3% of our common shares. The limited free float may have a negative impact on the liquidity of our common shares and result in a low trading volume of our common shares, which could adversely affect the price of our common shares.

Certain of our existing shareholders exercise significant control over us, and your interests may conflict with the interests of our existing shareholders.

Certain principal shareholders as well as our executive officers and directors together beneficially own approximately 59.3% of our common shares. Depending on the level of attendance at our general meetings of shareholders, these shareholders may be in a position to determine the outcome of decisions taken at any such general meeting. To the extent that the interests of these shareholders may differ from the interests of the company's other shareholders, the latter may be disadvantaged by any action that these shareholders may seek to pursue. Among other consequences, this concentration of ownership may have the effect of delaying or preventing a change in control and might therefore negatively affect the market price of our common shares.

Future sales, or the possibility of future sales, of a substantial number of our common shares could adversely affect the price of our common shares.

Future sales of a substantial number of our common shares, or the perception that such sales will occur, could cause a decline in the market price of our common shares. If certain of our shareholders sell substantial amounts of common shares in the public market, or the market perceives that such sales may occur, the market price of our common shares and our ability to raise capital through an issue of equity securities in the future could be adversely affected. We also entered into a registration rights agreement in connection with the Series E Private Placement with certain investors in the Series E Private Placement pursuant to which we agreed under certain circumstances to file a registration statement to register the resale of the common shares held by certain of our existing shareholders, as well as to cooperate in certain public offerings of such common shares. In August 2018, we filed a registration statement on Form F-3 to register the resale of one of our shareholder's common shares pursuant to the requirements of the registration rights agreement. In addition, we have adopted a new omnibus equity incentive plan under which we have the discretion to grant a broad range of equity-based awards to eligible participants. These shares were registered pursuant to the registration statement on Form S-8 that we filed with the SEC and, therefore, can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates. If a large number of our common shares or securities convertible into our common shares are sold in the public market after they become eligible for sale, the sales could reduce the trading price of our common shares and impede our ability to raise future capital.

We have broad discretion in the use of our cash and cash equivalents and short-term financial assets (liquidity) and may not use them effectively.

Our management will have broad discretion in the application of our cash and cash equivalents and short-term financial assets. Our or our collaboration partners' decisions concerning the allocation of research, development, collaboration, management and financial resources toward particular product candidates or therapeutic areas may not lead to the development of any viable commercial product and may divert resources away from better opportunities. If we make incorrect determinations regarding the viability or market potential of any of our programs or product candidates or misread trends in the biopharmaceutical industry, in particular for neurodegenerative diseases, our business, financial condition and results of operations could be materially adversely affected. As a result, we may fail to capitalize on viable commercial products or profitable market opportunities, be required to forego or delay pursuit of opportunities with other product candidates or other diseases and disease pathways that may later prove to have greater commercial potential than those we choose to pursue, or relinquish valuable rights to such product candidates through collaboration, licensing or other royalty arrangements in cases in which it would have been advantageous for us to invest additional resources to retain sole development and commercialization rights. We regularly review the designation of each program as core or seed, and terminate those programs which do not meet our development criteria.

We do not expect to pay dividends in the foreseeable future.

We have not paid any dividends since our incorporation. Even if future operations lead to significant levels of distributable profits, we currently intend that any earnings will be reinvested in our business and that dividends will not be paid until we have an established revenue stream to support continuing dividends. Under our articles of association, the declaration of dividends requires a resolution passed by a simple majority of the votes cast at a shareholder's meeting regardless of abstentions and empty or invalid votes. The proposal to pay future dividends to shareholders will in addition effectively be at the discretion of our board of directors after taking into account various factors including our business prospects, liquidity requirements, financial performance and new product development. In addition, payment of future dividends is subject to certain limitation pursuant to Swiss law or by our articles of association. Accordingly, investors cannot rely on dividend income from our common shares and any returns on an investment in our common shares will likely depend entirely upon any future appreciation in the price of our common shares.

We are a Swiss corporation. The rights of our shareholders may be different from the rights of shareholders in companies governed by the laws of U.S. jurisdictions.

We are a Swiss corporation. Our corporate affairs are governed by our articles of association and by the laws governing companies, including listed companies, incorporated in Switzerland. The rights of our shareholders and the responsibilities of members of our board of directors may be different from the rights and obligations of shareholders and directors of companies governed by the laws of U.S. jurisdictions. In the performance of its duties, our board of directors is required by Swiss law to consider the interests of our Company, our shareholders, our employees and other stakeholders, in all cases with due observation of the principles of reasonableness and fairness. It is possible that some of these parties will have interests that are different from, or in addition to, your interests as a shareholder. Swiss corporate law limits the ability of our shareholders to challenge resolutions made or other actions taken by our board of directors in court. Our shareholders generally are not permitted to file a suit to reverse a decision or an action taken by our board of directors but are instead only permitted to seek damages for breaches of fiduciary duty. As a matter of Swiss law, shareholder claims against a member of our board of directors for breach of fiduciary duty would have to be brought in Lausanne, Switzerland, or where the relevant member of our board of directors is domiciled. In addition, under Swiss law, any claims by our shareholders against us must be brought exclusively in Lausanne, Switzerland.

Our common shares are issued under the laws of Switzerland, which may not protect investors in a similar fashion afforded by incorporation in a U.S. state.

We are organized under the laws of Switzerland. There can be no assurance that Swiss law will not change in the future or that it will serve to protect investors in a similar fashion afforded under corporate law principles in the U.S., which could adversely affect the rights of investors.

Our status as a Swiss corporation may limit our flexibility with respect to certain aspects of capital management and may cause us to be unable to make distributions without subjecting our shareholders to Swiss withholding tax.

Swiss law allows our shareholders to authorize share capital that can be issued by the board of directors without additional shareholder approval. This authorization is limited to 50% of the existing registered share capital and must be renewed by the shareholders every two years. Additionally, subject to specified exceptions, Swiss law grants pre-emptive subscription rights to existing shareholders to subscribe to any new issuance of shares. Any ordinary share capital increase resolution preserving pre-emptive subscription rights expires after three months and requires a simple majority of the votes cast at the shareholder's meeting regardless of abstentions and empty or invalid votes. Swiss law also does not provide as much flexibility in the various terms that can attach to different classes of shares as the laws of some other jurisdictions. Swiss law also reserves for approval by shareholders certain corporate actions over which a board of directors would have authority in some other jurisdictions. For example, dividends must be approved by shareholders. These Swiss law requirements relating to our capital management may limit our flexibility, and situations may arise where greater flexibility would have provided substantial benefits to our shareholders.

Under Swiss law, a Swiss corporation may pay dividends only if the corporation has sufficient distributable profits from previous fiscal years, or if the corporation has distributable reserves, each as evidenced by its audited statutory balance sheet. Freely distributable reserves are generally booked either as "free reserves" or as "capital contributions" (*apports de capital*, contributions received from shareholders) in the "reserve from capital contributions." Distributions may be made out of issued share capital—the aggregate nominal value of a company's issued shares—only by way of a capital reduction. As of December 31, 2018, the Company has CHF 289.6 million of reserves from capital contributions and CHF 1,350,138 of issued share capital (consisting of 67,506,879 common shares each with a nominal value of CHF 0.02 and no preferred shares) on its audited statutory balance sheet.

We expect the aggregate of these amounts (less the lowest legally possible issued share capital and legal reserve of together CHF 150,000) to represent the amount available for future dividends or capital reductions on a Swiss withholding tax-free basis. We will not be able to pay dividends or make other distributions to shareholders on a Swiss withholding tax-free basis in excess of that amount unless the Company increases its share capital or its reserves from capital contributions. We would also be able to pay dividends out of distributable profits or freely distributable reserves but such dividends would be subject to Swiss withholding taxes. There can be no assurance that we will have sufficient distributable profits, free reserves, reserves from capital contributions or registered share capital to pay a dividend or effect a capital reduction, that our shareholders will approve dividends or capital reductions proposed by us, or that we will be able to meet the other legal requirements for dividend payments or distributions as a result of capital reductions.

Generally, Swiss withholding tax of 35% is due on dividends and similar distributions to our shareholders, regardless of the place of residency of the shareholder, unless the distribution is made to shareholders out of (i) a reduction of nominal value or (ii) assuming certain conditions are met, reserves from capital contributions accumulated on or after January 1, 1997. A U.S. holder that qualifies for benefits under the Convention between the United States of America and the Swiss Confederation for the Avoidance of Double Taxation with Respect to Taxes on Income, which we refer to as the “U.S.-Swiss Treaty,” may apply for a refund of the tax withheld in excess of the 15% treaty rate (or in excess of the 5% reduced treaty rate for qualifying corporate shareholders with at least 10% participation in our voting stock, or for a full refund in the case of qualified pension funds). There can be no assurance that we will have sufficient reserves from capital contributions to pay dividends free from Swiss withholding tax, or that Swiss withholding tax rules will not be changed in the future. In addition, we cannot provide assurance that the current Swiss law with respect to distributions out of reserves from capital contributions will not be changed or that a change in Swiss law will not adversely affect us or our shareholders, in particular as a result of distributions out of reserves from capital contributions becoming subject to additional corporate law or other restrictions. In addition, over the long term, the amount of par value available to us for nominal value reductions or reserves from capital contributions available to us to pay out as distributions is limited. If we are unable to make a distribution through a reduction in nominal value or out of reserves from capital contributions, we may not be able to make distributions without subjecting our shareholders to Swiss withholding taxes.

Under present Swiss tax laws, repurchases of shares for the purposes of cancellation are treated as a partial liquidation subject to 35% Swiss withholding tax on the difference between the repurchase price and the nominal value of the shares except, since January 1, 2011, to the extent attributable to reserves from capital contributions (*apports de capital*) if any, and to the extent that, the repurchase of shares is out of retained earnings or other taxable reserves. No partial liquidation treatment applies and no withholding tax is triggered if the shares are not repurchased for cancellation but held by the Company as treasury shares. However, should Company not resell such treasury shares within six years, the withholding tax becomes due at the end of the six year period.

U.S. shareholders may not be able to obtain judgments or enforce civil liabilities against us or our executive officers or members of our board of directors.

We are organized under the laws of Switzerland and our registered office and domicile is located in Ecublens, near Lausanne, Canton of Vaud, Switzerland. Moreover, a number of our directors and executive officers are not residents of the United States, and all or a substantial portion of the assets of such persons are located outside the United States. As a result, it may not be possible for investors to effect service of process within the United States upon us or upon such persons or to enforce against them judgments obtained in U.S. courts, including judgments in actions predicated upon the civil liability provisions of the federal securities laws of the United States. We have been advised by our Swiss counsel that there is doubt as to the enforceability in Switzerland of original actions, or in actions for enforcement of judgments of U.S. courts, of civil liabilities to the extent solely predicated upon the federal and state securities laws of the United States. Original actions against persons in Switzerland based solely upon the U.S. federal or state securities laws are governed, among other things, by the principles set forth in the Swiss Federal Act on Private International Law. This statute provides that the application of provisions of non-Swiss law by the courts in Switzerland shall be precluded if the result is incompatible with Swiss public policy. Also, certain mandatory provisions of Swiss law may be applicable regardless of any other law that would otherwise apply.

Switzerland and the United States do not have a treaty providing for reciprocal recognition and enforcement of judgments in civil and commercial matters. The recognition and enforcement of a judgment of the courts of the United States in Switzerland is governed by the principles set forth in the Swiss Federal Act on Private International Law. This statute provides in principle that a judgment rendered by a non-Swiss court may be enforced in Switzerland only if:

- the non-Swiss court had jurisdiction pursuant to the Swiss Federal Act on Private International Law;
- the judgment of such non-Swiss court has become final and non-appealable;
- the judgment does not contravene Swiss public policy;
- the court procedures and the service of documents leading to the judgment were in accordance with the due process of law; and
- no proceeding involving the same parties and the same subject matter was first brought in Switzerland, or adjudicated in Switzerland, or was earlier adjudicated in a third state and this decision is recognizable in Switzerland.

Our status as a Swiss corporation means that our shareholders enjoy certain rights that may limit our flexibility to raise capital, issue dividends and otherwise manage ongoing capital needs.

Swiss law reserves for approval by shareholders certain corporate actions over which a board of directors would have authority in some other jurisdictions. For example, the payment of dividends and cancellation of treasury shares must be approved by shareholders. Swiss law also requires that our shareholders themselves resolve to, or authorize our board of directors to, increase our share capital. While our shareholders may authorize share capital that can be issued by our board of directors without additional shareholder approval, Swiss law limits this authorization to 50% of the issued share capital at the time of the authorization. The authorization, furthermore, has a limited duration of up to two years and must be renewed by the shareholders from time to time thereafter in order to be available for raising capital. Additionally, subject to specified exceptions, including exceptions explicitly described in our articles of association, Swiss law grants pre-emptive subscription rights to existing shareholders to subscribe for new issuances of shares. Swiss law also does not provide as much flexibility in the various rights and regulations that can attach to different categories of shares as do the laws of some other jurisdictions. These Swiss law requirements relating to our capital management may limit our flexibility, and situations may arise where greater flexibility would have provided benefits to our shareholders.

Swiss law restricts our ability to pay dividends.

The proposal to pay future dividends to shareholders will effectively be at the discretion of our board of directors and subject to approval by, in their discretion, our shareholders after taking into account various factors including our business prospects, liquidity requirements, financial performance and new product development. In addition, payment of future dividends is subject to certain limitation pursuant to Swiss law or by our articles of association. Accordingly, investors cannot rely on dividend income from our common shares and any returns on an investment in our common shares will likely depend entirely upon any future appreciation in the price of our common shares. Dividends paid on our common shares are subject to Swiss Federal withholding tax, except if paid out of reserves from capital contributions (*apports de capital*).

See “Item 10. Additional Information- E. Taxation—Swiss Tax Considerations” for a summary of certain Swiss tax consequences regarding dividends distributed to holders of our common shares.

Shareholders in countries with a currency other than Swiss Francs face additional investment risks from currency exchange rate fluctuations in connection with their holding of our common shares

Any future payments of dividends, if any, will likely be denominated in Swiss Francs. The foreign currency equivalent of any dividend, if any, paid on our common shares or received in connection with any sale of our common shares could be adversely affected by the depreciation of the Swiss Franc against such other currency.

We are a foreign private issuer and, as a result, we are not subject to U.S. proxy rules and are subject to Exchange Act reporting obligations that, to some extent, are more lenient and less frequent than those of a U.S. domestic public company.

We are reporting under the Exchange Act as a non-U.S. company with foreign private issuer status. Because we qualify as a foreign private issuer under the Exchange Act and although we are subject to Swiss laws and regulations with regard to such matters and intend to furnish quarterly financial information to the SEC, we are exempt from certain provisions of the Exchange Act that are applicable to U.S. domestic public companies, including (i) the sections of the Exchange Act regulating the solicitation of proxies, consents or authorizations in respect of a security registered under the Exchange Act; (ii) the sections of the Exchange Act requiring insiders to file public reports of their stock ownership and trading activities and liability for insiders who profit from trades made in a short period of time; and (iii) the rules under the Exchange Act requiring the filing with the SEC of quarterly reports on Form 10-Q containing unaudited financial and other specified information, or current reports on Form 8-K, upon the occurrence of specified significant events. In addition, foreign private issuers are not required to file their annual report on Form 20-F until four months after the end of each financial year, while U.S. domestic issuers that are accelerated filers are required to file their annual report on Form 10-K within 75 days after the end of each fiscal year. Foreign private issuers are also exempt from the Regulation Fair Disclosure, aimed at preventing issuers from making selective disclosures of material information. As a result of the above, you may not have the same protections afforded to shareholders of companies that are not foreign private issuers.

As a foreign private issuer and as permitted by the listing requirements of Nasdaq, we rely on certain home country governance practices rather than the corporate governance requirements of Nasdaq.

We are a foreign private issuer. As a result, in accordance with Nasdaq Listing Rule 5615(a)(3), we comply with home country governance requirements and certain exemptions thereunder rather than complying with certain of the corporate governance requirements of Nasdaq. Swiss law does not require that a majority of our board of directors consist of independent directors. Our board of directors therefore may include fewer independent directors than would be required if we were subject to Nasdaq Listing Rule 5605(b)(1). In addition, we are not subject to Nasdaq Listing Rule 5605(b)(2), which requires that independent directors regularly have scheduled meetings at which only independent directors are present.

Although Swiss law also requires that we adopt a compensation committee, we follow home country requirements with respect to such committee and our compensation, nomination and governance committee is tasked with certain director nomination and governance responsibilities as described under “Item 6. Directors, Senior Management and Employees.” As a result, our practice varies from the requirements of Nasdaq Listing Rule 5605(d), which sets forth certain requirements as to the responsibilities, composition and independence of compensation committees, and from the independent director oversight of director nominations requirements of Nasdaq Listing Rule 5605(e).

Furthermore, in accordance with Swiss law and generally accepted business practices, our articles of association do not provide quorum requirements generally applicable to general meetings of shareholders. Our practice thus varies from the requirement of Nasdaq Listing Rule 5620(c), which requires an issuer to provide in its bylaws for a generally applicable quorum, and that such quorum may not be less than one-third of the outstanding voting stock. Our articles of association provide for an independent proxy holder elected by our shareholders, who may represent our shareholders at a general meeting of shareholders, and we must provide shareholders with an agenda and other relevant documents for the general meeting of shareholders. However, Swiss law does not have a regulatory regime for the solicitation of proxies and company solicitation of proxies is prohibited for public companies in Switzerland, thus our practice varies from the requirement of Nasdaq Listing Rule 5620(b), which sets forth certain requirements regarding the solicitation of proxies. In addition, we have opted out of shareholder approval requirements for the issuance of securities in connection with certain events such as the acquisition of stock or assets of another company, the establishment of or amendments to equity-based compensation plans for employees, a change of control of us and certain private placements. To this extent, our practice varies from the requirements of Nasdaq Listing Rule 5635, which generally requires an issuer to obtain shareholder approval for the issuance of securities in connection with such events.

For an overview of our corporate governance principles, see “Item 16G. Corporate governance”. As a result of the above, you may not have the same protections afforded to shareholders of companies that are not foreign private issuers.

We may lose our foreign private issuer status, which would then require us to comply with the Exchange Act’s domestic reporting regime and cause us to incur significant legal, accounting and other expenses.

We are a foreign private issuer and therefore we are not required to comply with all of the periodic disclosure and current reporting requirements of the Exchange Act applicable to U.S. domestic issuers. We may no longer be a foreign private issuer as of June 30, 2019 (or the end of our second fiscal quarter in any subsequent fiscal year), which would require us to comply with all of the periodic disclosure and current reporting requirements of the Exchange Act applicable to U.S. domestic issuers as of January 1, 2020 (or the first day of the fiscal year immediately succeeding the end of such second quarter). In order to maintain our current status as a foreign private issuer, either (a) a majority of our common shares must be either directly or indirectly owned of record by non-residents of the United States or (b)(i) a majority of our executive officers or directors may not be United States citizens or residents, (ii) more than 50 percent of our assets cannot be located in the United States and (iii) our business must be administered principally outside the United States. If we lost this status, we would be required to comply with the Exchange Act reporting and other requirements applicable to U.S. domestic issuers, which are more detailed and extensive than the requirements for foreign private issuers. We may also be required to make changes in our corporate governance practices in accordance with various SEC and stock exchange rules. The regulatory and compliance costs to us under U.S. securities laws if we are required to comply with the reporting requirements applicable to a U.S. domestic issuer may be significantly higher than the cost we would incur as a foreign private issuer. As a result, we expect that a loss of foreign private issuer status would increase our legal and financial compliance costs and would make some activities highly time consuming and costly. We also expect that if we were required to comply with the rules and regulations applicable to U.S. domestic issuers, it would make it more difficult and expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These rules and regulations could also make it more difficult for us to attract and retain qualified members of our board of directors.

We are an “emerging growth company,” and we cannot be certain if the reduced reporting requirements applicable to “emerging growth companies” will make our common shares less attractive to investors.

We are an “emerging growth company,” as defined in the Jumpstart our Business Startups Act of 2012, or the JOBS Act. For as long as we continue to be an “emerging growth company,” we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not “emerging growth companies,” including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved. We could be an “emerging growth company” until the end of our fiscal year 2021, although circumstances could cause us to lose that status earlier, including if the market value of our common shares held by non-affiliates exceeds USD 700 million as of any June 30 (the end of our second fiscal quarter) before the end of our fiscal year 2021, in which case we would no longer be an “emerging growth company” as of the following December 31 (our fiscal year end). We cannot predict if investors will find our common shares less attractive because we may rely on these exemptions. If some investors find our common shares less attractive as a result, there may be a less active trading market for our common shares and the price of our common shares may be more volatile.

As a result of being a public company we incur additional costs and we may not manage to comply with our internal control procedures and corporate governance structures.

As a public company, we incur additional legal, insurance, accounting and other expenses that we did not incur as a private company. For example, as a public company, we needed to adopt additional internal controls and disclosure controls and procedures and bear all of the internal and external costs of preparing and distributing periodic public reports in compliance with our obligation under the securities laws. However, if our efforts to comply with evolving laws, regulations and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to practice, regulatory authorities may initiate legal proceedings against us. This could have a material adverse impact on our business, financial condition and results of operations.

If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud. As a result, shareholders could lose confidence in our financial and other public reporting, which would harm our business and the trading price of our common shares.

Effective internal controls over financial reporting are necessary for us to provide reliable financial reports and, together with adequate disclosure controls and procedures, are designed to prevent fraud among other objectives. Any failure to implement required new or improved controls, or difficulties encountered in their implementation could cause us to fail to meet our reporting obligations. In addition, any testing by us conducted in connection with Section 404 of the Sarbanes-Oxley Act of 2002, or any subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal controls over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our financial statements or identify other areas for further attention or improvement. Inferior internal controls could also subject us to regulatory scrutiny and sanctions, impair our ability to raise revenue and cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our common shares.

We are required to disclose changes made in our internal controls and procedures and our management is required to assess the effectiveness of these controls annually. However, for as long as we are an “emerging growth company” under the JOBS Act, our independent registered public accounting firm will not be required to attest to the effectiveness of our internal controls over financial reporting pursuant to Section 404. We could be an “emerging growth company” until the end of our fiscal year 2021. An independent assessment of the effectiveness of our internal controls could detect problems that our management’s assessment might not. Undetected material weaknesses in our internal controls could lead to financial statement restatements and require us to incur the expense of remediation.

If securities or industry analysts do not publish research, or publish inaccurate or unfavorable research, about our business, the price of our common shares and our trading volume could decline.

The trading market for our common shares will depend in part on the research and reports that securities or industry analysts publish about us or our business. If no or too few securities or industry analysts cover our company, the trading price for our common shares would likely be negatively affected. In addition, if one or more of the analysts who cover us downgrade our common shares or publish inaccurate or unfavorable research about our business, the price of our common shares would likely decline. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, demand for our common shares could decrease, which might cause the price of our common shares and trading volume to decline.

An increase in our tax rate could occur, which could adversely affect our financial results.

On June 6, 2018, the Swiss Federal Council published the draft bill of the new tax reform named “Tax Proposal 17” (*Steuervorlage 17*) and there will be a vote on such bill on May 19, 2019. Thus, uncertainty will continue about the future level of Swiss Federal corporate income taxes that may apply to us until revised proposals are put forward and gain acceptance. If the Tax Proposal 2017 is accepted by the public, the main aspects of the reform are expected to come into force no earlier than on January 1, 2020. The Tax Proposal 17 includes – amongst other measures – the following measures:

- repealing the status companies at the cantonal level as well as certain tax practices at the federal level, including transitional measures;
- introducing a mandatory patent box regime at the cantonal level, and;
- Introducing an optional R&D “super deduction” at the cantonal level.

On January 1, 2019, the applicable corporate tax rate in the canton of Vaud was reduced to an actual combined effective Swiss income tax rate of 13.63%.

For further discussion, see “Item 10. Additional Information—E. Taxation.”

Although we believe that we were not a “passive foreign investment company,” or PFIC, for U.S. federal income tax purposes in 2018, we may be a PFIC in 2019 or later years. If we were a PFIC in any year, U.S. shareholders could be subject to adverse U.S. federal income tax consequences.

Under the Internal Revenue Code of 1986, as amended, or the Code, we will be a PFIC for any taxable year in which, after the application of certain look-through rules with respect to subsidiaries, either (i) 75% or more of our gross income consists of passive income or (ii) 50% or more of the average quarterly value of our assets consists of assets that produce, or are held for the production of, passive income. Passive income generally includes dividends, interest, certain non-active rents and royalties, and capital gains. Based on the composition of our income and assets during 2018 and certain estimates and projections, including as to the relative values of our assets, we do not believe that we were a PFIC in 2018. However, there can be no assurance that the IRS will agree with our conclusion. In addition, whether we will be a PFIC in 2019 or any future years is uncertain because, among other things, (i) we may not generate a substantial amount of non-passive gross income, for U.S. federal income tax purposes, in any year, (ii) we currently own, a substantial amount of passive assets, including cash, and (iii) the estimated valuation, for PFIC purposes, of our assets that generate non-passive income for PFIC purposes, including our intangible assets, is likely to be dependent in large part on our market capitalization and is therefore uncertain and may vary substantially over time. In this respect, our market capitalization has experienced significant declines and volatility after the beginning of 2019, which could increase the risk that we will be a PFIC in 2019 or later years. Accordingly, there can be no assurance that we will not be a PFIC for any taxable year.

If we are a PFIC for any taxable year during which a U.S. investor holds common shares, we generally would continue to be treated as a PFIC with respect to that U.S. investor for all succeeding years during which the U.S. investor holds common shares, even if we ceased to meet the threshold requirements for PFIC status. Such a U.S. investor may be subject to adverse U.S. federal income tax consequences, including (i) the treatment of all or a portion of any gain on disposition as ordinary income, (ii) the application of a deferred interest charge on such gain and the receipt of certain dividends and (iii) compliance with certain reporting requirements. We do not intend to provide the information that would enable investors to take a qualified electing fund election that could mitigate the adverse U.S. federal income tax consequences should we be classified as a PFIC.

For further discussion, see “Item 10. Additional Information—Section E. Taxation.”

ITEM 4. INFORMATION ON THE COMPANY

A. History and Development of the Company

We are a Swiss stock corporation (*société anonyme*) organized under the laws of Switzerland. We were formed as a Swiss limited liability company (*société à responsabilité limitée*) on February 13, 2003 with our registered office and domicile in Basel, Switzerland. We converted to a Swiss stock corporation (*société anonyme*) under the laws of Switzerland on August 25, 2003. Our Swiss enterprise identification number is CHE-109.878.825. Our domicile and registered office is in Ecublens, at EPFL Innovation Park Building B, 1015 Lausanne, Vaud, Switzerland. Our ordinary shares were admitted to trading on Nasdaq Global Market on September 23, 2016. Our shares are traded under the symbol ACIU.

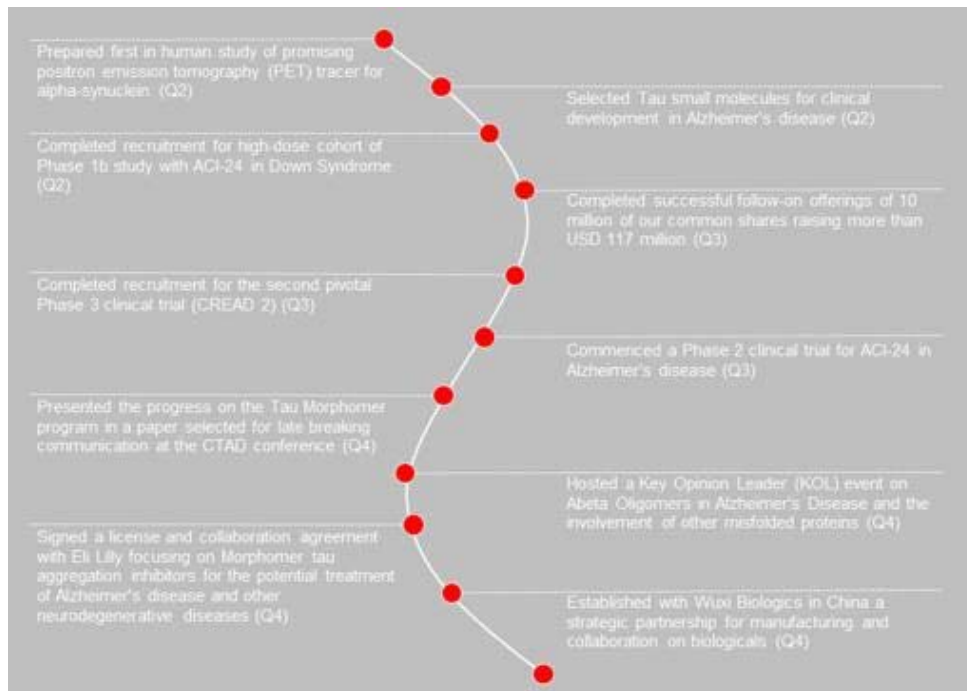
Our registered and principal executive offices are located in Ecublens, at EPFL Innovation Park, Building B, 1015 Lausanne, Switzerland, our general telephone number is (41) 21 345 91 21 and our internet address is www.acimmune.com. Our website and the information contained on or accessible through our website are not part of this document.

B. Business overview

We are a clinical stage biopharmaceutical company focused on neurodegenerative diseases with five product candidates in clinical trials. We leverage our two proprietary technology platforms to discover, design and develop novel, proprietary small molecules, antibodies and vaccines for prevention, diagnosis and treatment of neurodegenerative diseases associated with protein misfolding. Misfolded proteins are generally recognized as the leading cause of neurodegenerative diseases, such as Alzheimer's disease, or AD, and Parkinson's disease, or PD, with common mechanisms and drug targets, such as Abeta, Tau, alpha-synuclein and Tar DNA-binding Protein (TDP-43). We believe that our large and diverse pipeline of nine therapeutic candidates and three diagnostic candidates has the potential to drive a paradigm shift in the treatment of a broad spectrum of neurodegenerative and other diseases related to protein misfolding.

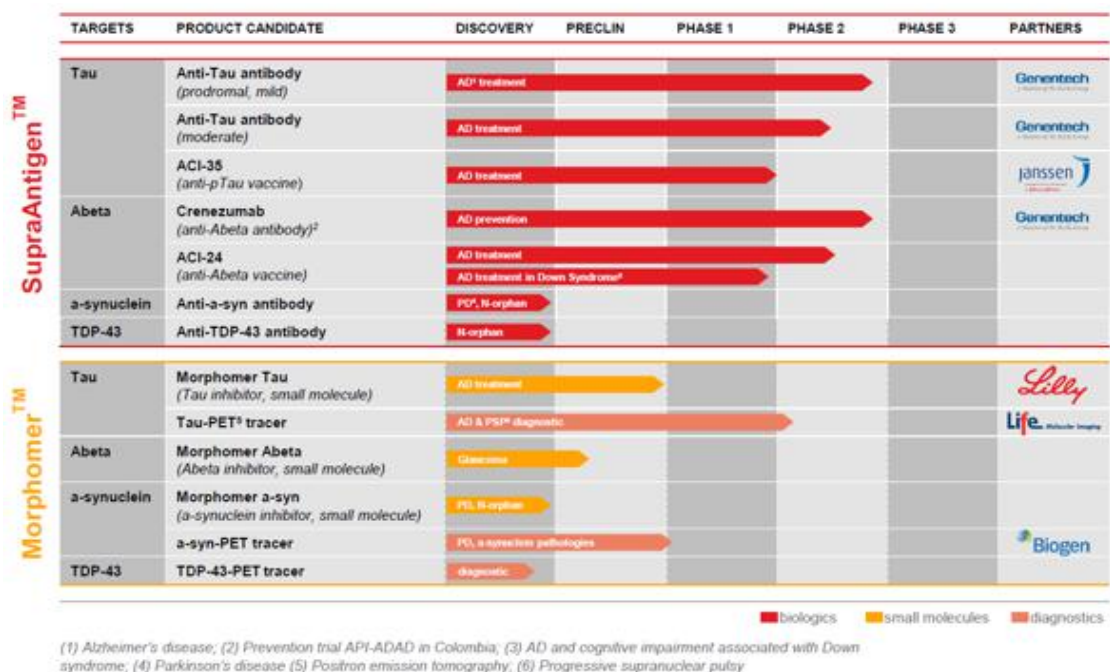
A summary of the business highlights in 2018 is provided in the graph below:

Figure 1



The diagram in Figure 2 below summarizes the status of our research and development programs.

Figure 2: Our broad and robust pipeline



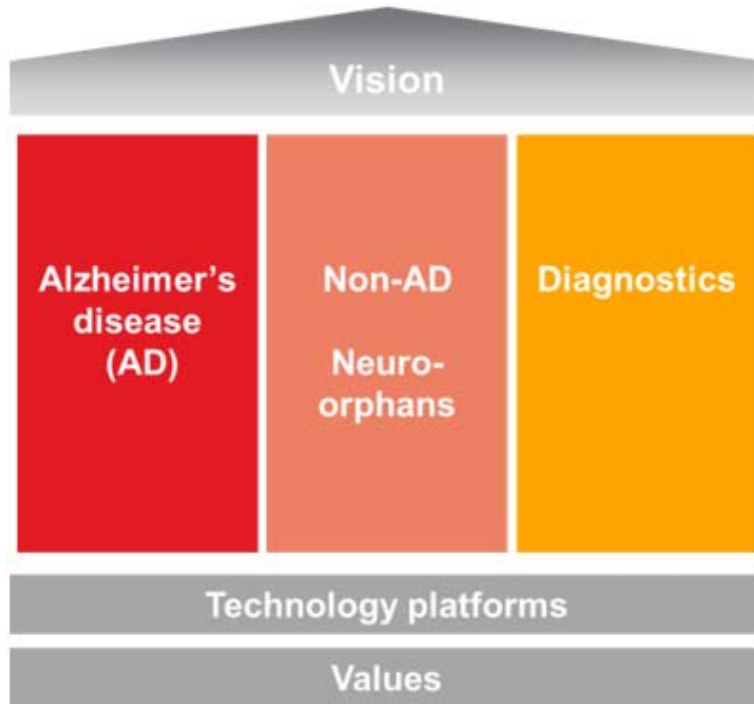
Neurodegenerative diseases and other diseases associated with protein misfolding are prevalent, but there is currently an absence of reliable, early-stage diagnosis and disease-modifying treatments for these diseases. The growth in the number of people with neurodegenerative diseases has been significant as evidenced by the prevalence of people affected by AD and PD, two of the most common neurodegenerative diseases.

- AD is the most common form of dementia, which affects an estimated worldwide patient population of 50 million in 2018, and is expected to grow to 82 million by 2030 and 152 million by 2050, according to the World Alzheimer Report 2018. The estimated aggregate cost of prevention and treatments in the United States was USD 1 trillion in 2018 and is estimated by Alzheimer's Disease International, or ADI, to grow to USD 2 trillion in 2030. ADI estimated that the cost of prevention and treatment in the United States could be reduced by 35-40% in 2050 if the onset of AD could be delayed by five years in the patient population. In addition, at autopsy, AD has been reported in 80% of people with Down syndrome over age 40 and 100% over age 60. Down syndrome affects approximately one in 1,000 live births worldwide;
- AD is typically diagnosed by neurologists and psychiatrists through a series of cognitive and functioning tests once symptoms are clinically present, resulting in diagnosis at later stages of the disease after irreversible loss of neurons has already occurred. Currently approved AD treatments include medications that only treat the symptoms of the disease. The clinical benefit derived from these symptomatic treatments is typically incomplete. Only between 40 and 70 percent of patients with AD benefit from taking symptomatic treatments and the symptoms improve for 6 to 12 months in most cases;
- Therapeutic development for AD is increasingly focused on treating early stages of the disease to delay or prevent progression and to preserve the maximum amount of cognitive function before irreversible neuronal damage occurs. Most clinical studies now target mild stages of the disease, increasing the need for accurate diagnosis that is independent of potentially subjective and otherwise sub-optimal cognitive metrics. Diagnostics therefore have a crucial role in selecting more uniform and stage-specific clinical study subjects, tracking patient progress and results, managing patients receiving treatment and ultimately diagnosing the disease at its earliest stage for immediate treatment; and
- PD, the second most common neurodegenerative disease worldwide, affects an estimated 7 to 10 million people. In PD, the use of symptomatic treatments, such as levodopa, is associated with the loss of control of motor functions in approximately 50% of patients who have taken the drug for 5 years or longer.

There remains a significant unmet medical need for reliable and accurate diagnostics to enable early diagnosis and disease-modifying treatments that slow the progress of neurodegenerative diseases.

We have assembled an outstanding management team with relevant scientific, clinical and regulatory expertise. Our scientific founders, Dr. Jean-Marie Lehn, Dr. Claude Nicolau, Dr. Roscoe Brady and Dr. Fred van Leuven, are regarded as pioneers in their respective scientific domains, including in the study of AD. Our co-founder and Chief Executive Officer, Dr. Andrea Pfeifer, a pharmacologist with a Ph.D. in cancer research and former National Institute of Health researcher, has a 30 year track record in product innovation and implementation and was formerly head of Nestlé Global Research and the co-founder of Nestlé Venture Fund. In January 2019, we appointed Dr. Marie Kosco-Vilbois to be our Chief Scientific Officer. Dr. Kosco-Vilbois has more than 20 years of experience in various aspects of discovery research and drug development, including working on multiple drug development programs.

Figure 3: AC Immune 3-pillars business strategy



Our goal is to become a global leader in precision medicine for the treatment of neurodegenerative diseases. To that aim, we are executing a clear business strategy around three pillars: (i) Alzheimer's disease, (ii) other significant neurodegenerative diseases and neuro-orphan indications, and (iii) diagnostics.

The first pillar is Alzheimer's disease, where we are developing best-in-class late stage assets, preventive or therapeutic vaccines in partnership or as fully owned assets and where we are working to establish a pipeline of disease modifying small molecules.

The second pillar is other non-AD neurodegenerative diseases and neuro-orphan indications, where we aim to discover therapeutic treatments for Parkinson's disease and leverage our AD therapeutics in Down syndrome, progressive supranuclear palsy (PSP) and other neuro-orphan diseases.

The third pillar is represented by diagnostics, where we accelerate the diagnostic pipeline to late stage development and use the diagnostics to improve clinical trials and to establish external partnerships.

Key elements of our strategy continue to include:

Advancing our product candidates, in partnership or alone, from clinical development to regulatory approval and potential commercialization. Our products include:

- **Crenezumab.** The parent of our collaboration partner discontinued as of January 2019, the phase 3 clinical trials in AD but is continuing the Colombian prevention trial in genetically pre-disposed people at risk of developing familial AD. The overall beneficial safety profile was confirmed in the CREAD studies, supporting crenezumab's application in healthy individuals with risk of developing AD.
- **ACI-24.** We own the global rights to ACI-24 and we continue to develop ACI-24 in-house as a therapeutic candidate.

ACI-24 in AD. One phase 2 study has been initiated in 2018 in order to assess the safety, tolerability, immunogenicity and target engagement of ACI-24 formulations in mild AD patients. The previous phase 1/2 study has been terminated and the clinical study report will be completed in 2019.

ACI-24 in DS. Our Phase 1b clinical study of ACI-24 in individuals with Down syndrome, intended to assess safety, tolerability and immunogenicity at two doses, is ongoing. Recruitment in the high dose cohort has been successfully completed in 2018. To date, no serious adverse events and no early withdrawal have been observed in any of the two study cohorts supporting a favorable safety and tolerability profile. Preliminary assessment of the new low dose cohort demonstrated an IgG response as early as 4 weeks.

- **ACI-35.** The Phase 1b clinical study delivered encouraging results. Janssen and AC Immune plan to move the anti-Tau vaccine program forward to start a Phase 1b/2a in 2019; this is supported by scientific advice from the UK regulatory authority, MHRA.
- **Anti-Tau antibody candidate.** Our collaboration partner, Genentech, is conducting an anti-Tau antibody candidate (RG6100) through a Phase 2 clinical study, which started in the fourth quarter of 2017. The anti-Tau antibody is proposed to slow the prion-like propagation of Tau pathology which coincides with both clinical symptoms and disease progression in AD.
- **Morphomer Tau.** In collaboration with our partner, Lilly, we are researching and developing Tau Morphomer aggregation inhibitor small molecules with a first indication in Alzheimer's disease. We are currently in preclinical activities and will begin Phase 1 in 2019.
- **Diagnostic candidates.** In addition to the above product candidates, we will continue to develop our complementary diagnostic product candidates for Tau, alpha-synuclein and TDP-43 to advance these through clinical development, either independently or with collaboration partners.

Expanding into other neurodegenerative and neuro-orphan diseases

We will continue to leverage our proprietary technology platforms to develop product candidates that share the same disease targets like misfolded Abeta, Tau, alpha-synuclein and TDP-43 proteins, which are the key features of many neurodegenerative diseases. We pursue selected neuro-orphan indications, such as progressive supranuclear palsy (PSP) and other Tau-related orphan diseases, such as frontotemporal dementia and corticobasal degeneration. Pursuing neuro-orphan indications may enable us to obtain a streamlined regulatory approval pathway and favorable reimbursement treatment of any approved products.

Accelerating the advancement of our diagnostic portfolio

We are also developing a complementary diagnostics portfolio. We currently have three diagnostics candidates in our pipeline that we developed using our Morphomer platform that targets Tau, alpha-synuclein and TDP-43. Our Tau-PET imaging agent PI-2620 has completed Phase 1 studies in AD, including proof-of-concept in AD and healthy volunteers, dosimetry, and test/re-test in AD and healthy volunteers. We are working with our partner, Life Molecular Imaging, to advance PI-2620 through the clinical development process in AD and expand the use of PI-2620 to non-AD Tauopathies such as PSP. We are also developing proprietary PET imaging diagnostics for diseases resulting from the misfolding of alpha-synuclein and TDP-43 proteins.

We are leveraging the duality of our therapeutic and diagnostic approaches to seek to become the leader in precision treatment of neurodegenerative diseases. The goal of precision medicine is to deliver optimally targeted and timed interventions tailored to an individual's molecular drivers of disease. The biggest limitation in neurodegenerative disease management is the lack of appropriate biomarkers and reliable diagnostics for early disease detection and the absence of approved disease-modifying therapies. We believe that the future treatment paradigm for neurodegenerative diseases will likely involve early disease diagnosis and combination therapy, leveraging both symptomatic and disease-modifying treatments, with different disease-modifying treatments used at various points in the progression of the disease. We believe that our multi-pronged approach to neurodegenerative disease diagnosis and treatment may result in the generation of individualized treatment options for patients and improve clinical outcomes.

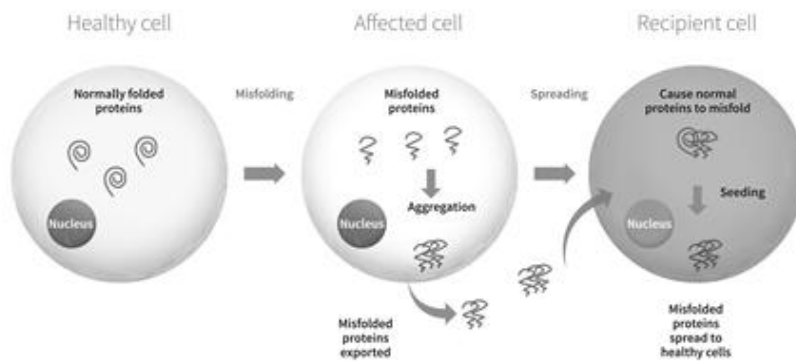
Strategically collaborating or selectively partnering for the development and commercialization of product candidates

Historically, we have relied on collaboration agreements with leading pharmaceutical companies to leverage their scientific, development, manufacturing and commercialization expertise and other resources in order to accelerate the development of our product candidates. To date, we have entered into collaboration agreements with leading global pharmaceutical companies, including two collaborations with Genentech, one with Lilly and one with Janssen, a Johnson & Johnson company. We believe that these partnerships validate our core strategy of discovering safe and efficacious therapies using our proprietary platforms and advancing them through the various stages of regulatory approval. In the future, for any approved products targeting large markets, we may selectively partner with leading companies that we believe can contribute manufacturing and marketing expertise, geographic reach and other resources and know-how that can enhance the value of these approved products. In this respect, we established a strategic partnership with WuXi Biologics for their expertise in manufacturing biologicals as well as the application of AC Immune's vaccine portfolio in China and potential collaborations with AC Immune's SupraAntigen platform.

Our Approach to Treating Diseases Related to Protein Misfolding

Protein folding and unfolding are important ways of regulating the protein's biological activity and cellular location. Misfolding of proteins occurs due to a breakdown of cellular quality control systems, and is a common feature of many neurodegenerative diseases. Research has shown that misfolded proteins are not only unable to carry out their normal functions, but also aggregate to form deposits in the brain that eventually lead to neuronal damage and cell death. The progression of neurodegenerative diseases, such as AD and PD, is linked to the misfolded conformations of proteins, such as Abeta, Tau, alpha-synuclein and TDP-43.

Figure 4



The diagram above shows how, in today's understanding, misfolded proteins play a key role in the pathology of neurodegenerative diseases. Typically, protein misfolding occurs during cellular stress, which can be triggered by many different causes, including oxidation and a lack of growth factors. A cascade of molecular events begins with the misfolding of single proteins within a cell that then continue to aggregate to ultimately form plaques and tangles. These misfolded proteins are then exported and spread to healthy cells nearby, causing normal proteins to misfold in a process known as seeding. This process eventually leads to cell death in various areas of the brain and is linked to a decline in cognitive function.

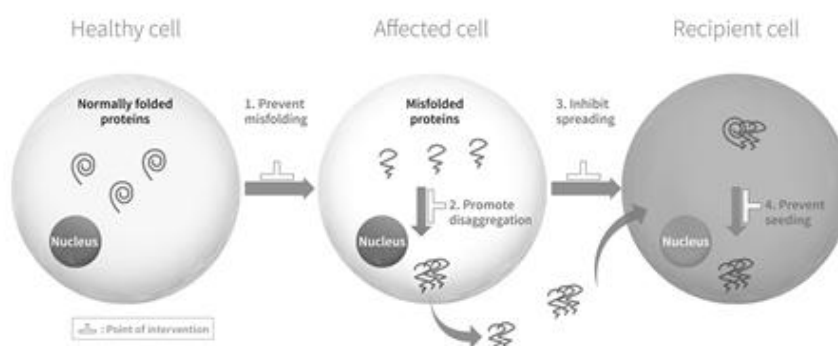
Challenges in targeting misfolded proteins

The central challenge in targeting misfolded proteins for therapeutic effect is a product's ability to differentiate, or conformationally select, between a misfolded protein and a normally-folded protein. This ability to conformationally select for the misfolded protein prevents the therapeutic candidate from interfering with the function of the normally-folded protein, thereby reducing the risk of side effects.

Benefits of our approach

The key aspect of both our SupraAntigen and Morphomer technology platforms is conformational specificity, which we believe is central to the development of effective and safe therapeutics for neurodegenerative diseases. Our SupraAntigen platform targets misfolded proteins through antigens displayed on the surface of liposomes which mimic the targeted pathological form of the protein. In a complementary approach, our Morphomer platform uses small molecular weight compounds to target the aggregation and seeding process, which prevents the misfolded proteins from aggregating inside the cell and the formation of new misfolded proteins in healthy neighboring cells through a seeding mechanism. Small molecules derived from our Morphomer platform, which we refer to as Morphomers, also promote disaggregation of already formed pathological protein aggregates.

Figure 5



The diagram above shows how we believe our therapies aim to intervene in the key pathology steps involved in neurodegenerative diseases: (1) prevent misfolding; (2) promote disaggregation; (3) inhibit spreading; and (4) prevent seeding in healthy cells.

Current Treatment Paradigm for Neurodegenerative Disease

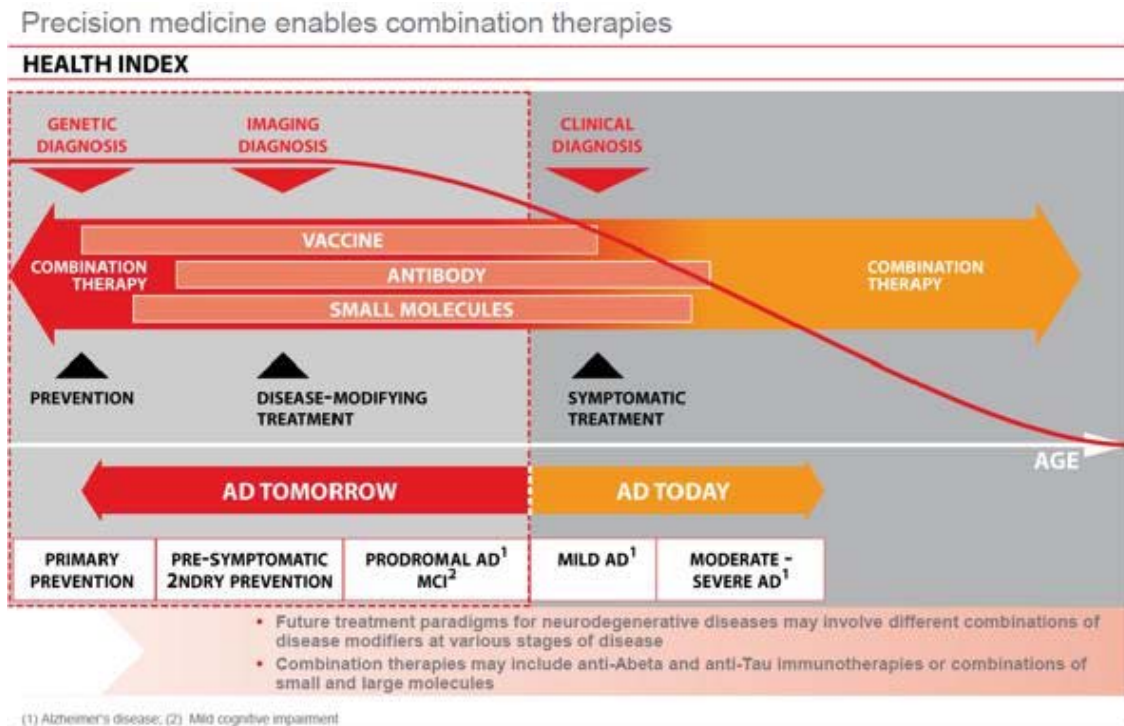
Current diagnostic and treatment paradigms for neurodegenerative diseases are suboptimal. Diagnosis typically takes the form of observation of cognitive, functional and behavioral impairment and other symptoms of the diseases, which are generally only apparent after irreversible neuronal damage has already occurred. These symptoms are treated with medicines capable of providing cognitive benefit and functional improvement but fail to affect the progression of the disease. For AD, there are currently four approved therapies, all of which only provide modest efficacy in treating the symptoms of AD, while having significant side effect risks, and fail to address the progression of the disease. Despite these shortcomings, marketed therapies, such as Eisai and Pfizer's Aricept, have achieved peak annual global sales of approximately USD 4 billion prior to loss of exclusivity. Similarly, in the treatment of PD, the current standard of care is intended only to alleviate physical symptoms. In both AD and PD, there are no approved disease-modifying treatments that slow or stop the course of disease progression.

Modifying the progression of the disease requires targeting the underlying biological processes that drive disease progression. Unfortunately, these processes evolve over the course of many years prior to manifestation of symptoms and a high percentage of neurons may be lost prior to clinical manifestation. Many of the failed clinical studies for disease-modifying treatments targeted patients with moderate stages of the disease, when irreversible neuronal damage and death had already occurred. This has led to the conclusion that early intervention is necessary to slow the disease progression and that disease-modifying therapies should be studied in patients with milder stages of the disease. As a result of this, in recent years, there has been a movement towards early intervention in clinical development. Early intervention, however, requires accurate disease detection prior to physical manifestation of symptoms, using new and sophisticated technologies that are superior to the subjective rating scales currently used to assess patients. Thus, new diagnostic technologies are critical to the clinical development process of disease-modifying therapies and ultimately better disease management of patients with neurodegenerative diseases.

Opportunity for AC Immune in Neurodegenerative Diseases

We intend to change the way that neurodegenerative diseases are treated and to differentiate our business by combining reliable diagnostic tools that facilitate intervention at earlier stages of the disease with therapies that treat the underlying disease, caused by misfolded protein targets. As shown in the diagram below, AC Immune’s pipeline, comprised of antibodies, vaccines and small molecules, is well situated to address the present and future treatment paradigms of neurodegenerative diseases involving different disease-modifying treatments at various points in the progression of the disease, including combinations thereof.

Figure 6: Treatment and diagnosis of AD



Our therapeutic product candidates seek to modify the course of AD by intervening at an earlier stage of the disease progression prior to irreversible neuronal damage. Beyond AD, we believe that we can leverage our proprietary platforms to generate additional molecules that treat the causes of other neurodegenerative and neuro-orphan diseases, such as Parkinson’s disease, multiple system atrophy, PSP, frontotemporal dementia, Pick’s disease, Corticobasal degeneration and Huntington’s disease. We believe that the future treatment paradigm for neurodegenerative diseases will involve different disease-modifying treatments used at various points in the progression of the disease. One such combination may be passive immunization targeting Abeta together with anti-Tau antibodies or immunotherapies and small molecules targeting Abeta or Tau.

We believe that we are a leader in discovering new PET imaging agents to improve the timing and accuracy of diagnoses in neurodegenerative diseases. We have three diagnostic candidates in our pipeline that were developed through our Morphomer platform that target Tau, alpha-synuclein and TDP-43. We believe our Tau-PET imaging program has received external validation through our partnership with Life Molecular Imaging, a leader in imaging agents. We are also developing an alpha-synuclein and TDP-43 PET imaging agent for PD and other neurodegenerative diseases. We believe that our diagnostic product candidate pipeline will complement our disease-modifying treatment product candidate pipeline, with the ultimate goal of reshaping the clinical course and treatment of neurodegenerative diseases.

Our Proprietary Technology Platforms

Our two unique proprietary and versatile technology platforms are engines to drive the growth of our development: our SupraAntigen platform, which is our biological and immunological platform, and our Morphomer platform, which is our small molecule, chemical platform. These platforms are designed to generate vaccines, antibodies and small molecules, respectively, which selectively interact with misfolded proteins that are common in a broad range of neurodegenerative diseases.

Our SupraAntigen platform generates humanized monoclonal antibodies and vaccines for use as passive and active immunotherapies that are highly specific for pathological, or misfolded, forms of proteins typically found in neurodegenerative diseases.

The key advantages of the SupraAntigen platform include:

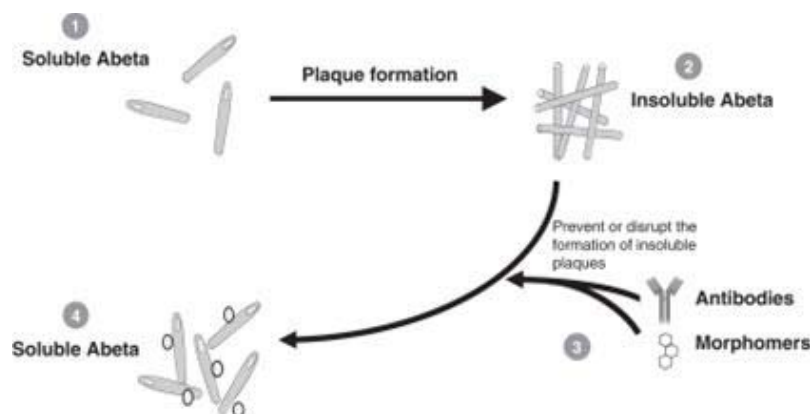
- Highly selective conformation-specific immunotherapy;
- Generation of antibodies and vaccines;
- Generation of a rapid antibody response; and
- Favorable safety avoiding T-cell mediated inflammation.

Product candidates generated utilizing the SupraAntigen platform include crenezumab in Phase 2 in AD, ACI-24 in Phase 2 in AD and Phase 1b in DS, ACI-35 in Phase 1b in AD, an anti-Tau antibody in Phase 2 in AD and the pre-clinical antibodies for alpha-synuclein/TDP-43 in PD and neuro-orphan indications.

Our Morphomer platform represents a highly promising technology that enables us to generate conformation specific small molecules through rational design. As of December 31, 2018, our Morphomer library consisted of more than 4,750 compounds. This proprietary platform enables us to generate small molecules that bind to their target and break up neurotoxic protein aggregates or act as propagation inhibitors.

Therapeutic product candidates generated by the Morphomer platform include the pre-clinical therapeutic programs such as Morphomer Tau in AD, Morphomer alpha-synuclein in PD and the diagnostic programs Tau-PET imaging agent in Phase 1 in AD and PSP and alpha-synuclein-PET and TDP-43 PET imaging agents in the pre-clinical stage.

Figure 7



Our AD Programs

Crenezumab

Crenezumab is a humanized, conformation-specific monoclonal antibody that targets misfolded Abeta and has a broad binding profile. Crenezumab was developed using our proprietary SupraAntigen platform. In 2006, we licensed crenezumab to Genentech, a company with a long history of developing and commercializing innovative biologics.

Mechanism of Action:

- Crenezumab recognizes and binds to multiple forms of Abeta, including monomeric, oligomeric and fibrillar Abeta that are found in amyloid plaques. In contrast, certain other antibodies in development such as solanezumab and aducanumab have only been shown in studies to recognize a subset of Abeta forms;
- Due to its capacity to bind to multiple forms of Abeta, with 10-fold higher specificity to oligomers, which are thought to be the most toxic species, crenezumab also protects against oligomer-induced neurotoxicity;
- Linked to its unique epitope, crenezumab has been shown to promote disaggregation of existing Abeta aggregates and to disrupt their assembly to prevent amyloid plaque formation. The crystal structure reveals binding interactions that are consistent with this flexible binding profile and provides further explanation for crenezumab's ability to block aggregation and to promote disaggregation; and
- Crenezumab has been designed with an IgG4 backbone to reduce effector function on microglia and to clear Abeta from the brain while limiting inflammation. Crenezumab's lack of binding to vascular amyloid and the dense core of Abeta plaques results in a reduced risk of Amyloid-related imaging abnormalities-Edema (ARIA-E) and neuroinflammation and allows for higher dosing.

Signal of activity in milder AD patients (MMSE 22-26) in Phase 2 clinical trials:

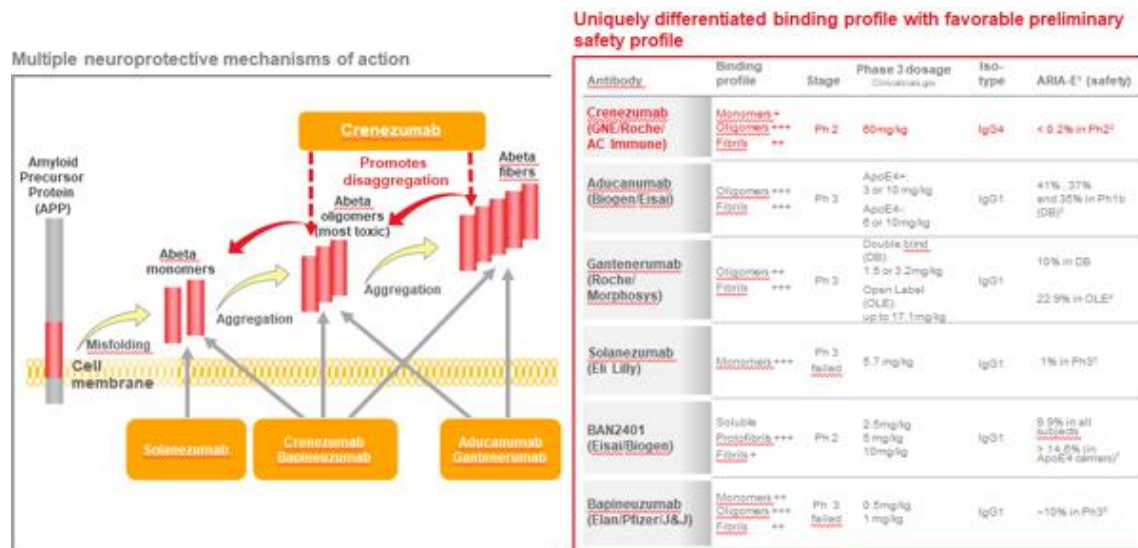
- In the proof-of-concept Phase 2 studies of crenezumab, a positive trend in cognition was observed with a greater effect on cognition in patients with a milder stage of AD (MMSE 22-26);
- In the ABBY cognition study, there, was a statistically significant 35% reduction in the rate of cognitive decline in the non-pre-specified milder AD patient population (MMSE 22-26) for the high-dose arm; and
- In the BLAZE biomarker study, the high-dose arm showed a consistent trend of reduced Abeta accumulation in the brain over time, as shown in two independent exploratory analyses of florbetapir-PET data. In addition, results have shown that crenezumab has the ability to enhance the removal of these proteins from the brain as evidenced by a significant increase in CSF Abeta, confirming target engagement by crenezumab.

Favorable safety profile allowing for potentially higher dosing:

- Phase 2 data from ABBY and BLAZE studies suggested that there were no imbalances in overall rate of Adverse Events, or AEs, and AEs were not dose-related, with only one case of asymptomatic ARIA-E (0.4% in ABBY, 0.3% on active pooled) in crenezumab patients. AEs also included inflammation of the throat and nasal passages, urinary tract infections and upper respiratory infections. However, no patients in the studies experienced serious adverse events that were believed related to the administration of crenezumab;
- Crenezumab is a member of the IgG4 isotype subclass of antibodies. This isotype was selected because IgG4 antibodies are associated with a greatly reduced ability to cause inflammation. By contrast, all other antibody products currently in development that target Abeta are of the IgG1 isotype subclass, which is associated with a higher incidence of inflammation-related ARIA-E. Dose limiting toxicities are a major risk for failure of competing antibody products. Potential safety at high doses is a key product feature of crenezumab. In exploratory research studies, crenezumab demonstrated a tendency to preferentially bind to oligomeric Abeta and consequently there was no detectable binding to the core of plaques known to lack oligomers. Furthermore, crenezumab did not bind to vascular amyloid plaques potentially further explaining its preferentially safety profile regarding ARIA-E formation;
- A Phase 1 study with higher doses of crenezumab up to 120mg/kg showed no investigator assessed drug-related serious adverse events and no events of ARIA-E supporting the dose of 60mg/kg in Phase 3 clinical trials CREAD; and

- Crenezumab is currently being evaluated in a Phase 2 clinical prevention trial in Colombia in 300 cognitively healthy individuals of whom 200 are genetically predisposed to develop early AD. As of January 2019, two Phase 3 clinical trials, CREAD 1 and CREAD 2, in prodromal to mild AD patients were discontinued after an interim analysis conducted by our collaboration partner Genentech.

Figure 8: Crenezumab overview



Ref: (1) Amyloid related imaging abnormality-edema; (2) Lin et al, CTAD 2017; (3) Budd-Heaberlein, JPAD 2017; (4) Andelkovic, CTAD 2017; (5) Siemers et al, Alzheimer's & Dementia 2016; (6) Logovinsky et al, Alzheimer's Research & Therapy 2016; (7) Swanson et al, AAIC 2018 (8) Salloway et al, New Engl J Med 2014

Figure 8 above summarizes crenezumab's multiple neuroprotective mechanisms of action, in particular direct binding and inhibition of toxic Abeta oligomers which may demonstrate crenezumab's clinical benefit.

Results from pre-clinical studies

Abeta is produced by the breakdown of a larger protein called amyloid precursor protein, or APP. The Abeta fragment containing 42 amino acids, or Abeta₁₋₄₂, is believed to be associated with the highest toxicity of the Abeta fragments. Misfolded Abeta subunits combine to form oligomers and fibrils that are found in amyloid plaques. Data resulting from preclinical and clinical studies show that crenezumab binds with high affinity to amino acids 12–24 of Abeta₁₋₄₂, as well as multiple forms of Abeta, including monomers, oligomers, and fibrils, which reduces Abeta₁₋₄₂ induced cytotoxicity. Furthermore, these data indicate that crenezumab enhances the uptake of neurotoxic Abeta oligomers by microglial cells, the resident immune cells of the brain, which normally respond to neuronal damage and remove the damaged cells for subsequent disposal and clearance from the brain.

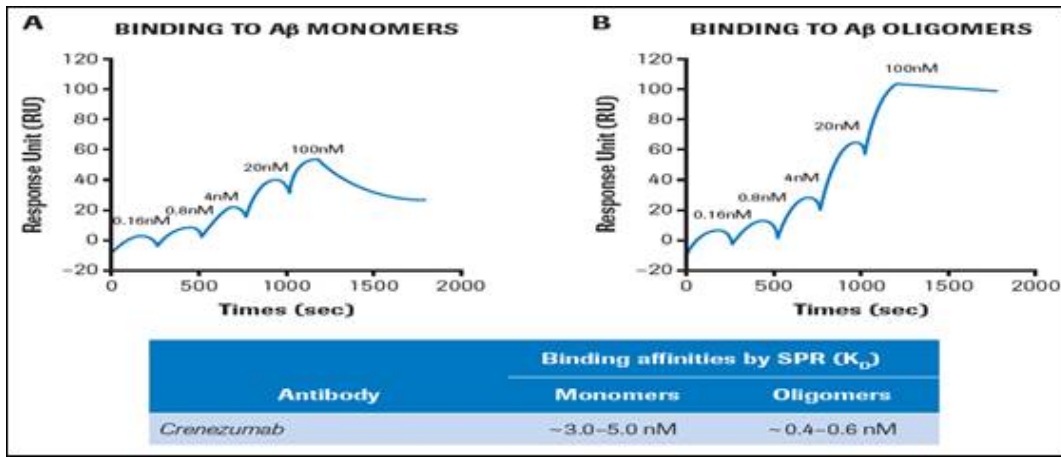
A challenge with agents acting to remove Abeta is the potential to induce inflammation leading to vasogenic edema, which is accumulation of fluid in the brain that can lead to headaches, loss of coordination and disorientation. The fluid can be seen clearly on MRI scans and is referred to as ARIA-E. Crenezumab is engineered on an IgG4 backbone, which was selected because IgG4 antibodies are associated with a greatly reduced risk of causing inflammation. As a result, crenezumab's IgG4 structure activates microglial cells to clear Abeta without producing inflammation and associated vasogenic edema, as demonstrated in the Phase 2 clinical studies. In contrast, ARIA-E and other inflammation-related side effects have been observed in other antibodies with an IgG1 backbone.

Positioning of crenezumab's binding characteristics

The formation of neurotoxic Abeta pathology in AD is caused by misfolding, oligomerization and aggregation of Abeta. This process leads to the formation of smaller oligomeric species and larger extracellular plaques. To reduce or reverse disease progression, the therapeutic anti-Abeta strategy focuses on targeting all Abeta species that mediate neurotoxicity in the CNS of patients.

In contrast to larger amyloid plaques, soluble, oligomeric forms of Abeta are considered to be the most neurotoxic species. Crenezumab binds multiple forms of Abeta (i.e., monomers, oligomers, fibrils and plaques) with a binding preference for this oligomeric Abeta.

Figure 9: Binding profile of crenezumab

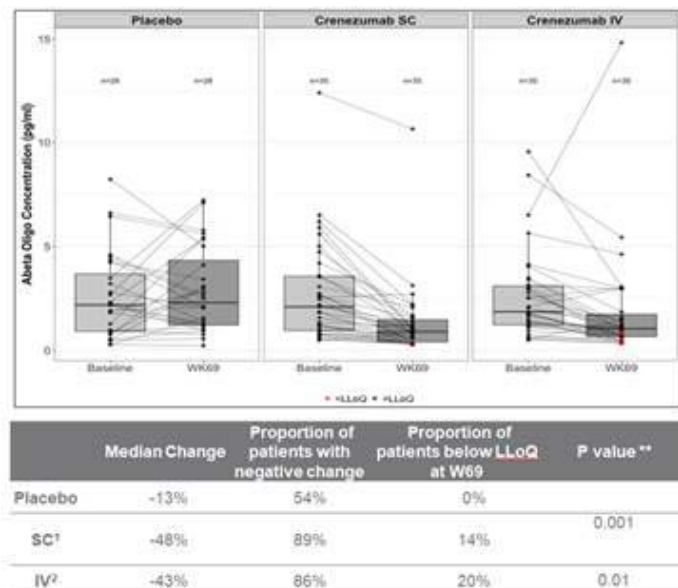


Ref: Ultsch, et. Al., Sci Rep, Supp Info 2016; Atwal et. Al. ADPD 2017

In the figure above, crenezumab binds with ~10x higher affinity to oligomeric Abeta over monomers. Crenezumab’s binding affinity to monomeric (A) and oligomeric (B) Abeta was assessed using surface plasmon resonance (SPR). Representative sensorgrams are shown. The full-length crenezumab IgG4 exhibited a KD in the range of 3.0–5.0 nM to Abeta monomers and 0.4-0.6 nM to Abeta oligomers, demonstrating a strong preference for oligomeric Abeta.

Oligomeric forms of Abeta are believed to be principally responsible for neurotoxicity in AD. Amyloid plaques occurring in all AD cases are in equilibrium with soluble oligomers of Abeta. These can activate microglia and injure neurons including by inducing Tau positive neurites and tangles.

Figure 10: Reduction of oligomers in CSF by crenezumab: crenezumab’s binding affinities and translation into clinical benefits (data from Phase 2)



Ref: Yang et. al. presentation at AAIC 2018

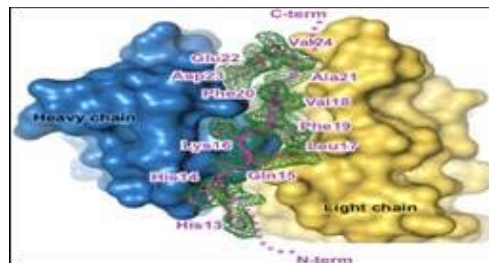
Crenezumab, as shown in the figure above, lowers Abeta oligomers levels in CSF. The figure shows boxplots of Abeta oligomer levels at baseline and week 69 (WK69) of crenezumab treatment. Dots represent mean levels of the Abeta oligomer concentration from matched CSF samples of individual AD subjects. Samples with values below the lower limit of quantitation (LLOQ) are shown in red. Boxes indicate 25th to 75th percentile; horizontal bar indicates median.

As shown above, the KD of crenezumab for Abeta oligomers is in the picomolar range (0.4 - 0.6 nM) while for the monomeric form of Abeta, the antibody has a comparatively faster off rate resulting in an overall ~10-fold lower affinity (3.0 - 5.0 nM; Atwal et al., ADPD 2017 presentation, Ultsch et al., 2016). The binding preference for oligomeric forms of Abeta measured in vitro, translates into a significant reduction of Abeta oligomers in CSF of AD patients treated with crenezumab (ABBY and BLAZE Phase 2 trials), where 86% of patients dosed intravenously (IV) and 89% of patients dosed subcutaneously (SC) display lower levels of CSF Abeta oligomers at week 69 than at baseline ($p < 0.01$ for IV and $p < 0.001$ for SC vs. placebo; Yang/Selkoe, AAIC 2018 presentation; Figure 10). These data provide strong evidence that the principal targets, engaged by crenezumab in the CNS of AD subjects, are Abeta oligomers.

Significance of crenezumab's epitope

To describe the Abeta-crenezumab interaction with atomic resolution, the crystal structure of crenezumab (as a Fab fragment) in complex with Abeta 11-25 was resolved at 2.3 Å (Ultsch et al., 2016). The structure reveals a well-defined contiguous interaction between crenezumab and Abeta residues His13-Val24, in an extended conformation.

Figure 11: The crystal structure of crenezumab



Ref: Ultsch, et. al., Sci Rep 2016

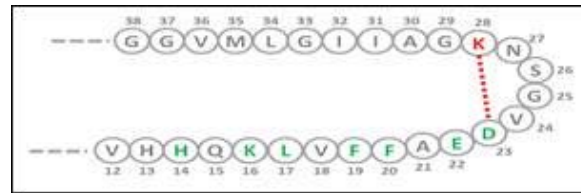
The crystal structure of crenezumab (Fab') shown above complexed with Abeta11-25 peptide. Crenezumab binds and sequesters the hydrophobic core of Abeta breaking a salt-bridge characteristic and essential for the formation of the beta-hairpin conformation, eliminating key features of the basic organization in Abeta oligomers and fibrils. Green mesh shows the electron density map corresponding to the Abeta peptide.

The observed binding mode is consistent with high affinity for multiple forms of Abeta, explaining crenezumab's binding to a range of Abeta species, particularly to Abeta oligomers on a molecular level. The conformational requirements for epitope recognition includes the following subtle but critical element that is likely the basis for crenezumab's versatile binding profile and suggestive of the therapeutic mechanism of action: binding of crenezumab to Abeta breaks a salt-bridge hairpin turn essential for Abeta oligomer formation between Asp23 (i.e., within the mapped epitope) and Lys28 located in the main hydrophobic segment of Abeta (Figure 12).

Binding of crenezumab to the central epitope within the core of the toxic amyloid beta-sheet assembly explains the observed inhibition of Abeta aggregate formation, as well as the disaggregation propensity of pre-formed Abeta fibrils. Using in vitro aggregation assays, this anti-aggregation activity of crenezumab was greater than the one of an antibody binding to an N-terminal epitope.

The below Abeta salt-bridge hairpin turn is responsible for the self-association and subsequent oligomerization into toxic beta-sheet conformations. Due to the orientation of the heavy-chain residues, crenezumab binds to Abeta structures compatible with the hairpin-like turn, but not an alpha-helix. As only Abeta monomers, but not oligomers or aggregates, can adopt an alpha-helical structure, this likely explains why crenezumab favors interaction with oligomeric over monomeric Abeta.

Figure 12: The Abeta salt-bridge hairpin



Based on Ultsch, et. al., Sic Rep 2016

The illustration above is of the Abeta mid-domain highlighting the salt-bridge interaction between Asp23 and Lys28 in red. This interaction is present in Abeta oligomers and aggregates. Crenezumab epitope residues important for binding are indicated in green.

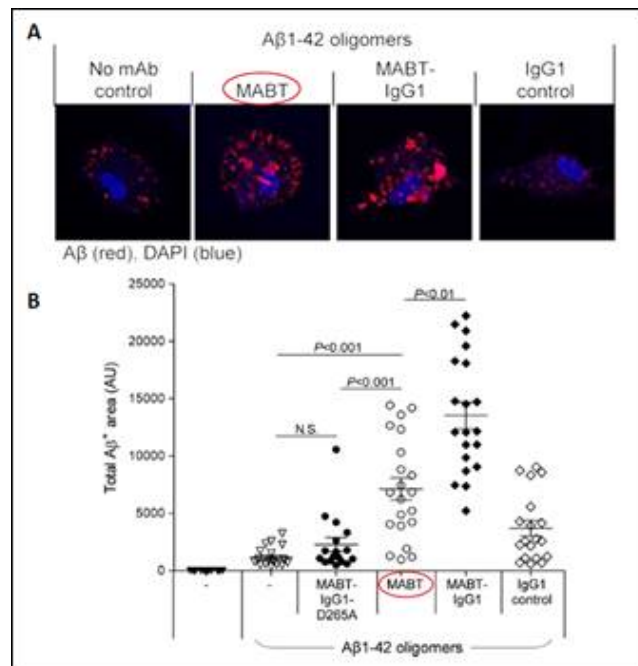
Supportive high resolution imaging data, from APP/PS1 mice dosed with crenezumab, demonstrated that crenezumab localizes to brain areas with putative high concentrations of Abeta oligomers (i.e. the periphery of amyloid plaques and hippocampal mossy fibers) and that crenezumab does not bind to the dense core of plaques or vascular amyloid in these AD transgenic mice. (Atal et al, Clinical Trials on Alzheimer’s Disease (CTAD) 2017)

Characteristics and benefits of crenezumab’s effector function

Crenezumab is a humanized IgG4 antibody selected as a clinical candidate for its unique binding and safety properties. As crenezumab binds multiple forms of Abeta (i.e., monomers, oligomers, fibrils and plaques), and will be present post-dose in the brain and periphery as an antibody/target complex, the safety of downstream events triggered by these immune complexes becomes a crucial consideration. Thus, the human IgG4 backbone was selected as a safer alternative to a human IgG1 for this immuno-therapy. The crenezumab IgG4 backbone confers reduced activation of Fc gamma receptors (FcγRs) in comparison to IgG1 (unpublished data), and was shown to minimize FcγR-mediated inflammatory activation of microglia (Adolfsson et al., 2012). Inflammatory activation in the CNS was shown to contribute to neurotoxicity (see review by Heneka, et. al. 2015., Ardura-Fabregat, et. al., CNS Drugs 2017, Kinney, et. al., Alz Dement 2018). Even if IgG4 FcγR-mediated inflammatory events are reduced compared to IgG1, microglial and macrophage phagocytosis is maintained. This is a very important safety factor reflected in the comparison with AD clinical trials involving antibodies using an IgG1 backbone to target aggregated Abeta.

Strategies invoking the formation of anti-Abeta IgG1 immune complexes (i.e., which maintain fully active FcγR-mediated effector functions) have reported dose-related adverse events, such as amyloid-related imaging abnormalities, suggestive of vasogenic edema or effusions (ARIA-E) and microhemorrhage (ARIA-H; Fuller et al., 2014). Crenezumab was designed as an IgG4 based on the hypothesis that an antibody with reduced effector function would have a lower risk of inducing vasogenic edema, and to provide a safety advantage over anti-Abeta antibodies with a full effector IgG1 backbone. Selecting IgG4 as the backbone allows the antibody-Abeta complex to interact with microglia Fc receptors with lower affinity, as was observed when comparing the binding of the different backbone variants to FcγRIa, FcγRIIaH131, FcγRIIaR131, FcγRIIb, FcγRIIIaF158, and FcγRIIIaV158. This translated into an optimal balance to allow efficient antibody-mediated Abeta phagocytosis (Adolfsson et. al., 2012).

Figure 13: Microglia phagocytosis by crenezumab

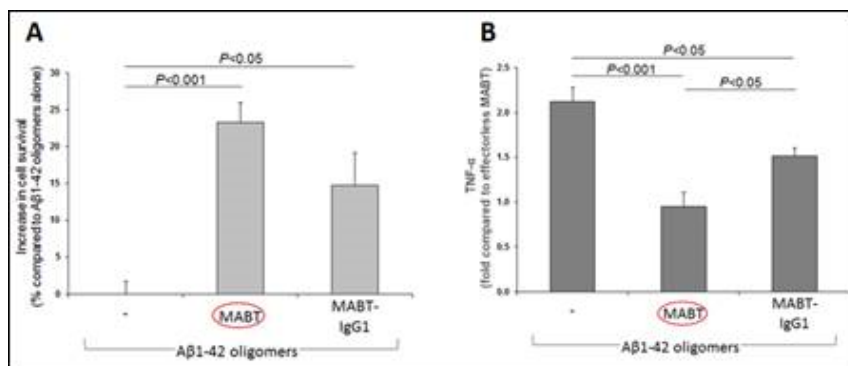


Ref: Adolfsson, et. al., J. Neurosci 2012

The Abeta oligomers complexed to crenezumab (MABT), as detailed above, are efficiently phagocytosed by microglia. Representative images show antibody-mediated phagocytosis of Abeta oligomers by microglia (A), and quantification of Abeta oligomer uptake (B). Crenezumab MABT is crenezumab; MABT-IgG1 is IgG1 backbone variant of crenezumab; and MABT-IgG1-D265A IgG1 is a backbone variant of crenezumab carrying the D265A mutation reducing the Ab-FcγR interaction of an IgG1 backbone.

The phagocytic clearance of Abeta oligomers may not confer benefits if it results in over-activation of neuroinflammatory events. Comparing the ability of crenezumab IgG1 and IgG4 backbone variants in reversing Abeta oligomer cytotoxicity in mixed primary cortical cultures revealed that crenezumab with the IgG1 backbone, and bearing greater FcγR binding affinity compared with the IgG4 backbone, trended toward a smaller protective effect (Adolfsson et al., 2012). The enhanced binding of the IgG1 backbone to FcγRs compared with that of IgG4 activates increased release of pro-inflammatory cytokines resulting from undesired microglia activation, likely translating into reduced protection against Abeta oligomer-mediated neurotoxicity.

Figure 14: Crenezumab's IgG4 backbone balances efficacy with safety



Data reported in Adolfsson, et. al., J. Neurosci 2012

The figure above outlines the reduced affinity of crenezumab's IgG4 backbone for FcγRs translates into increase in cell survival and less release of an inflammatory response when compared to the IgG1 backbone variant of crenezumab (MABT-IgG1). When challenged with neurotoxic Abeta oligomers, crenezumab (MABT) significantly increases cell survival (A) and reduces the production of the pro-inflammatory cytokine TNF-α (B), when comparing to the IgG1 backbone variant of crenezumab (MABT-IgG1). MABT is crenezumab; MABT-IgG1 is IgG1 backbone variant of crenezumab; and MABT-IgG1-D265A IgG1 backbone variant of crenezumab carrying the D265A mutation reducing the Ab-FcγR interaction of an IgG1 backbone.

The evidence described above suggests that a human IgG4 backbone would have a better safety profile than an IgG1 when administered to patients, a thesis that is reinforced by the safety findings reported from both Phase 1 and Phase II clinical studies of crenezumab. Following either single or multiple ascending doses, no increase in ARIA-E was reported (Cummings et al., 2014 and Cummings et al, 2018).

Phase 2 Studies

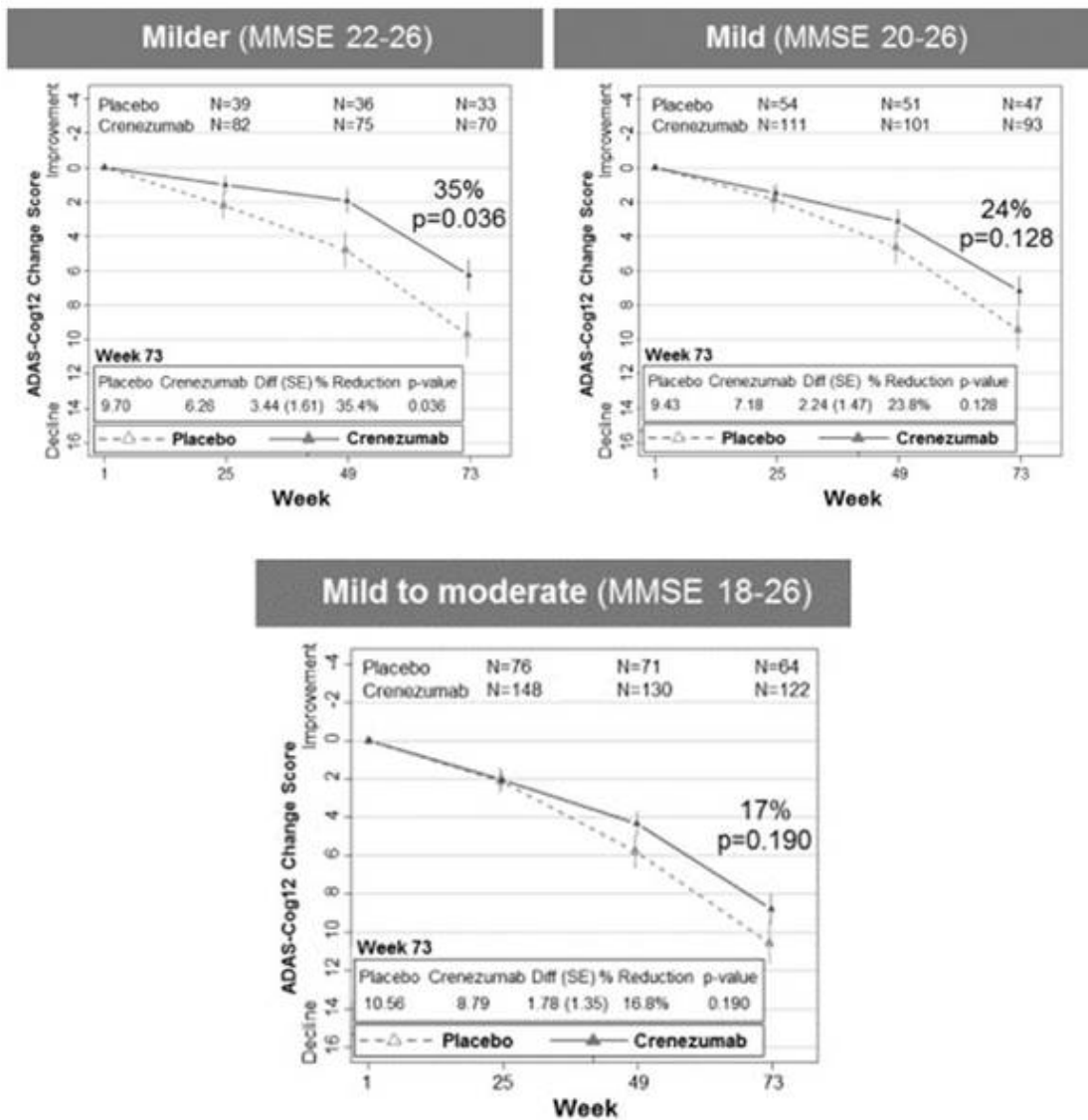
Phase 2 Study Design Overview

Crenezumab has been studied in two Phase 2 clinical studies, the ABBY proof-of-concept study and the BLAZE biomarker study. These two studies enrolled a total of 522 patients. The purpose of these studies was to investigate whether crenezumab could delay cognitive and functional decline and reduce the accumulation of brain amyloid in patients with mild to moderate AD. The sample size of the studies was not expected to have adequate power to detect a modest but clinically significant difference between active medication and placebo at the 5% significance level (as is commonly the case in Phase 2 studies in AD). Instead, consistent trends across different endpoints and dose dependency are considered indicators of a response in this learning phase of development, with confirmation then sought in Phase 3. Both studies had two active arms: a low dose arm receiving 300mg subcutaneous injection, which is an injection administered beneath the skin, every two weeks and a higher dose arm receiving 15mg/kg intravenously every four weeks. The primary analysis was conducted at 73 weeks, after 68 weeks of treatment. Safety and tolerability measures included repeated MRI scans to assess for the development of ARIA, both vasogenic edema (E) and hemorrhages (H).

ABBY Study Results

In the ABBY study, a positive trend in cognition was observed with a greater effect on cognition in patients with a milder stage of AD (MMSE 22-26), although the study did not meet its co-primary endpoints in mild-to-moderate AD (MMSE 18-26) patients. There was no significant change in cognition in patients who received low-dose subcutaneous crenezumab. Results of an exploratory analysis of the high-dose intravenous arm demonstrated that patients with the mildest cognitive impairment at screening (MMSE 22-26) showed a statistically significant 35% slowing of the rate of cognitive decline over 73 weeks. The effect became greater over time, as shown by the increasing separation of the crenezumab (solid line) and placebo (dashed line) curves in the diagram below. The milder group was not pre-specified, meaning the group of milder AD patients was not identified before commencing the Phase 2 clinical studies.

Figure 15: ABBY high dose arm: Change in ADAS-Cog 12

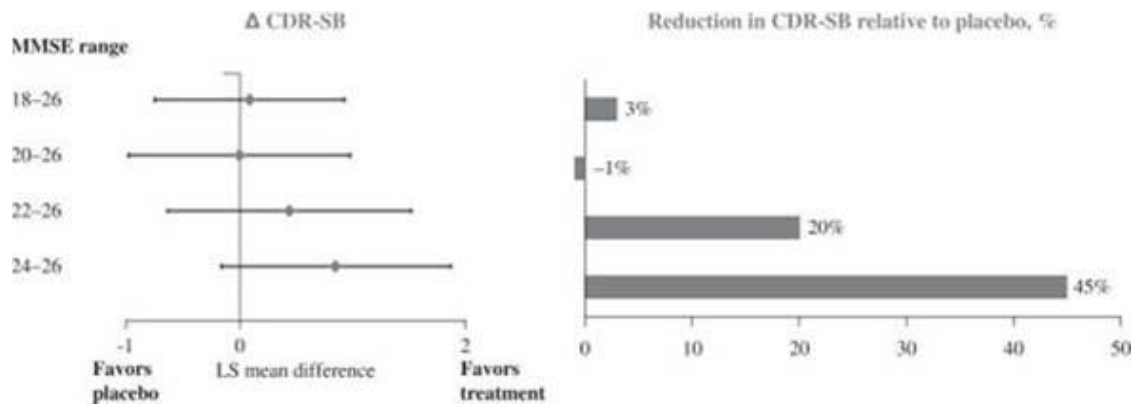


Ref: Cummings, et. al., AAIC, 2014

An exploratory subanalysis in a non-pre-specified subgroup of patients with milder symptoms (MMSE 22-26) showed a 35.4% reduction in cognitive decline. The sample size of the study was not expected to have adequate power to detect a modest but clinically significant difference between active medication and placebo at the 5% significance level (as is commonly the case in Phase 2 studies in AD). Instead, consistent trends across different endpoints and dose dependency are considered indicators of a response in this learning phase of development, with confirmation then sought in Phase 3. In the pre-specified subgroup analysis in patients with mild AD (MMSE 20-26), treatment with high-dose intravenous crenezumab led to a 23.8% reduction in cognitive decline. In patients with mild-to-moderate AD (MMSE 18-26) treated with high-dose intravenous crenezumab, there was a 16.8% reduction in cognitive decline. Effect sizes and p-values for exploratory analyses were not adjusted for multiplicity.

In the ABBY study, patients in the high-dose crenezumab arm showed less decline on the measure of global function, CDR-Sum of boxes, as compared to placebo. In mild-to-moderate AD (MMSE 18-26), a non-significant 3.1% reduction in global functional decline was observed. In the pre-specified subgroup analysis in patients with mild AD (MMSE 20-26), treatment with high-dose intravenous crenezumab did not show reduction in global functional decline (1.0% reduction; p=0.96). An exploratory analysis in two cohorts of patients with milder symptoms showed a 19.6% (MMSE 22-26) and 45% (MMSE 24-26) reduction in global functional decline (Figure 16 below).

Figure 16: ABBY high dose arm: Change in CDR-SB



Ref: Mackey, et. al., AAIC, 2016

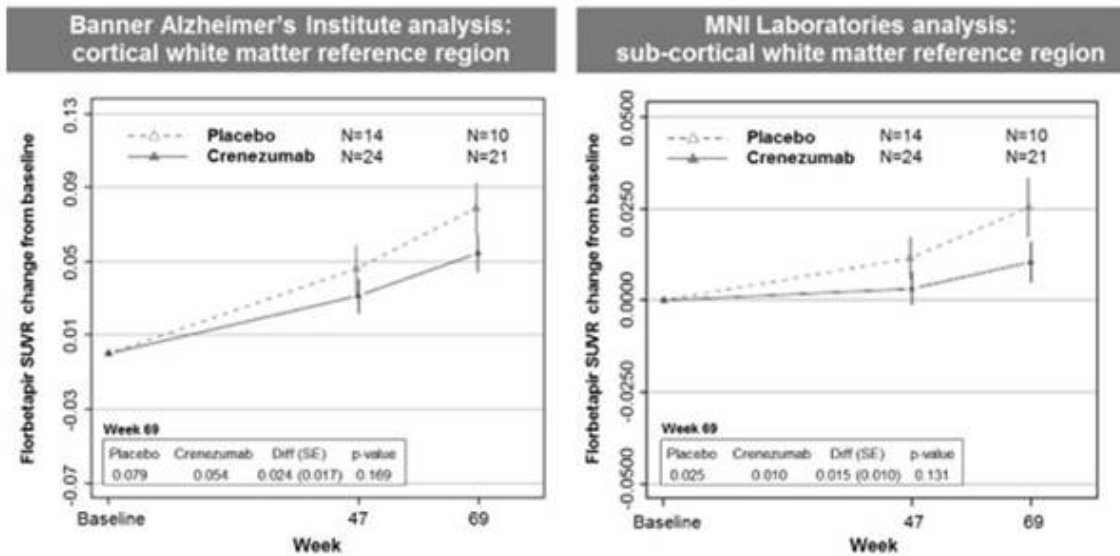
BLAZE Study Design

The BLAZE study was a randomized, double-blind, parallel-group, placebo-controlled study to evaluate the effects of crenezumab on brain amyloid burden as assessed by amyloid PET imaging and other biomarker endpoints in patients with mild to moderate AD. The primary endpoint was to measure the change in brain amyloid load using florbetapir-PET. The terms brain amyloid burden and brain amyloid load refer to the total amount of amyloid deposited in the brain. Each of these typically increases over time in an AD patient. Other endpoints included changes from baseline in other biomarkers (CSF, volumetric MRI), cognition (ADAS-cog12), global function (CDR-Sum of boxes), and activities of daily living (ADCS-ADL). Enrollment required florbetapir-PET positive scans, or patients who were amyloid positive. Ninety-one patients were included in the study.

BLAZE Study Results

The primary end point of change in brain amyloid load by florbetapir-PET was not met, but the study was not powered to detect statistically significant results. When assessing the amyloid load, the amount of amyloid in a region of the brain is determined by comparing the amount of an amyloid tracer to that found in a region with little or no amyloid, such as the cerebellum or the white matter, usually in the cortex. Recent studies have shown that the variability from scan to scan in the same patient over time is much higher when using the cerebellum than with the white matter, making the white matter a more powerful point of comparison for use in longitudinal studies. The higher variability of the cerebellum may be due to difficulties in exact positioning between scans and higher background levels. Taking this into account, the exploratory analyses of the BLAZE amyloid PET results using white matter reference region were conducted independently by two laboratories, the Banner Alzheimer’s Institute and MNI Laboratories. The analyses produced analogous results where a trend in the reduction of Abeta accumulation was observed in the high-dose arm. (Figure 17 below)

Figure 17: Blaze High Dose ARM: Amyloid PET Results

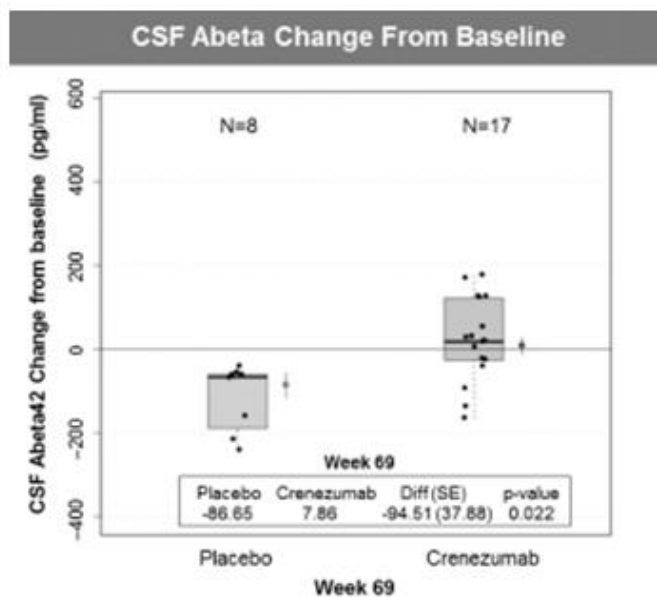


Ref: Honigberg, et. al., CTAD 2014

The BLAZE biomarker study high-dose intravenous cohort showed a consistent trend of reduced Abeta accumulation in the brain over time shown by two independent exploratory analyses of flortbetapir-PET data. Using white matter rather than cerebellum as the key reference region in the brain is generally considered a more robust method of showing treatment effects of AD therapies.

In the BLAZE study, patients also showed a statistically significant increase in CSF Abeta₁₋₄₂, which we believe confirms target engagement by crenezumab. Similar results were observed in the ABBY study where CSF Abeta₁₋₄₂ level was assessed in 49 patients. These results suggest that Abeta is being eliminated from the brain when treated with crenezumab.

Figure 18: BLAZE High Dose Arm: Crenezumab increases CSF total Abeta levels relative to placebo



Ref: Honigberg, et. al., CTAD 2014

BLAZE Study Results: Effects on Cognition and Global Function

A similar and consistent pattern of response was observed in the BLAZE study with slowing of loss of cognition compared to placebo observed at the high-dose intravenous crenezumab arm, and having the most effect in patients with more mild MMSE scores. There was no significant cognitive change in patients who received low-dose subcutaneous crenezumab. Importantly, the sample size of the study was not expected to have adequate power to detect a modest but clinically significant difference between active medication and placebo at the 5% significance level (as is commonly the case in Phase 2 studies in AD). The BLAZE study results suggest that Abeta is being eliminated from the brain as patients showed a statistically significant increase in CSF Abeta₁₋₄₂, which confirms target engagement by crenezumab.

The BLAZE high-dose arm showed increasing separation over time of the curves of decline on ADAS-Cog 12 for placebo (dashed line) and intravenous crenezumab (solid line) in the mild subgroup of patients (MMSE 20-26). In a post-hoc analysis of a group of patients with mild AD (MMSE 20-26) treated with high-dose intravenous crenezumab, there was a 52.0% reduction in cognitive decline ($p=0.29$). In patients with mild-to-moderate AD (MMSE 18-26) treated with high-dose intravenous crenezumab, there was a 10.3% reduction in cognitive decline ($p=0.84$). Importantly, the sample size of the study was not expected to have adequate power to detect a modest but clinically significant difference between active medication and placebo at the 5% significance level (as is commonly the case in Phase 2 studies in AD). Effect sizes and p-values were not adjusted for multiplicity.

In the BLAZE study, patients in the high-dose crenezumab arm showed less cognitive decline on the measure of global function, CDR-Sum of boxes, as compared to placebo. In mild-to-moderate AD (MMSE 18-26), a 7.4% reduction in global functional decline ($p=0.84$) was observed. In a post-hoc analysis in patients with mild AD (MMSE 20-26), treatment with high-dose intravenous crenezumab resulted in a 41.5% reduction in global functional decline ($p=0.44$). Although the results were not statistically significant, the sample size of the study was not expected to have adequate power to detect a modest but clinically significant difference between active medication and placebo at the 5% significance level (as is commonly the case in Phase 2 studies in AD).

Safety Data from ABBY and BLAZE Studies

Crenezumab demonstrated favorable safety and tolerability in Phase 2 clinical studies even at high doses. Crenezumab's safety profile is especially reflected in a low incidence of ARIA-E (0.3%) in Phase 2 clinical studies. ARIA-E was observed in only one patient who received high-dose intravenous crenezumab in the ABBY study. No case of ARIA-E was reported in the placebo arm or the BLAZE study. Favorable pharmacokinetic properties coupled with a favorable safety and tolerability profile enables crenezumab to penetrate the brain more readily at therapeutically relevant doses. Since dose limiting toxicities are a potential reason for the failure of other antibodies to demonstrate efficacy, crenezumab's potential safety at high doses is a distinguishing product feature.

There was no imbalance in the overall rate of AEs. AEs were observed in 91.3% of patients treated with crenezumab versus 90.3% of patients who received placebo. AEs were generally mild-to-moderate and transient. AEs did not appear to be related to crenezumab exposure. Five deaths occurred during ABBY and BLAZE, all in patients who received crenezumab during the randomized placebo-controlled period (1.4% of the crenezumab-treated population). The overall rate of deaths is consistent with the background rate of death in the elderly AD population. There was no consistent pattern for the cause of death and none were considered by the investigators to be related to crenezumab. It was reported that 3.2% of crenezumab-treated patients developed pneumonia versus 0.6% in placebo-treated patients in ABBY and BLAZE, but the rate of pneumonia cases in crenezumab-treated patients is consistent with the expected rate in the elderly population (2.5%–4.4%) and no drug-related mechanism for pneumonia was identified.

Genentech has not disclosed detailed information about serious adverse events associated with crenezumab either publicly or to us. However, at the 2014 Alzheimer's Association International Conference, it was reported that in the combined Phase 2 study populations, serious adverse events occurred at similar rates in patients treated with crenezumab (16.5%) and in patients given a placebo (11.9%).

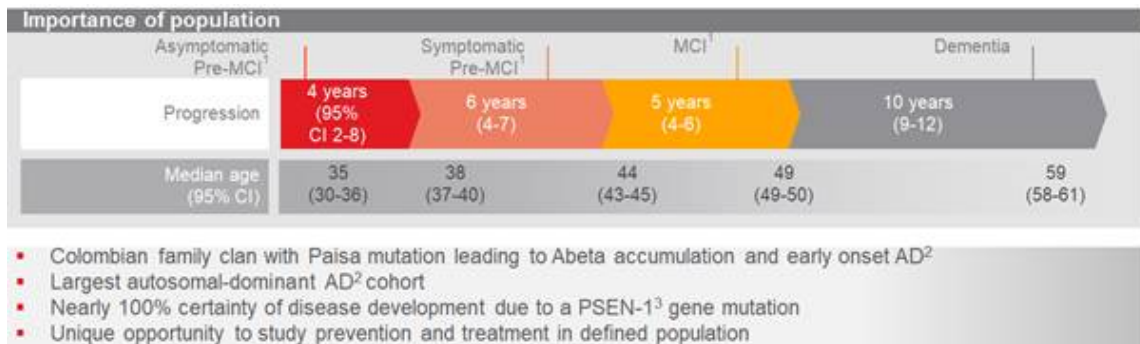
Phase 1b Study to explore higher doses

To explore safety at higher doses, crenezumab was tested in a Phase 1b dose escalation clinical study (NCT02353598) conducted in the United States. This randomized, placebo-controlled, double-blind, four parallel-arm study evaluated the safety and tolerability of at least four doses of intravenous crenezumab in 77 patients with mild to moderate AD (MMSE 18-28) between the ages of 50 to 90. An optional open-label extension stage was offered to patients after completion of the double-blind stage of the study. At the 2017 AAIC meeting, Genentech presented the results of the four cohorts with mild-to-moderate Alzheimer's disease. No dose-limiting toxicities were observed at 30, 45, 60 and 120 mg/kg doses of crenezumab. No events of ARIA-E were observed in the Phase 1b study and only few patients (6 of 75) showed asymptomatic Amyloid Related Imaging Abnormality-Hemiderin (ARIA-H). The pharmacokinetic profile of crenezumab is dose proportional up to the 60 mg/kg dose and is consistent with historical data. The serum concentrations at this dose are four times higher than in the 15mg/kg dose used in the Phase 2 trials. These safety and pharmacokinetic data of the Phase 1b dose escalation study support the continued treatment of patients with crenezumab at the higher dose of 60 mg/kg.

Phase 2 AD Prevention Study

In 2012, crenezumab was independently selected from among twenty five product candidates for use in the first-ever AD prevention study. The study, a USD 100 million collaboration between the NIH, Banner Alzheimer’s Institute and Genentech, is the cornerstone of the global Alzheimer’s Prevention Initiative. Crenezumab is being administered pre-symptomatically to 300 members of an extended Colombian family, of which 200 members carry a mutation that causes early-onset AD. Family members usually develop symptoms before the age of 45. The five-year study has cognitive endpoints. An interim analysis is possible according to the protocol, but the data and results of that analysis may not be made public due to patient sensitivity. The study commenced in the fourth quarter of 2013 and the data for primary outcome measures is expected in 2022.

Figure 19: Crenezumab AD prevention trial (API ADAD): Unique population to study prevention treatment



Ref: Lancet Neurology Lacosta-Baena 2011

Phase 3 Studies (CREAD 1 and 2)

The randomized, double-blind, placebo-controlled, parallel group Phase 3 study enrolled about 750 participants with prodromal or mild AD at the age of 50-85 years. A high dose of crenezumab (60mg/kg) was administered intravenously once every 4 weeks for 100 weeks. Primary outcome measure is change from baseline to week 105 in Clinical Dementia Rating - Sum of Boxes (CDR-SB) score. An exposure-response model to evaluate the best dose of crenezumab for the treatment of Alzheimer’s disease was established and predicted an improved outcome of the CREAD Phase 3 study by using the higher dose of 60mg/kg relative to the Phase 2 trials (Ref: Polhamus, et. al., CTAD 2016).

On January 30, 2019, we announced that Roche, the parent company of our collaboration partner, is discontinuing the CREAD 1 and CREAD 2 (BN29552 and BN29553) Phase III studies of crenezumab in people with prodromal to mild sporadic AD. The decision came after an interim analysis conducted by the IDMC indicated that crenezumab was unlikely to meet its primary endpoint of change from baseline in Clinical Dementia Rating-Sum of Boxes (CDR-SB) Score. This decision was not related to safety of the investigational product. No safety signals for crenezumab were observed in this analysis and the overall safety profile was similar to that seen in previous trials.

Crenezumab continues to be studied in a preventive trial, which began in 2013, of cognitively healthy individuals in Colombia with an autosomal dominant mutation who are at risk of developing familial AD (fAD), under the Alzheimer’s Prevention Initiative (API). This study will determine if treating people carrying this mutation with crenezumab prior to the onset of AD symptoms will slow or prevent the decline of cognitive and functional abilities. This study is conducted in collaboration with the Banner Institute and is funded by the National Institute on Aging.

ACI-24

ACI-24 is a vaccine candidate that is currently in a Phase 2 clinical study for AD after completing a Phase 1/2 clinical study in 2018. ACI-24 was developed utilizing our SupraAntigen platform, and is designed to stimulate a patient's immune system to produce antibodies that specifically target the misfolded Abeta conformer to prevent plaque accumulation and to enhance plaque clearance. Pre-clinical data demonstrated significant activity in plaque reduction and memory restoration. ACI-24 has a favorable safety profile, characterized by a lack of observed local inflammation and a mechanism of action independent of inflammatory T-cells. ACI-24 is fully owned by AC Immune and has been developed in-house.

Phase 1/2 Study

Phase 1/2 Study Design

To be considered a Phase 1/2 study, a study or part of it must include as a primary goal the assessment of efficacy in a patient population, assessed using either clinical endpoints or biomarkers. This is in contrast to a Phase 1 study where the primary goal typically includes only safety and pharmacokinetic or pharmacodynamic measures.

The Phase 1 part of the combined Phase 1/2 study is completed and the clinical study report will be finalized in 2019. The efficacy, tolerability and immunogenicity of ACI-24 were tested in mild to moderate AD patients with four different doses in a randomized, placebo controlled, double blind study. The different doses were tested via an ascending dose design in four consecutive cohorts with 12 patients each (9 on active, 3 on placebo treatment). ACI-24 was administered by subcutaneous injection with multiple injections per cohort. The initial safety follow-up period for two years has been shortened to one year mainly for the patients of the last cohort.

Phase 1 Study Data

Safety and tolerability

Due to the observed favorable safety profile, the treatment free safety follow-up period of the Phase 1 part of the study was shortened to one year. Fourteen serious adverse events were observed in the phase 1/2 study. All events were considered to be unrelated to study treatment and included one malignant colon polyp; one wound infection associated with a planned hip replacement; one radius fracture; an intra-abdominal cancer of unknown origin followed by death of the patient; one fall complicated by vertebral compression fracture; one case of acute chest pain; one death due to AD; one death considered to be due to complications from coronary artery disease; one case of pneumonia; one case of breast cancer; three successive episodes of pancreatitis in addition to gallstones in one patient; and an inguinal hernia in one patient. One additional serious adverse event unrelated to study treatment (urinary retention leading to a hospitalization) has been reported in the phase 2 study which is currently ongoing. Until now, the ACI-24 vaccine is considered as safe and well tolerated.

Antibody response

Antibody responses were only observed in the two higher dose groups of cohort 3 and 4 indicating a dose dependent effect of the vaccine. No IgG antibody response was observed in placebo treated patients of those cohorts.

PET Imaging and cognitive measures

While the study was not powered to examine efficacy, a dose-dependent trend of reduction in accumulation in brain amyloid measured by PET imaging was observed in cohorts 3 and 4.

Due to the safety profile and potential dose dependent reduction of amyloid plaques as measured by PET imaging, we have moved this program forward into a Phase 2 clinical trial which is currently ongoing. In order to optimize the immune response, the route of administration has been switched to intramuscular, since this route was associated with better antibody responses in a preclinical study.

Phase 2

Phase 2 Study Design

The aim of the Phase 2 double-blind, randomized, placebo-controlled adaptive design study is to assess the safety, tolerability, immunogenicity and target engagement of ACI-24 formulations in patients with mild AD. The trial will seek to confirm the positive trends on Abeta PET imaging observed in the previous Phase 1/2 study. The Phase 2 trial is being conducted in several European countries and the first dosing occurred in October 2018 via the intramuscular route of administration.

ACI-24 in Down syndrome

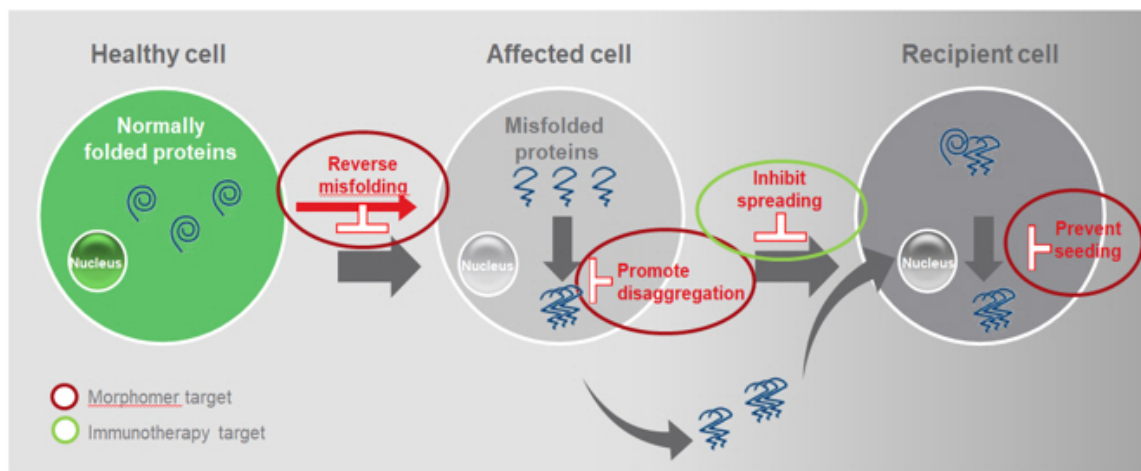
Individuals with Down syndrome (DS) have an extra copy of chromosome 21 where the gene for APP resides. These individuals have a rate of AD that is three to five times that of the general population and develop the disease at a much younger age. At autopsy, AD has been reported in 80% of people with DS over age 40 and 100% over age 60. Alzheimer’s-like characteristics develop in more than 98% of people with DS over the age of 40 with up to 80% developing associated dementia over the age of 60. It is estimated that there are 6 million people with DS worldwide, with 250,000 in the United States. Pre-clinical results published by AC Immune in collaboration with Dr. Mobley of the University of California, San Diego in March 2016, shows, in a DS mouse model (Ts65Dn), a significant 20% memory improvement and a 27% reduction of Abeta in the brain following vaccination with ACI-DS-01, the mouse equivalent of ACI-24.

A Phase 1b clinical trial (called the 3 Star study) is ongoing and evaluates the safety and tolerability of ACI-24, effect on induction of antibodies against Abeta, biomarkers for Abeta brain and CSF load in adult participants with DS. The study is being partially funded through a grant from the US National Institute on Ageing, a part of the US National Institutes of Health (NIH) with an additional grant from the LuMind Research Down Syndrome Foundation. The dose escalation study includes up to 24 participants across all cohorts, aged 25 to 45 and treated for 12 months, with a 12-month safety follow-up. The recruitment of adults with DS for the low dose cohort was completed in the third quarter of 2017 and for the high dose cohort in the third quarter of 2018. A favorable safety and tolerability profile has emerged as, to date, there are neither serious adverse events nor any early withdrawals from the study. Importantly, preliminary assessment of the low dose cohort for immunogenicity at over the 12 months demonstrates a specific anti-Abeta IgG response induced in actively treated DS subjects.

Tau Programs

Targeting both intracellular seeds and extracellular spreading by combination therapy of Morphomers and Immunotherapy could enable the full control of the Tau pathology progression. High selective Tau imaging diagnostic enables more precise patient characterization and potentially more precise prediction of AD progression.

Figure 20: AC Immune targets pathological Tau at key points in the disease pathway



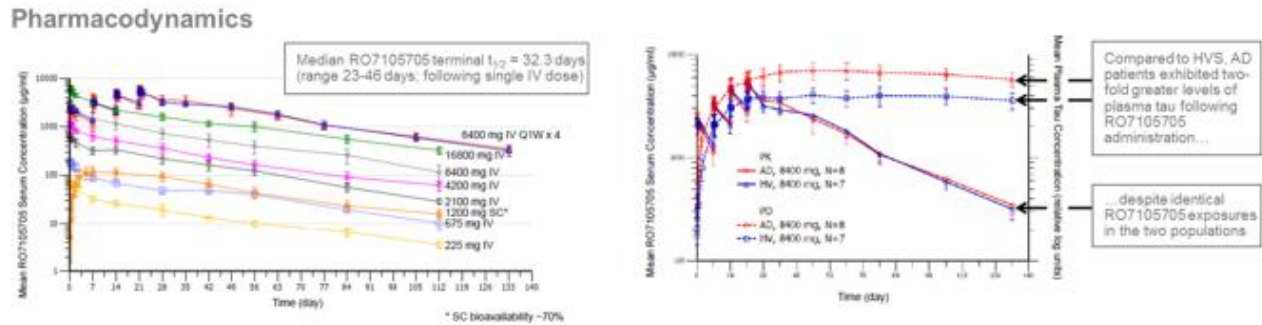
Anti-Tau Therapeutic Antibody Candidate

Our anti-Tau monoclonal antibody program generated humanized antibodies for use as passive immunotherapies that are highly specific for pathological forms of Tau found in AD brains and other Tauopathies. Results from pre-clinical studies demonstrated a significant reduction in pathological Tau with reduced effector function, meaning decreased ability to affect the function of Tau, as well as improvement of long-term spatial memory. The anti-Tau antibody program was out-licensed to Genentech in 2012. The anti-Tau monoclonal antibody, known as RG6100, was discovered and humanized as part of AC Immune’s collaboration with Genentech. It is an IgG4 isotype and in clinical development for the treatment of AD and other neurodegenerative diseases. It shows a high specificity for pathological Tau and is designed to intercept the cell-to-cell spread of pathological Tau in the extracellular space of the brain.

A Phase 1 clinical trial that involved 75 subjects and evaluated the safety, tolerability, pharmacokinetics and preliminary activity of RG6100 in people with mild-to-moderate AD and in healthy volunteers was completed in the second quarter of 2017. RG6100 was administered at single doses of up to 16,800 mg in healthy volunteers and multiple doses of 8,400 mg in healthy volunteers and patients with AD. The results of the Phase 1 clinical trial were presented at multiple conferences, including the AD/PD in Vienna (March 29-April 2, 2017), the AAIC in London (July 15-20, 2017) and the CTAD in Boston (November 1-4, 2017). No dose-limiting toxicities and no serious adverse events were observed. No participant withdrawals, modifications or interruptions due to an adverse event were reported.

RG6100 exhibited a dose proportional pharmacokinetic profile, indicated CNS exposure and showed a median half-life of 32.3 days. Plasma total Tau concentration increased with increasing drug doses and was 2 times greater in participants with AD than in healthy volunteers, suggesting a pharmacodynamic signal as shown in the figure below.

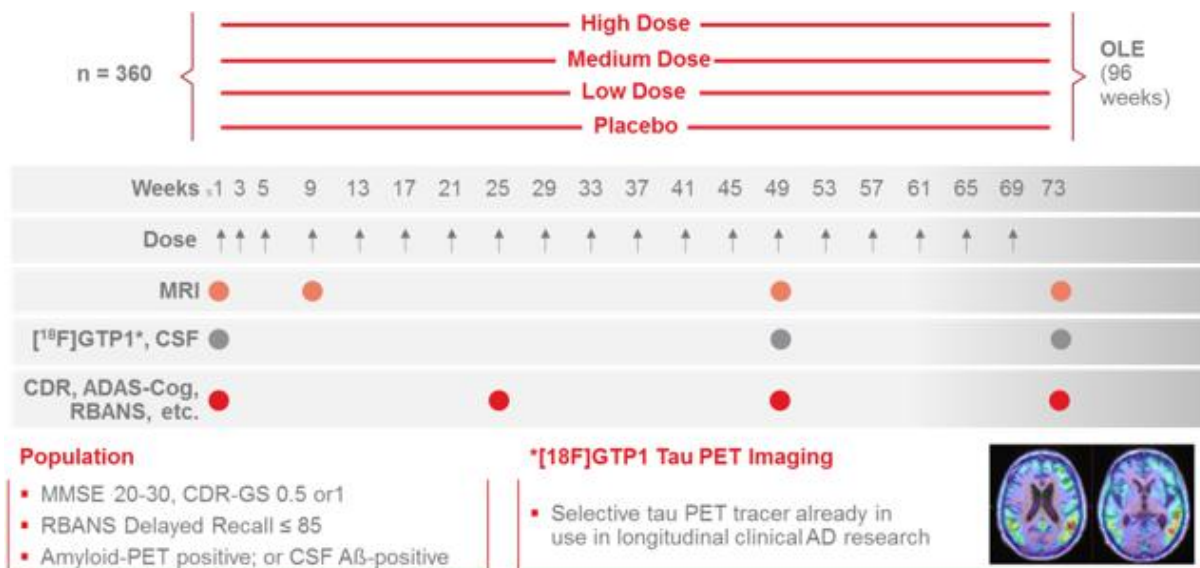
Figure 21: Anti-Tau antibody RG6100 (Phase 1 results)



Ref: Kerchner et. al, CTAD 2017

Following the completion of the Phase 1 clinical trial, a Phase 2 clinical trial commenced in the fourth quarter of 2017 and the dosing of the first patient triggered a milestone payment of CHF 14 million from Genentech to AC Immune. The trial is being conducted by Genentech and will enroll 360 patients to assess the safety, tolerability and efficacy of the anti-Tau monoclonal antibody RG6100 in people with prodromal-to-mild AD. Participants will receive one of three active doses or placebo for 72 weeks, followed by a 96-week optional open label extension. Primary endpoints include safety assessment and the composite functional and cognitive endpoint CDR (Clinical Dementia Rating scale) sum-of-boxes score. Change from baseline in Tau pathological burden is an exploratory endpoint. The design of the Phase 2 study is shown in the graph below.

Figure 22



Ref: Kerchner et. al, CTAD 2017

ACI-35

ACI-35 is a vaccine candidate directed against another key component of the pathology of AD: phosphorylated Tau proteins, or p-Tau, found in Tau tangles. ACI-35 was developed using our SupraAntigen technology and is designed to stimulate a patient's immune system to produce antibodies against the misfolded and phosphorylated pathogenic conformers of Tau protein that aggregate to create the neurofibrillary tangles that characterize AD. In pre-clinical testing, the vaccine candidate induced an antibody response that was highly specific to misfolded and phosphorylated Tau. This antibody response resulted in a significant reduction of phosphorylated Tau and an improvement in clinical parameters. ACI-35 is the first vaccine candidate against phosphorylated pathological Tau in a clinical study involving patients with mild to moderate AD. The first clinical study Phase 1b has been completed. A Phase 1b/2a study is currently in preparation and is planned to start in 2019. In 2014, we entered into a partnership with Janssen, a subsidiary of Johnson & Johnson, for the research, clinical development, manufacture and commercialization of ACI-35.

Phase 1b Study

Phase 1b Study Design

Safety, tolerability and immunogenicity of ACI-35 were tested in a Phase 1b study in mild to moderate AD patients. It was a randomized, placebo controlled double blind study, where ACI-35 was administered via subcutaneous injection. Different doses and dosing schedules were investigated in an ascending dose design. Multiple injections of ACI-35 were administered per cohort for active or placebo treatment in a three-to-one ratio.

Phase 1b Study Results

Safety

The safety and tolerability in the study was considered acceptable. As previously reported, five serious adverse events were observed in three patients during the clinical study of ACI-35. Acute pyelonephritis and dizziness were observed in one patient and sick sinus syndrome was reported for a second patient, and these were labeled as possibly related to the study drug due to the close timing proximity with the last administration of ACI-35. In the third patient, urosepsis and pyelonephritis were described and classified as unlikely to be related to the study drug. No death and no further serious adverse events were reported in this study. The only adverse events consistently reported were injection site reactions which occurred in a dose-dependent manner and were in all cases mild to moderate in severity, transient and self-limiting. In conclusion, the vaccine ACI-35 is considered to be safe and well tolerated with no events related to CNS inflammation.

Antibody response

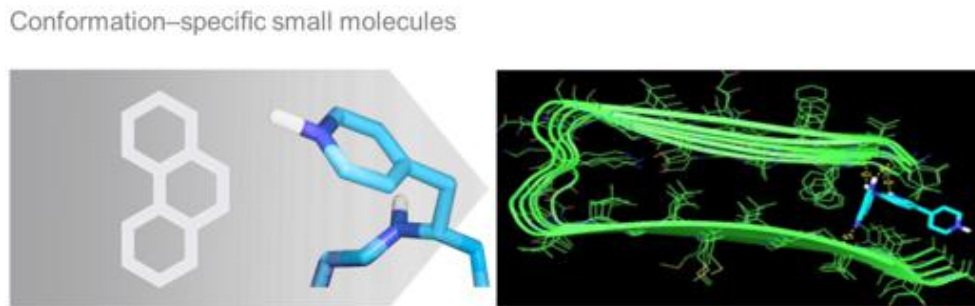
Analysis of the antibody response of the Phase 1b study demonstrated that ACI-35 elicited a rapid induction of anti-phosphorylated Tau after the first immunization in all study cohorts, indicating a T-cell independent antibody response which, however, lacked the boosting response desired for an optimal long-term and potentially preventive application. Therefore in a collaborative effort both research teams of AC Immune and Janssen have successfully developed a new generation of the anti-Tau vaccine. In non-human primates, the new formulation of the anti-Tau vaccine demonstrated a high and boostable antibody response.

Due to the encouraging data, AC Immune and Janssen jointly decided to advance different formulations of the anti-Tau vaccine program to the next stage of development. In a scientific advisory meeting, the regulatory authorities were highly supportive of a shortened pre-clinical development of those new second generation vaccines. These promising second generation vaccines are intended to be tested in the next Phase 1b/2a clinical study.

Pre-clinical Programs moving to Phase 1

Anti-Tau Morphomers: Morphomers are conformation-specific, non peptidic, small molecules designed to specifically recognize pathological misfolded and β -sheet-rich aggregated protein forms (Figure 23 below). Being small molecules, Morphomers show drug like properties including brain penetration and can enter cells to access intracellular deposits of aggregated proteins. AC Immune has built a robust proprietary library of around 4,750 Morphomers.

Figure 23: Morphomers derived of proprietary Morphomer platform



Approximately 1,000 Morphomers were screened so far for the Anti-Tau Morphomer program. This approach has enabled the identification of several chemical series of orally bioavailable small molecules with CNS properties which can specifically and potently bind to pathological Tau to prevent misfolding and promote disaggregation. Further optimization using multiple orthogonal *in vitro*, *ex-vivo* and *in vivo* tests addressing pharmacology, but also ADME and early safety properties has led to the identification of the lead candidate ACI-3024.

Lead characterization

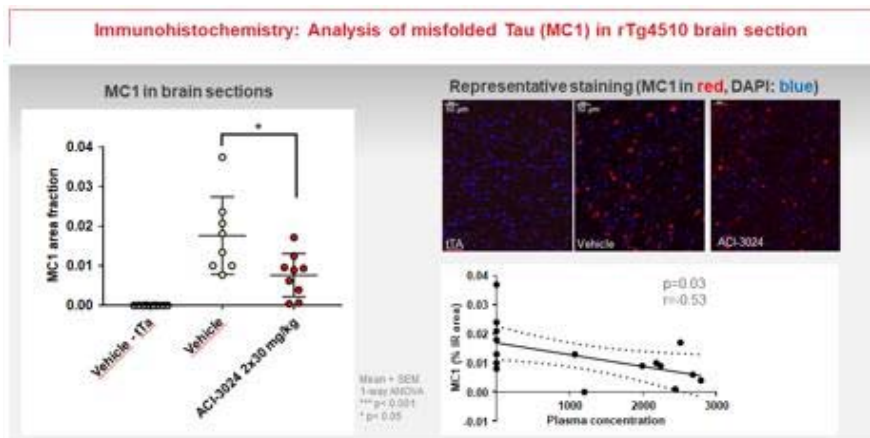
ACI-3024 was shown to be a potent inhibitor of Tau aggregation, not only on the Tau native form, but also on synthetic fibers derived from the six human Tau isoforms or from the four mutants containing common point mutation associated with human Tauopathies, such as FrontoTemporal Dementia-17 and Pick’s disease. ACI-3024 selectively binds to aggregated Tau but does not bind to the monomeric forms of Tau; moreover the binding to Tau is selective, with no cross-reactivity to Abeta and α -Synuclein.

ACI-3024 showed a potent and dose-dependent reduction in spontaneous intracellular Tau aggregation and misfolding as measured by immunocytochemistry in human neuronal-like cells over-expressing Tau. Furthermore ACI-3024 promoted *ex-vivo* disaggregation of Tau neurofibrillary tangles on human AD brain sections.

The *in vivo* efficacy of ACI-3024 was evaluated in the rTg4510 mouse model (Ramsden et al., 2005). *In vivo* treatment of Tg4510 transgenic mice with ACI-3024 significantly reduced aggregated and insoluble hyper-phosphorylated Tau. Immunohistochemistry analysis of misfolded Tau (MC1) in the Tg4510 brain section of the same mice treated with ACI-3024 showed a significant reduction of misfolded Tau (MC1). These effects were proportional to the plasma concentration of ACI-3024 (Figure 24 below).

Total Tau concentration in CSF was significantly correlated with ACI-3024 exposure in plasma and indicates an increase of Tau clearance from the brain, opening the possibility of exploring CSF Tau concentrations as a biomarker.

Figure 24: Assessment of ACI-3024 treatment effects on misfolded Tau



Ref: AC Immune unpublished data

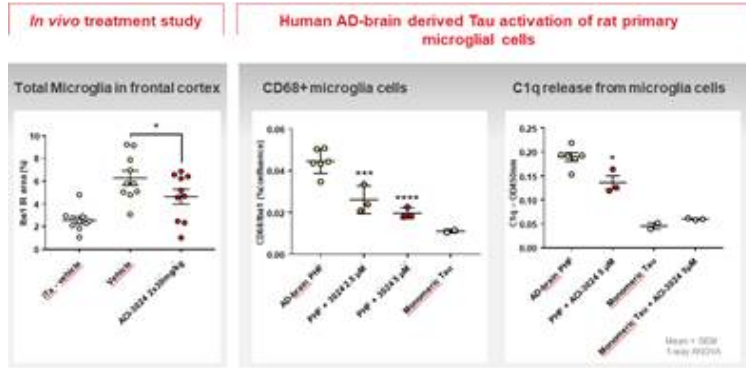
Preclinical safety

ACI-3024 has a good *in vitro* and *in vivo* ADME profile, including low clearance, long half-life and good CNS disposition as assessed by brain and CSF concentrations. ACI-3024 was negative in *in vitro* and *in vivo* genotoxicity assays (AMES, MNT and MLY) and has undergone an extensive toxicology and safety pharmacology assessment. The NOAEL has been established at 300 mg/kg in rodent and at 450 mg/kg in non-rodent after 4-week treatment (S. Poli - CTAD 2018).

Effect on neuroinflammation

ACI-3024 efficacy on pathological Tau-induced neuro-inflammation was assessed *in vitro* and *in vivo*. *In vitro*, ACI-3024 induced a potent reduction of Tau induced neuroinflammation markers (Figure 25 below). *In vivo*, in the rTg4510 mice, treatment with ACI-3024 overall reduced microgliosis, most likely as a downstream consequence of reducing Tau pathology, by reducing the derived pathological Tau induced-microglial activation (Figure 25 below).

Figure 25: ACI -3024’s effect on neuroinflammation



Ref: AC Immune unpublished data

Discovery Therapeutic Programs

Using our SupraAntigen and Morphomer platforms, we have generated additional discovery and pre-clinical stage molecules targeting neurodegenerative diseases, and diagnostics targeting Tau, alpha-synuclein and TDP-43. We currently have five therapeutic product candidates and two diagnostic product candidates in various stages of pre-clinical development. A number of our therapeutic product candidates in pre-clinical development are focused on indications outside of AD and evidence of our expansion strategy. Based on the data to date, our technology platforms can be applied to misfolded proteins across a broad range of indications. The table below lists four pre-clinical product candidates and the lead indication being pursued:

Product Candidate	Target	Lead Indication	Partner	Platform
Morphomer Abeta	Abeta	Glaucoma	N/A	Morphomer
Morphomer alpha-synuclein	alpha-synuclein	PD	N/A	Morphomer
Anti-alpha-synuclein antibody	alpha-synuclein	N/A	N/A	SupraAntigen
Anti-TDP-43 antibody	TDP-43	N/A	N/A	SupraAntigen

Morphomer Abeta: Our Morphomer Abeta product candidate is a small molecule that inhibits and disrupts Abeta propagation and aggregation, and is currently being evaluated for the treatment of glaucoma, where its anti-Abeta properties represent a novel mechanism of action for that disease. In pre-clinical testing, Morphomer Abeta demonstrated a strong ability to protect the eyes of rats exposed to increased ocular pressure and chronic ocular hypertension which are clinical features of glaucoma.

Morphomer alpha-synuclein: Our Morphomer alpha-synuclein product candidate is a small molecule that reduces the cytotoxicity of alpha-synuclein aggregates by a decrease in their beta sheet content. In pre-clinical studies, Morphomer alpha-synuclein significantly reduced *in vivo* the formation of alpha-synuclein pathological structures accompanied by improvement of a neuronal marker relevant to PD. Ongoing activities are focused on optimizing potency and pharmacokinetic properties and preparing compounds for pre-clinical development activities.

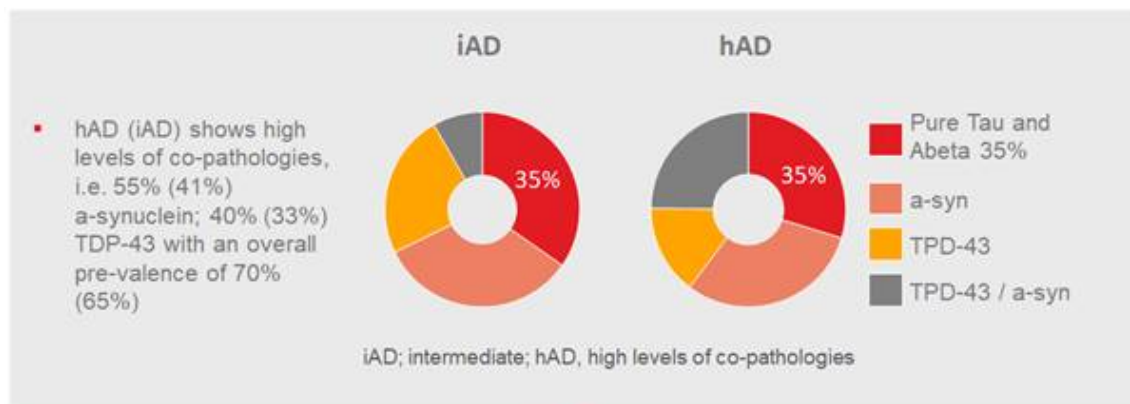
Anti-alpha-synuclein antibody and TDP-43 antibody: The two antibody programs targeting alpha-synuclein and TDP-43 were discovered using the SupraAntigen technology platform. Both antibody programs have unique binding properties allowing them to bind to unique epitopes of the pathological forms of alpha-synuclein and TDP-43, respectively. Alpha-synuclein is an established target for Parkinson’s disease and other Lewy body diseases, while TDP-43 is a recently identified target of growing interest for neuro-orphan indications such as Frontotemporal Lobar Degeneration. Interestingly, TDP-43 also plays an important role in other significant neurodegenerative indications such as AD.

Neuroinflammation: Neuroinflammation has been linked to the pathology associated with neurodegenerative diseases. Furthermore, scientists believe that neuroinflammatory biomarkers may aid in the early detection and monitoring of disease progress. Thus, in addition to our programs targeting proteinopathies, we are using our two proprietary platforms to generate molecules that may serve as therapeutics as well as diagnostic tools. Currently, we have five projects in the discovery stage with the first lead to advance into preclinical development in 2020.

Diagnostics

Scientists believe that early detection of neurodegenerative diseases is critical to enhancing the effectiveness of both symptomatic and disease-modifying therapies. As a result, therapeutic development for AD increasingly focuses on treating early stage disease to delay or prevent progression and to preserve the maximum amount of cognitive function before it is irreversibly lost. Most clinical studies now target mild or even pre-clinical stages of the disease increasing the need for accurate diagnosis that is independent of potentially subjective cognitive metrics. At least one study estimates that as many as one-third of patients in previous AD studies did not in fact have AD. Accurate and early diagnosis of AD is thus a substantial unmet market need, and diagnostic products will have a key role in generating a new treatment paradigm, including by selecting more uniform and stage-specific clinical study subjects, tracking patient progress and results, managing patients receiving treatment, and ultimately diagnosing disease at its earliest stage for immediate treatment.

Figure 26: The need of Precision Medicine in AD: High level of other proteinopathies and co-pathologies in AD



- The prevalence of co-pathologies in AD and other neurodegenerative diseases may indicate a need for different therapies at different stages
- Clinical trial participants may be better defined by their various proteinopathies
- Patient sub-classification may lead to improved clinical outcome
- Combination therapy may be the ultimate requirement

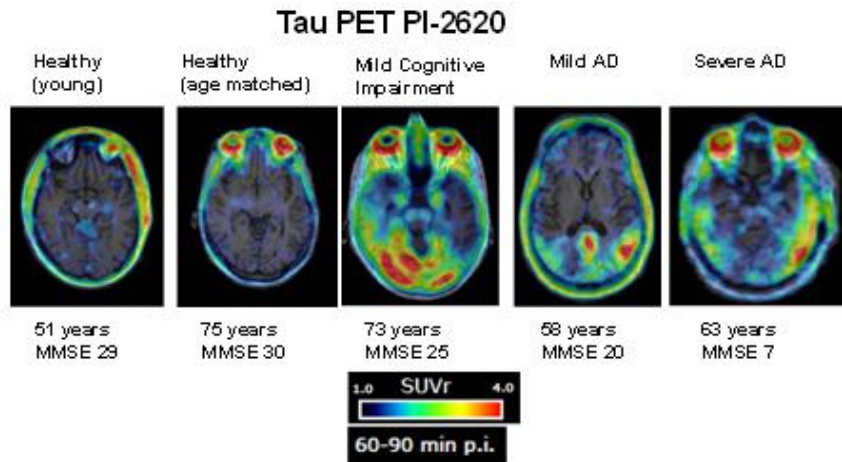
Ref: Adapted from Robinson, et. al., Brain, 2018

We are developing two diagnostic product candidates using our Morphomer technology platform. These product candidates are PET ligands that are tracers that can be used to target Tau, alpha-synuclein and TDP-43 aggregates. In May 2014, we established a license and collaboration agreement for our Tau-PET imaging program with Life Molecular Imaging. Life Molecular commenced a Phase 1 clinical study of the program in the fourth quarter of 2016. The Phase 1 clinical study of PI-2620 in AD was completed in the first quarter of 2018. An additional Phase 1 clinical study of PI-2620 in South Korea was initiated in the second quarter of 2018.

Our Tau-PET tracers are designed to bind specifically to the pathological forms of human Tau in AD and other Tauopathies. They have demonstrated an excellent PET tracer profile with their ability to cross the blood-brain barrier and a high selectivity to pathological Tau even in the early stage disease.

The severity of cognitive impairment in AD patients is correlated with the presence of Tau protein tangles, leading us to believe that an imaging agent for Tau is equally important. Our clinical candidate PI-2620 is selective for Tau over Abeta and other “off-target” binding when compared to current published Tau-PET agents in development as no binding to Abeta *in vivo* and no “off-target” retention in basal ganglia or choroid plexus was observed. In addition, PI-2620 can be readily radiolabeled with fluorine 18. While PET imaging has improved the diagnosis of AD by targeting Abeta, Tau imaging will further enhance the diagnosis of early AD. To date, there are no approved Tau tracers.

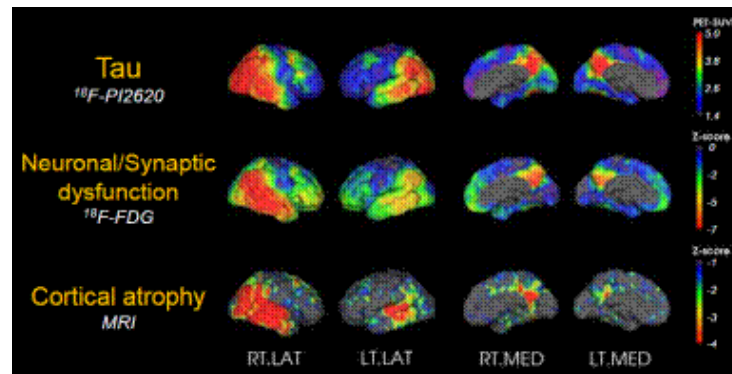
Figure 27: Selectivity of Tau Pet PI-2620



Ref: Stephens, A. et. al., ADPD 2018; Oden, F. et. al.; EMIM 2018

The PI-2620 Tau-PET data above shows that PI-2620 has high selectivity to pathological Tau aggregates with the absence of off-target binding as no age-related uptake in choroid plexus, striatum, amygdala, basal ganglia, or other regions is observed in healthy subjects. In contrast, Tau-typical distribution pattern is observed in MCI- and AD-subjects by PI-2620 PET.

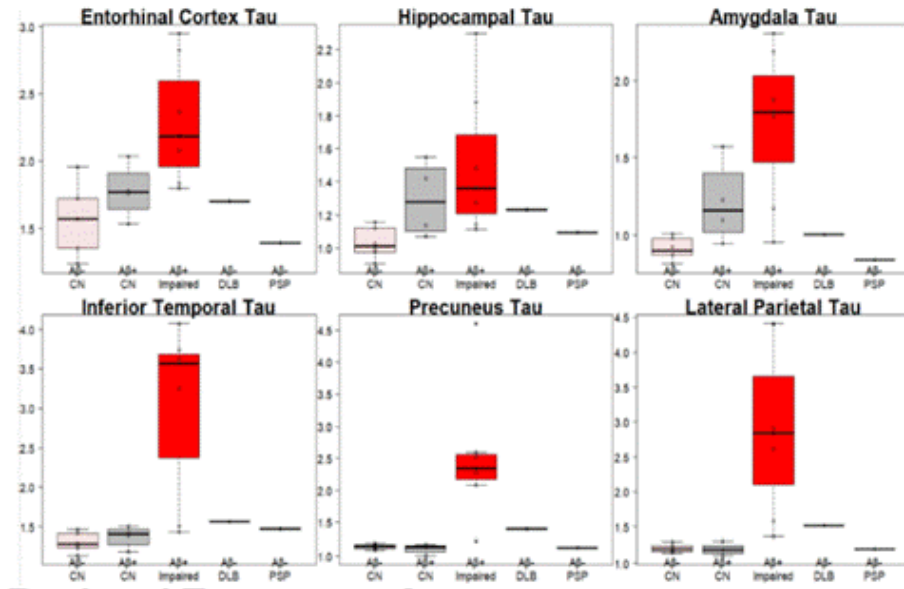
Figure 28: Correlation of PI-2620 Tau PET with glucose hypometabolism and brain atrophy in AD



Ref: Villemagne, VL et. al., SNMMI 2018

The PI-2620 retention in an AD patient (58 years; MMSE 23) above follows the known distribution of pathological Tau aggregates in the brain (higher in posterior areas than frontal) and is associated with glucose hypometabolism, grey matter atrophy and cognitive impairment.

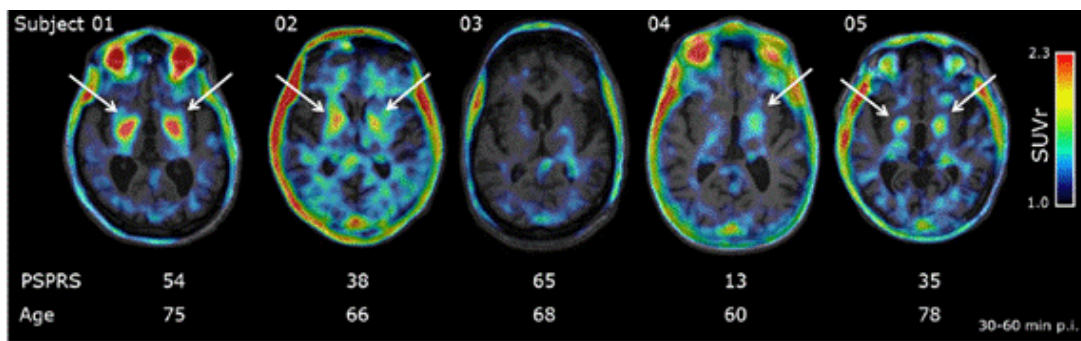
Figure 29: Cortical uptake of PI-2620 in amyloid positive patients



Ref: Mormino, EC. et. al., AAIC 2018;

The PI-2620 data (60-90 min p.i.) above indicates strong differences in the cortical uptake of amyloid positive, cognitive impaired, patients compared to age-matched cognitive normal (CN) subjects. Differences in PI-2620 uptake between cognitive normal subjects with or without amyloid are detected in medial temporal lobe regions. This suggests promise for PI-2620 to detect pathological Tau aggregates throughout the course of AD.

Figure 30: Uptake of PI-2620 in the Globus pallidus of PSP subjects



Ref: Bullich, S, et. al., HAI 2019

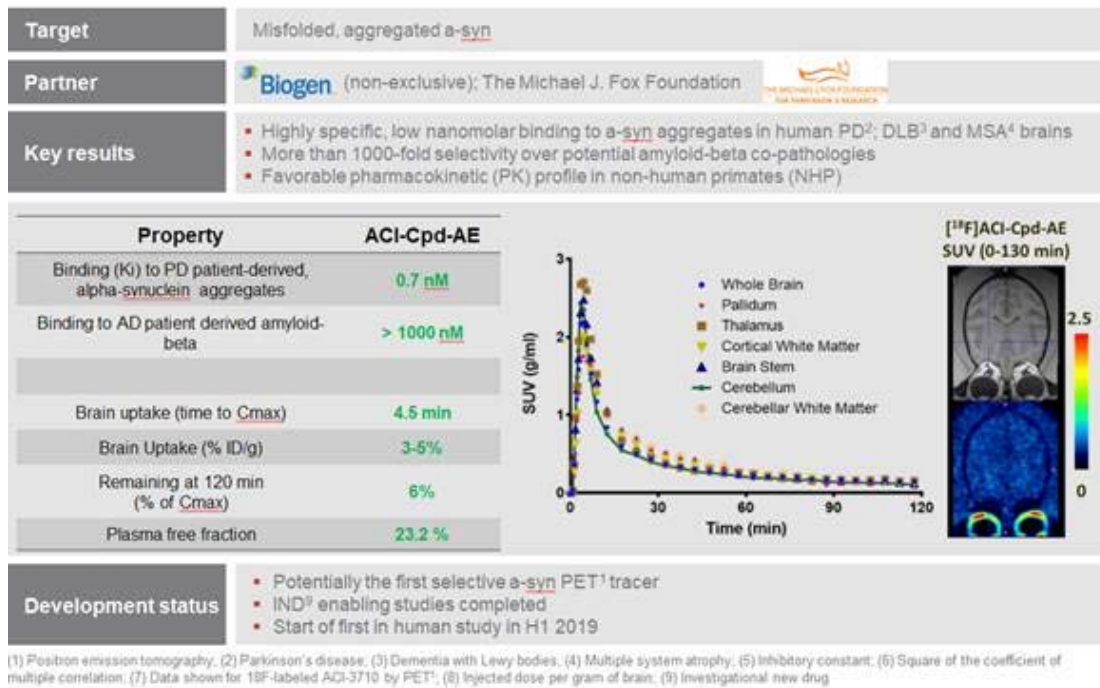
The data in the figure above shows PI-2620 PET data of 5 PSP subjects at the level of the pallidum (inferior cerebellar cortex as reference region). Four out of five PSP subjects show clearly increased uptake of PI-2620 in the globus pallidus in SUVR images obtained from 30-60 min p.i.. In contrast to AD, the optimal PET imaging window of PI-2620 in PSP patients is 30-60 min. The AD and PSP data demonstrate the ability to PI-2620 to bind to both 3R and 4R Tau aggregates in AD and non-AD tauopathy subjects, which is a distinct feature of PI-2620 compared to other Tau-PET tracers.

Data from the Tau-PET imaging program were presented at multiple conferences in 2018 and early 2019 including, the HAI conference in Miami (January 17-19, 2018), the AD/PD conference in Torino (March 15-18, 2018), the EMIM conference in San Sebastian (March 20-23, 2018), the SNMMI conference in Philadelphia (June 23-26, 2018), the ESMEC conference in Urbino (July 01-05, 2018), the AAIC conference in Chicago (July 22-26, 2018), and the CTAD conference in Barcelona (October 24-27, 2018), and the Human Amyloid Imaging conference in Miami (January 16-18, 2019).

AD diagnostics are a major market opportunity that will be driven by the growth in the aging population and the testing and availability of disease-modifying drugs. We believe a best-in-class Tau tracer has the potential to achieve a substantial market share in this large and growing market.

Alongside our AD diagnostics activities, we have a program targeting PET imaging agents for alpha-synuclein, an important protein involved in PD, and which progressively accumulates in structures in the PD brain. Scientists believe that the misfolding of alpha-synuclein is central to the neurodegenerative process of PD, as well as a number of other disorders, collectively called synucleinopathies, such as Lewy Body Dementia and Multiple System Atrophy, making it a priority target for development of therapeutics and diagnostics. We have identified molecules from our Morphomer library that stain selectively alpha-synuclein pathological structures in human PD brain sections with affinity in the low nanomolar range. Those molecules also have suitable properties for the development of PET ligands as evaluated in preclinical studies. Ongoing work to optimize the potency, selectivity and pharmacokinetics of these tracers is being funded by the Michael J. Fox Foundation for Parkinson’s Research and Biogen under the non-exclusive research and development agreement signed in April 2016. The collaboration with Biogen is expiring in April 2019. In September 2017 we were awarded a continuation of a February 2015 research grant from the Michael J. Fox Foundation for Parkinson’s Research. Following the successful completion of this grant extension in 2018, we received an additional grant in November 2018 to conduct a first-in-human (FIH) study in H1 2019. The current status of the program has been presented on the following conferences in 2018/2019: AAT-AD/PD Focus Meeting in Torino, the AAIC 2018 conference in Chicago and the Human-Amyloid Imaging conference in Miami.

Figure 31: Overview of our alpha-synuclein PET program and current clinical candidate profile



Ref: AC Immune unpublished data

Currently there are no imaging products in the market that target alpha-synuclein. This provides us with a unique opportunity to become the market leader in alpha-synuclein PET imaging. We believe the ability to image alpha-synuclein deposits in the brain will enable:

- The diagnosis of PD at much earlier premotor stages than is now possible, thereby enabling early therapeutic intervention and corresponding better patient outcomes;
- The use of alpha-synuclein as a surrogate marker in clinical studies of novel therapeutic regimens designed to slow or halt progression of PD; and
- The diagnosis of sub-populations of PD and other synucleinopathies.

These applications of alpha-synuclein PET imaging agents have the potential to fundamentally change the approach of treating PD and other similar diseases and we are planning to conduct a first-in-human study in H1 2019 with our most advanced lead molecule.

The PD market size is estimated to grow from USD 3.6 billion in 2012 to approximately USD 5.3 billion in 2022.

To complement our pipeline of PET imaging tracers, we selected Tar DNA-binding Protein (TDP-43) as a third target. TDP-43 in its physiological function is a protein participating in nucleic acid transport. As Abeta, Tau and alpha-synuclein, TDP-43 misfolds in TDP-43 proteinopathies into insoluble, beta-sheet rich aggregates in the cytoplasm of neurons leading to cellular dysfunction and eventually clinical symptoms. TDP-43 pathology often appears in other neurodegenerative diseases (e.g. AD) as a part of mixed pathologies and it has been proposed that misfolded TDP-43 contributes to the observed clinical phenotype in addition to the primary pathology. The precise molecular diagnosis and differentiation of early stages of such diseases is of critical importance.

There are no imaging products in the market today targeting TDP-43. This provides us with a unique opportunity to become the first company providing TDP-43-PET imaging to the market. We believe the ability to image TDP-43 deposits in the brain will enable:

- The diagnosis of primary TDP-43 proteinopathies such as FTD-TDP-43, AD and ALS and separation from other proteinopathies for targeted, early therapeutic intervention;
- The use of TDP-43 quantification as a biomarker in TDP-43 proteinopathies in clinical studies of novel therapeutic regimens designed to slow or halt disease progression; and
- The direct diagnosis of TDP-43 co-pathologies in other neurodegenerative diseases for patient segmentation.

The application of TDP-43 imaging agents has the potential to fundamentally change the approach of treating primary and secondary TDP-43 based proteinopathies to provide the best outcome for patients.

License Agreements and Collaborations

Our SupraAntigen and Morphomer platforms have generated large numbers of clinical assets that address diseases related to protein misfolding, such as AD, PD and Down syndrome. Select key assets in the product pipeline have been licensed for upfront payments, milestones and royalties to help offset the cost of our research and internal product development. Discussions with other companies are ongoing. We have signed a number of licensing agreements with leading pharmaceutical companies to assist and accelerate the development of our product pipeline, including:

- A worldwide licensing agreement with Genentech signed in November 2006 (and amended in May 2015) for crenezumab for AD, under which we may become eligible to receive payments potentially greater than USD 340 (CHF 339) million, excluding royalties.
- A worldwide licensing agreement with Genentech signed in June 2012 for anti-Tau antibodies for AD, under which we may become eligible to receive payments potentially greater than CHF 400 million, excluding royalties.
- A worldwide licensing agreement with Janssen signed in December 2014 (and amended in April 2016 and July 2017) for therapeutic anti-Tau vaccines for AD, and potentially other Tauopathies, under which we may become eligible to receive payments totaling up to CHF 500 million, excluding royalties.
- A worldwide licensing and collaboration agreement (“LCA”) with Life Molecular Imaging SA (formerly Piramal Imaging SA) signed in May 2014 for small molecule Tau ligands for use as PET tracers under which we may become eligible to receive payments totaling up to EUR 157 (CHF 179) million, excluding royalties.

- A non-exclusive research and development agreement with Biogen signed in April 2016 to collaborate in the research and early clinical development of our alpha-synuclein PET Tracer program for Parkinson's disease and other synucleinopathies, and a second program for the identification, research and development of novel PET ligands against TDP-43, a protein recently linked to neurodegeneration in diseases such as amyotrophic lateral sclerosis. This collaboration is expiring in April 2019. AC Immune has identified an alpha-synuclein PET lead candidate and will commence clinical development in H1 2019.
- AC Immune entered into a research collaboration agreement with Essex Bio-Technology Limited signed in May 2017 to collaborate in the research and early clinical development of a new therapeutic agent targeting basic Fibroblast Growth Factor for the treatment of neurodegenerative and neuroinflammatory diseases.
- AC Immune entered into a license agreement with Eli Lilly and Company to research and develop Tau Morphomer small molecules for the treatment of Alzheimer's disease and other neurodegenerative diseases in December 2018. The agreement was deemed effective on January 23, 2019. AC Immune may become eligible to receive payments up to approximately CHF 1.8 billion, excluding royalties.

Further information concerning details of AC Immune's agreements and collaborations can be found under Item 5: Operating and Financial Review and Prospects.

Competition

The biopharmaceuticals industry is highly competitive across all therapeutic fields. In the field of neurodegenerative diseases, there are many public and private companies or institutions that are actively engaged in the discovery and development of therapeutic and diagnostic products. Some of these products may have a similar target to our product candidates or address similar markets. The industry is still in its infancy in terms of defining the pathology of neurodegenerative diseases. As disease understanding progresses, the number of novel product candidates may well increase and broaden the therapeutic and diagnostic options in our product markets.

Currently, there are no approved disease-modifying products for AD or any other neurodegenerative disease. Current approved therapies seek to treat the symptoms of AD, such as cognitive decline, but do not slow or stop the progression of the disease. In addition, commonly, there is off-label prescription of antidepressant and antipsychotic agents for more advanced AD patients who may suffer from agitation, aggressive behaviors, psychosis and depression. No new drugs have been approved for the treatment of AD since 2003.

We expect there to be several classes of disease-modifying agents that will enter the AD market. One target for monoclonal antibodies is pathological Tau protein. Therapeutic vaccines are a second class of disease-modifying therapies, and include our candidate products ACI-24, that targets Abeta plaque, and ACI-35, that targets aggregated Tau protein.

The availability of novel diagnostic agents to visualize the disease development in AD patients is critical for successful clinical development of disease-modifying products in AD. At the forefront of this new diagnostic effort are PET agents for in-life imaging of disease, and in particular, Tau-targeting PET agents which we believe will allow precise assessment of disease AD patients.

Crenezumab: Crenezumab is the first monoclonal antibody candidate that targets Abeta in cognitively healthy individuals with risk of developing familial AD. However, Biogen's aducanumab, Lilly's solanezumab and Roche's gantenerumab are being evaluated in presymptomatic AD studies.

ACI-24 in AD: ACI-24, if approved, would compete with other approved anti-Abeta-targeting therapeutic vaccines. Several potential competing product candidates have not continued through the regulatory approval process, including ACC-001 (Janssen / Pfizer) and AN-1792 (Elan / Janssen), both of which were discontinued after completing Phase 2 studies. Other potential competing product candidates for ACI-24 include ABvac 40 (Araclon Bioscience) which is currently evaluated in a Phase 2 study; Novartis is currently conducting a Phase 2/3 study with CAD-106. Lundbeck is also currently evaluating Lu AF20513 in a Phase 1 clinical trial and United Therapeutics is developing UB311, which is in a Phase 2 study.

ACI-24 in Down syndrome: ACI-24 is the first disease-modifying vaccine candidate addressing AD in Down syndrome, with a potential preventive and therapeutic application. While there are symptomatic treatments of Down syndrome in clinical development, to our knowledge there are currently no other disease-modifying treatments in development for AD in Down syndrome.

ACI-35: ACI-35, if approved, would compete with other approved Tau-targeting therapeutic vaccines. This includes AADvac1, being advanced by Axon Neuroscience. It is an anti-Tau vaccine product candidate and is currently in a Phase 2 clinical trial to examine safety and efficacy in patients with mild AD.

Anti-Tau Antibodies: The anti-Tau antibody, designated RG6100 by Genentech, is one of several monoclonal antibodies in development targeting Tau to potentially act as disease-modifying agents. Biogen is evaluating BIIB092 (licensed from Bristol-Myers Squibb) in a Phase 2 clinical trial in PSP and AD. Abbvie is currently investigating ABBV-8E12 in AD and PSP in Phase 2 studies. BIIB-076 is currently developed by Biogen/Neuroimmune in phase 1 study in healthy volunteers and AD patients.

Morphomer Tau: AC Immune has developed the first small molecule targeting aggregated Tau with high selectivity for the target. The molecule will enter Phase 1 in 2019. To date, no other preclinical molecule with these characteristics is in development according to our information.

alpha-synuclein and TDP-43 antibodies: Several alpha-synuclein antibodies are currently in development; Biogen entered Phase 2 with BIIB054 in May 2017; Roche/Prothena entered Phase 2 with PRX002 in June 2017; and Astra Zeneca/Takeda is set to enter Phase 1 shortly with MEDI1341. To our knowledge, there are no TDP-43 antibodies in the clinic.

Diagnostics: Currently, there are no approved Tau-PET imaging products. However, should our Tau-PET imaging agent be approved, it would compete with other approved Tau-PET agents. These include (i) Flortaucipir (previously known as 18F-AV-1451 or T807), which is being advanced by Eli Lilly and is currently in Phase 3 clinical studies, (ii) APN-1607 (previously known as 18F-PM-PBB3), a product candidate in Phase 1 studies and being advanced by Aprinolia, (iii) Roche is evaluating 18F-RO6958948 in Phase 1 clinical studies in AD patients, (iv) Genentech is developing 18F-GTP1 in Phase 1 studies in AD patients (v) Cerveau is evaluating 18F-MK-6240 in Phase 1 clinical trials in AD patients and (vi) Janssen is evaluating 18F-JNJ-067 in Phase 1 clinical studies in AD patients.

Many of our competitors have significantly greater financial, technical and human resources than we have available. Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Our commercial opportunity and our success will be based in part on our ability to identify, develop and manage a portfolio of product candidates that are safer and more effective than competing products. However, this opportunity could be eroded or even eliminated if our competitors develop and/or market products that are novel and have superior safety and efficacy profiles, that may be brought to the market more rapidly due to greater available resources, or that are less costly than our current or future product candidates.

Commercialization Strategy

Our strategy to date has been to focus on identifying partnerships for our early stage product candidates as both a way to secure non-dilutive capital to fund our other research and development programs but also as a way to accelerate the development of these partnered products by leveraging our partners' extensive knowledge in clinical studies, drug development, manufacturing and commercialization.

With greater financial resources at our disposal but also given the significant knowledge acquired by our scientists and scientific leadership, we intend to retain selected promising product candidates in-house for a longer period of time and fund their development from our own resources. This will allow us to generate greater value from these product candidates, allowing us to demand more significant terms from a prospective partner. For example, our current plan is to retain full control of our two Abeta vaccine programs focused on AD and Down syndrome, meaning that we are funding the current Phase 2 study in AD and plan to do so in the subsequent clinical phases of the programs, from our financial resources. In the field of diagnostics, the parallel development of therapeutic compounds and companion diagnostics is of growing importance to the pharmaceutical industry. The development timeframe of a PET diagnostic agent is significantly shorter than for a therapeutic product providing the prospect for potential diagnostic product revenues to be realized quicker than potential therapeutic product revenues. Our Morphomer platform is particularly well suited to generate molecules for use in the development of companion diagnostics.

Given our current stage of product development, we currently do not have a commercialization infrastructure. If any of our diagnostic product candidates is granted marketing approval, we intend to focus our initial commercial efforts in the United States and select European markets, which we believe represent the largest market opportunities for us. In those markets, we expect our commercial operations to include our own specialty sales force that will target neurologists and gerontologists, both in hospitals and in private practice. In other markets, we expect to seek partnerships that would maximize our products' commercial potential.

In December 2018, AC Immune and WuXi Biologics entered into a memorandum of understanding governing the terms of a preferred partnership allowing AC Immune to leverage WuXi Biologics' capacities and capabilities in the manufacturing and supply of traditional and innovative New Biological Entities (NBE) against disorders of the CNS. Through this collaboration, AC Immune has priority access to WuXi Biologics' proprietary platforms, including the bispecific antibody platform WuXiBody™ and WuxiUP continuous manufacturing platform. In addition, WuXi Biologics is now a preferred partner of AC Immune for bioprocess development, as well as manufacturing for discovery, pre-clinical and clinical supply of AC Immune's NBE pipeline. Under the same agreement, the companies are exploring the use of AC Immune's platform to treat non-CNS diseases by identifying areas where AC Immune's antibody discovery platform could generate superior novel candidates. In addition, WuXi Vaccines, the vaccine arm of WuXi Biologics, are exploring enabling the application of AC Immune's vaccine portfolio.

Intellectual Property

We strive to protect the proprietary technology that we believe is important to our business, including seeking and maintaining U.S. and foreign patents intended to cover our products and compositions, their methods of use and processes for their manufacture, as well as our proprietary technology platforms, diagnostic candidates, and any other inventions that are commercially important to the development of our business. We also rely on trade secrets and know-how to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection.

Our success will significantly depend on our ability to obtain and maintain patent and other proprietary protection for commercially important technology, inventions and know-how related to our business, defend and enforce patents, preserve the confidentiality of our trade secrets and operate our business without infringing any patents and other intellectual property or proprietary rights of third parties. See the section titled "Risk Factors—Risks Related to Intellectual Property" for additional information.

As of December 31, 2018 we owned or co-owned approximately 31 issued U.S. patents and 275 issued patents in other jurisdictions, as well as 17 pending U.S. patent applications and 263 pending foreign patent applications. As of December 31, 2018 we licensed approximately 19 issued U.S. patents and 12 pending U.S. patent applications, as well as 194 issued patents in other jurisdictions and 196 pending foreign patent applications.

The patent portfolios for our most advanced product candidates as of December 31, 2018 are summarized below:

Crenezumab

Our patent portfolio relating to crenezumab includes patents and patent applications with claims directed to composition of matter (including claims directed to the crenezumab antibody or a fragment thereof, a polynucleotide encoding the crenezumab antibody or a fragment thereof, a cell line used to produce the crenezumab antibody as well as pharmaceutical compositions comprising the crenezumab antibody), claims directed to treating certain indications using the crenezumab antibody including AD, claims directed to a method of manufacturing the crenezumab antibody, and claims directed to diagnostic and prognostic uses of the crenezumab antibody.

Our patent portfolio relating to crenezumab includes patents and patent applications that we own or co-own in four different patent families. As of December 31, 2018, we owned or co-owned approximately 37 patents (not including the patents in the individual countries where the issued European patent was validated) and 35 patent applications in 34 countries in our main patent family directed to the crenezumab antibody and methods of using the crenezumab antibody to treat certain indications, including AD. This patent portfolio includes three issued U.S. patents and two pending U.S. patent applications, which, if the appropriate maintenance or other governmental fees are paid, are expected to expire in 2027, excluding any additional term for patent term adjustments or patent term extensions. This patent portfolio also includes a PCT patent application which was filed on July 13, 2007. If the appropriate maintenance, renewal, annuity, or other governmental fees are paid, national stage applications issuing from this PCT patent application are expected to expire in 2027, excluding any additional term for patent term adjustments or patent term extensions, as applicable.

ACI-24

Our patent portfolio for ACI-24 includes composition of matter claims (including claims directed to the ACI-24 antigenic construct) claims directed to treating certain indications using ACI-24 including AD, and claims directed to using ACI-24 to induce an immune response.

Our patent portfolio for ACI-24 consists of approximately 24 issued patents and 10 pending patent applications in 30 countries. With respect to the U.S., we own two issued U.S. patents.

The patents in this patent portfolio claim the benefit of a PCT application with a filing date of December 8, 2006. The issued patents in this patent portfolio, if the appropriate maintenance, renewal, annuity or other governmental fees are paid, are expected to expire in 2026, excluding any additional term for patent term adjustments or patent term extensions.

ACI-35

Our patent portfolio for ACI-35 includes composition of matter claims (including claims directed to the ACI-35 antigenic peptide and a pharmaceutical composition comprising such an antigenic peptide), claims directed to treating certain indications using ACI-35 including AD, and claims directed to using ACI-35 to induce an immune response.

Our patent portfolio for ACI-35 consists of approximately 19 issued patents and 11 pending patent applications in 27 countries. With respect to the U.S., we own one issued U.S. patent.

The patents in this patent portfolio claim the benefit of a PCT application with a filing date of April 1, 2010. The issued patents in this patent portfolio, if the appropriate maintenance, renewal, annuity or other governmental fees are paid, are expected to expire in 2030, excluding any additional term for patent term adjustments or patent term extensions.

Manufacturing and Supply

Background

The manufacturing and supply of the clinical study materials are currently done in collaboration with our collaboration partners (*e.g.* Genentech in case of crenezumab and anti-Tau antibody and Life Molecular Imaging in the case of Tau- PET imaging) or contract manufacturing organizations (*e.g.*, for ACI-35 and ACI-24) for the supply of raw materials, drug substances and drug products.

We have an established standard operating procedure to properly select the contract manufacturing organization to which the manufacturing tasks will be assigned. In the assessment, we consider the availability of the technical skills necessary to support the project, the business and commercial aspects related to the collaboration and the compliance of our providers with local and international regulations.

Collaboration Partners and Contract Manufacturing Organizations

Genentech, a leading biotech company with extensive experience in developing, producing and distributing products worldwide from pre-clinical to commercial stages of development, manufactures and supplies clinical study materials for anti-Tau antibody and crenezumab. Tau-PET imaging compounds are produced in collaboration with Life Molecular Imaging.

ACI-24 and ACI-35 APIs (active pharmaceutical ingredients) are produced by Bachem AG, which is an experienced company specialized in manufacturing synthetic peptides and based in Bubendorf, Switzerland. Drug products for the advancement of ACI-24 are manufactured by Polymun GmbH, a company based in Klosterneuburg, Austria with significant experience in developing and producing Liposomal formulations, while drug products for the advancement of ACI-35 are produced by Evonik Canada Inc., a company based in Vancouver, Canada with a strong and long experience in the field of liposomal formulation and production.

Compliance with Governing Rules and Quality Requirements

The facilities used by our collaboration partners and contract manufacturing organizations to manufacture our product candidates are systematically audited by local authorities and occasionally inspected by competent authorities where the clinical studies are ongoing. The facilities where the commercial productions are performed must be approved by the FDA or other relevant regulatory authorities pursuant to inspections that are conducted after we submit our NDA or comparable marketing applications. We perform periodic quality audits of the manufacturing facilities and contract manufacturing organizations to monitor their compliance with the regional laws, regulations and applicable cGMP standards and other laws and regulations, such as those related to environmental health and safety matters. The scope of our audits also involves monitoring the ability of our providers to maintain adequate quality controls and quality assurance systems including personnel qualification.

After manufacturing, our products are submitted to extensive characterization and quality control testing plans performed by using properly developed analytical methods that are qualified or validated; this ensures the accuracy of the results generated and provides evidence of the quality of our products. In addition, our products are submitted to detailed and standardized stability programs aimed at demonstrating the stability during the storage period; this, while it guarantees the safety of the products, supports the definition of a suitable supply chain that may encompass the distribution of the products in different continents.

Contractual framework

We have established, with contract manufacturing organizations supplying drug substances or drug products under GMP, quality agreements and manufacturing service agreements. Quality agreements define the quality standards required to develop, produce and supply the product. Quality agreements also define the responsibilities related to the collaboration with regards to the quality related aspects. Manufacturing service agreements, in turn, define the commercial and financial framework under which product manufacturing under GMP is performed. Any failure to achieve and maintain compliance with the laws, regulations and standards, suspension of the manufacturing of our product candidates or revoke of cGMP permissions which would adversely affect our business and reputation are defined in the master service agreements and quality agreements. The risk that any third-party providers may breach the agreements they have with us because of factors beyond our control and the possibility they may also terminate or refuse to renew their agreements because of their own financial difficulties or business priorities, potentially at a time that is costly or otherwise inconvenient for us is managed by us with constant investments toward maintaining reserve stocks and in-depth process know-how. The latter is supported by continuous in-house process development and production activities of small-scale/research grade materials that may offer the chance to rapidly identify alternative contract manufacturers to which the manufacturing process could be transferred providing continuity for the clinical study.

Interaction with collaboration partners and contract manufacturing organizations

Finally, our partnership with contract manufacturing organizations is managed through an efficient project management platform in which teams are formed with the representatives of each key function from both parties. Meetings occur either by telephone conferences aimed at updating short term actions or face-to-face when mid-long term development plans are discussed.

Government Regulation and Our Regulatory Department

Our regulatory department has a strong culture of regulatory compliance, operating under three guiding principles, to:

- Provide constructive regulatory input for development products;
- Ensure smooth regulatory approvals by anticipating hurdles; and
- Build confidence with regulators by continuous communication

The quality assurance group is included within the regulatory department with the mission to:

- Create and maintain a corporate quality management system; and
- Ensure GCP, GMP, GLP and GDP compliance

A science driven approach is the cornerstone of our interactions and this has helped us to build and maintain a high level of trust with regulators. Besides informal conversations with the authorities, our regulatory department has conducted several pre-IND meetings with the FDA (ACI-24 for AD and Down syndrome, and Tau-PET Imaging) and Scientific Advice meetings, which are the European equivalent of pre-IND meetings (with German PEI, Swedish Medical Products Agency; Medicine & Healthcare Products Regulatory Agency (UK), Finnish Medicines Agency, and the European Medicines Agency). Since 2008, our regulatory department has filed a total of twelve clinical trial applications (CTAs) in the EU (Austria, Denmark, Poland, two in Germany, two in Sweden, two in the UK and three in Finland) and two INDs in the US. Given the seriousness of AD and public pressure for new therapeutics, we consider regulatory agencies to be important stakeholders in our product development strategies. We are committed to working closely with global regulatory authorities to adhere to and achieve the highest levels of safety and quality of our product candidates in the most timely and efficient manner. The transparency we have achieved and our goal of a close working relationship with the regulatory agencies, in particular the FDA, are intended to facilitate expeditious execution through the regulatory approval process.

Our regulatory department contains a quality assurance (QA) group. As every quality issue ultimately requires regulatory involvement and input, this approach is intended to lead to rapid resolution of issues and ensure full compliance to satisfy both the reviewers and the inspectors at the government health authorities. Our regulatory department is charged with keeping our entire organization directly or indirectly involved in the clinical study application process in a state of “inspection readiness.” To that end, we ensure that the Trial Master Files are complete and regularly updated. Our regulatory department is also tasked with generating our annual quality plan. The personnel tasked with QA have issued a set of approximately 50 standard operating procedures and continuously train the relevant staff. Our QA personnel conduct regular audits, including in-person audits of the contract manufacturers, contract research organizations and laboratories conducting primary end-point analysis. In addition, we have a full time corporate documentation specialist to ensure good documentation practice.

Product Approval Process

The clinical studies, manufacturing, labeling, storage, distribution, record keeping, advertising, promotion, import, export and marketing, among other things, of our product candidates are subject to extensive regulation by governmental authorities in the United States and other countries. The U.S. Food and Drug Administration, or FDA, under the Federal Food, Drug, and Cosmetic Act, or FDCA, regulates pharmaceutical products in the United States. The steps required before a drug may be approved for marketing in the United States generally include:

- the completion of pre-clinical laboratory tests and animal tests conducted under Good Laboratory Practice, or GLP, regulations;
- the submission to the FDA of an Investigational New Drug, or IND, application for human clinical testing, which must become effective before human clinical studies commence;
- obtaining a positive opinion from the Ethics Committee (Europe) / Institutional Review Board (United States) to commence study on human subjects;
- the performance of adequate and well-controlled human clinical studies to establish the safety and efficacy of the product candidate for each proposed indication and conducted in accordance with current Good Clinical Practice, or cGCP, requirements;
- pre-New Drug Application (NDA) submission meeting with FDA (highly recommended);
- the submission to the FDA of a NDA;
- the FDA’s acceptance of the NDA;
- satisfactory completion of an FDA Pre-Approval Inspection (PAI) of the manufacturing facilities at which the product is made to assess compliance with current Good Manufacturing Practice, or cGMP, requirements;

- the FDA’s review and approval of an NDA prior to any commercial marketing or sale of the drug in the United States; and
- having a parallel scientific advice from the European Medicines Agency or Health-Technology-Assessment body where the payors are involved at the outset (Phase 2), which is intended to facilitate the design of clinical studies to primarily target populations with a high chance of obtaining reimbursement and accelerate the process of time-to-reimbursement.

The FDA has various programs, including fast track, priority review, accelerated approval, and breakthrough therapy designation, that are intended to increase agency interactions, expedite or facilitate the process for reviewing drug candidates, and/or provide for initial approval on the basis of surrogate endpoints. We believe that one or more of our product candidates may qualify for some of these expedited development and review programs. Even if a drug candidate qualifies for one or more of these programs, the FDA may later decide that the drug candidate no longer meets the conditions for qualification.

The Fast Track program is intended to expedite or facilitate the process for reviewing new drugs that meet certain criteria. Specifically, new drugs are eligible for Fast Track designation if they are designed to treat a serious or life-threatening condition and demonstrate the potential to address unmet medical needs for the condition. Fast Track designation applies to the combination of the product and the specific indication for which it is being studied. The sponsor of a new drug may request the FDA to designate the drug as a Fast Track product at any time during the clinical development of the product. AD, for example, meets both pre-requisites—it is life-threatening and constitutes an unmet medical need. Unique to a Fast Track product, the FDA may consider for review sections of the marketing application on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the application, the FDA agrees to accept sections of the application and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the application.

Any product submitted to the FDA for marketing, including under a Fast Track program, may be eligible for other types of FDA programs intended to expedite development and review, such as priority review and accelerated approval. Any product is eligible for priority review if it has the potential to provide safe and effective therapy where no satisfactory alternative therapy exists or a significant improvement in the treatment, diagnosis or prevention of a disease compared to marketed products. The FDA will attempt to direct additional resources to the evaluation of an application for a new drug designated for priority review in an effort to facilitate the review. Additionally, a product may be eligible for accelerated approval. Drug candidates studied for their safety and effectiveness in treating serious or life-threatening illnesses and that provide meaningful therapeutic benefit over existing treatments may receive accelerated approval, which means that they may be approved on the basis of adequate and well-controlled clinical studies establishing that the product has an effect on a surrogate endpoint that is reasonably likely to predict a clinical benefit, or on the basis of an effect on a clinical endpoint other than survival or irreversible morbidity. As a condition of approval, the FDA may require that a sponsor of a drug receiving accelerated approval perform adequate and well-controlled post-marketing clinical studies. Failure to conduct required post-approval trials, or the inability to confirm a clinical benefit during post-marketing trials, may allow the FDA to withdraw the drug from the market on an expedited basis. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product. Fast Track designation, priority review and accelerated approval do not change the standards for approval but may expedite the development or approval process.

The Food and Drug Administration Safety and Innovation Act of 2012 also amended the FDCA to require FDA to expedite the development and review of a breakthrough therapy. A drug can be designated as a breakthrough therapy if it is intended to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that it may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints. A sponsor may request that a drug be designated as a breakthrough therapy at any time during the clinical development of the product. If so designated, FDA shall act to expedite the development and review of the product’s marketing application, including by meeting with the sponsor throughout the product’s development, providing timely advice to the sponsor to ensure that the development program to gather nonclinical and clinical data is as efficient as practicable, involving senior managers and experienced review staff in a cross-disciplinary review, assigning a cross-disciplinary project lead for the FDA review team to facilitate an efficient review of the development program and to serve as a scientific liaison between the review team and the sponsor, and taking steps to ensure that the design of the clinical trials is as efficient as practicable.

The testing and approval process requires substantial time, effort and financial resources, and the receipt and timing of any approval is uncertain. Given this paradigm, AD has been given a Life Threatening Disease status by the FDA and therefore AD therapies are eligible for the expanded access program for investigational drugs and other pathways like Breakthrough Therapy, Accelerated Approval and Priority Review. Also, a single well-designed, well-conducted pivotal clinical study could be sufficient to trigger market approval pending a successful PAI.

Pre-clinical studies include laboratory evaluations of the product candidate, as well as animal studies to assess the potential safety and efficacy of the product candidate. The results of the pre-clinical studies, together with manufacturing information and analytical data, are submitted to the FDA as part of the IND, which must become effective before clinical studies may be commenced. The IND will become effective automatically 30 days after receipt by the FDA, unless the FDA raises concerns or questions about the conduct of the studies as outlined in the IND prior to that time. In this case, the IND sponsor and the FDA must resolve any outstanding concerns before clinical studies can proceed.

Clinical studies involve the administration of the product candidates to healthy volunteers or patients with the disease to be treated under the supervision of a qualified principal investigator. Clinical studies are conducted under protocols detailing, among other things, the objectives of the study, the parameters to be used in monitoring safety, and the efficacy criteria to be evaluated. A protocol for each clinical study and any subsequent protocol amendments must be submitted to the FDA as part of the IND. Further, each clinical study must be reviewed and approved by an independent institutional review board, or IRB, either centrally or individually at each institution at which the clinical study will be conducted. The IRB will consider, among other things, ethical factors, the safety of human subjects and the possible liability of the institution. There are also requirements governing the reporting of ongoing clinical studies and clinical study results to public registries. The FDA, the IRB or the clinical study sponsor may suspend or terminate clinical studies at any time on various grounds, including a finding that the subjects or patients are being exposed to an unacceptable health risk. Additionally, some clinical studies are overseen by an independent group of qualified experts organized by the clinical study sponsor, known as a data safety monitoring board or committee. This group provides authorization for whether or not a study may move forward at designated check points based on access to certain data from the study. We may also suspend or terminate a clinical study based on evolving business objectives and/or competitive climate.

Clinical studies are typically conducted in three sequential phases prior to approval, but the phases may overlap. These phases generally include the following:

Phase 1. Phase 1 clinical studies represent the initial introduction of a product candidate into human subjects, frequently healthy volunteers. In Phase 1, the product candidate is usually tested for safety, including adverse effects, dosage tolerance, absorption, distribution, metabolism, excretion and pharmacodynamics.

Phase 2. Phase 2 clinical studies usually involve studies in a limited patient population to (1) evaluate the efficacy of the product candidate for specific indications, (2) determine dosage tolerance and optimal dosage and (3) identify possible adverse effects and safety risks.

Phase 3. If a product candidate is found to be potentially effective and to have an acceptable safety profile in Phase 2 studies, the clinical study program will be expanded to Phase 3 clinical studies to further demonstrate clinical efficacy, optimal dosage and safety within an expanded patient population at geographically dispersed clinical study sites.

Phase 4 clinical studies are conducted after approval to gain additional experience from the treatment of patients in the intended therapeutic indication and to document a clinical benefit in the case of drugs approved under accelerated approval regulations, or when otherwise requested by the FDA in the form of post-market requirements or commitments. Failure to promptly conduct any required Phase 4 clinical studies could result in withdrawal of approval.

The results of pre-clinical studies and clinical studies, including negative or ambiguous results as well as positive findings, together with detailed information on the manufacture, composition and quality of the product, are submitted to the FDA in the form of an NDA requesting approval to market the product. The NDA must be accompanied by a significant user fee payment. The FDA has substantial discretion in the approval process and may refuse to accept any application or decide that the data is insufficient for approval and require additional pre-clinical, clinical or other studies.

We estimate that it generally takes 10 to 15 years, or possibly longer, to discover, develop and bring to market a new pharmaceutical product in the United States. Several years may be needed to complete each phase, including discovery, preclinical, Phase 1, 2 or 3, or marketing authorization.

In addition, under the Pediatric Research Equity Act, or PREA, an NDA or supplement to an NDA must contain data to assess the safety and effectiveness of the drug for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. Recently, the Food and Drug Administration Safety and Innovation Act, or FDASIA, which was signed into law on July 9, 2012, amended the FDCA. FDASIA requires that a sponsor who is planning to submit a marketing application for a drug or biological product that includes a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration submit an initial Pediatric Study Plan, within sixty days of an end-of-phase 2 meeting or as may be agreed between the sponsor and FDA. The initial Pediatric Study Plan must include an outline of the pediatric study or studies that the sponsor plans to conduct, including study objectives and design, age groups, relevant endpoints and statistical approach, or a justification for not including such detailed information, and any request for a deferral of pediatric assessments or a full or partial waiver of the requirement to provide data from pediatric studies along with supporting information. FDA and the sponsor must reach agreement on the Pediatric Study Plan. A sponsor can submit amendments to an agreed-upon initial Pediatric Study Plan at any time if changes to the pediatric plan need to be considered based on data collected from nonclinical studies, early phase clinical trials, and/or other clinical development programs.

The cost of preparing and submitting an NDA is substantial. Under federal law, NDAs are subject to substantial application user fees and the sponsor of an approved NDA is also subject to annual product and establishment user fees. Under the Prescription Drug User Fee Act, or PDUFA, as amended, each NDA must be accompanied by a user fee. The FDA adjusts the PDUFA user fees on an annual basis. PDUFA VI eliminates fees for supplements as well as for establishments, though applicants will be assessed annual prescription drug program fees for prescription drug products, rather than the prescription drug product fee assessed under the previous iteration of PDUFA. According to the FDA's fee schedule for the 2019 FY, the user fee for each NDA application requiring clinical data is USD 2,588,478 and the annual program fee is USD 309,915. Fee waivers or reductions are available in certain circumstances, including a waiver of the application fee for the first application filed by a small business. Additionally, no user fees are assessed on NDAs for products designated as orphan drugs, unless the product also includes a non-orphan indication.

Once the NDA submission has been submitted, the FDA has 60 days after submission of the NDA to conduct an initial review to determine whether it is sufficient to accept for filing. Under the Prescription Drug User Fee Act, or PDUFA, the FDA sets a goal date by which it plans to complete its review. This is typically 12 months from the date of submission of the NDA application. The review process is often extended by FDA requests for additional information or clarification. Before approving an NDA, the FDA will inspect the facilities at which the product is manufactured and will not approve the product unless the manufacturing facility complies with cGMPs and may also inspect clinical study sites for integrity of data supporting safety and efficacy. The FDA may also convene an advisory committee of external experts to provide input on certain review issues relating to risk, benefit and interpretation of clinical study data. The FDA is not bound by the recommendations of an advisory committee, but generally follows such recommendations in making its decisions. The FDA may delay approval of an NDA if applicable regulatory criteria are not satisfied and/or the FDA requires additional testing or information. The FDA may require post-marketing testing and surveillance to monitor safety or efficacy of a product.

After the FDA evaluates the NDA and conducts inspections of manufacturing facilities where the drug product and/or its API will be produced, it may issue an approval letter or a Complete Response Letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications. A Complete Response Letter indicates that the review cycle of the application is complete and the application is not ready for approval. A Complete Response Letter may require additional clinical data and/or an additional pivotal Phase 3 clinical study(ies), and/or other significant, expensive and time-consuming requirements related to clinical studies, pre-clinical studies or manufacturing. Even if such additional information is submitted, the FDA may ultimately decide that the NDA does not satisfy the criteria for approval. The FDA could also approve the NDA with a Risk Evaluation and Mitigation Strategy, or REMS, plan to mitigate risks, which could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. The FDA also may condition approval on, among other things, changes to proposed labeling, development of adequate controls and specifications, or a commitment to conduct one or more post-market studies or clinical studies. Such post-market testing may include Phase 4 clinical studies and surveillance to further assess and monitor the product's safety and effectiveness after commercialization.

Special Protocol Assessment

The FDA and an IND sponsor may agree in writing on the design and size of clinical studies intended to form the primary basis of a claim of effectiveness in an NDA. This process is known as a special protocol assessment, or SPA. Upon a specific request for a SPA by an IND sponsor, the FDA will evaluate the protocol. If a SPA agreement is reached, however, it is not a guarantee of product approval by the FDA or approval of any permissible claims about the product. The FDA retains significant latitude and discretion in interpreting the terms of the SPA agreement and the data and results from any study that is the subject of the SPA agreement. In particular, the SPA agreement is not binding on the FDA if previously unrecognized public health concerns later come to light, other new scientific concerns regarding product safety or efficacy arise, the IND sponsor fails to comply with the protocol agreed upon, or the relevant data, assumptions, or information provided by the IND sponsor when requesting a SPA agreement change, are found to be false statements or misstatements, or are found to omit relevant facts. A SPA agreement may not be changed by the sponsor or the FDA after the study begins except with the written agreement of the sponsor and the FDA, or if the FDA determines that a substantial scientific issue essential to determining the safety or effectiveness of the drug was identified after the testing began.

Orphan Drug Designation

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biological product intended to treat a rare disease or condition, which is a disease or condition that affects fewer than 200,000 individuals in the US, or if it affects more than 200,000 individuals in the US there is no reasonable expectation that the cost of developing and making a drug product available in the US for this type of disease or condition will be recovered from sales of the product. Orphan product designation must be requested before submitting an NDA. After the FDA grants orphan product designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan product designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product that has orphan designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications to market the same drug or biological product for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan exclusivity. The designation of such drug also entitles a party to financial incentives such as opportunities for grant funding towards clinical study costs, tax advantages and user-fee waivers. Competitors, however, may receive approval of different products for the indication for which the orphan product has exclusivity or obtain approval for the same product but for a different indication for which the orphan product has exclusivity. Orphan product exclusivity also could block the approval of one of our products for seven years if a competitor obtains approval of the same drug or biological product as defined by the FDA or if our drug candidate is determined to be contained within the competitor's product for the same indication or disease. If a drug product designated as an orphan product receives marketing approval for an indication broader than what is designated, it may not be entitled to orphan product exclusivity. Orphan drug status in the European Union has similar but not identical benefits in that jurisdiction.

Disclosure of Clinical Trial Information

Sponsors of clinical trials (other than Phase 1 trials) of FDA-regulated products, including drugs, are required to register and disclose certain clinical trial information. Information related to the product, comparator, patient population, phase of investigation, trial sites and investigators and other aspects of the clinical trial is made public as part of the registration. Sponsors are also obligated to disclose the results of their clinical trials after completion. Disclosure of the results of certain trials may be delayed until the new product or new indication being studied has been approved. However, there are evolving rules and increasing requirements for publication of trial-related information, and it is possible that data and other information from trials involving drugs that never garner approval could in the future be required to be disclosed. In addition, publication policies of major medical journals mandate certain registration and disclosures as a pre-condition for potential publication, even when this is not presently mandated as a matter of law. Competitors may use this publicly available information to gain knowledge regarding the progress of development programs.

Post-Approval Requirements

Drugs manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product distribution, advertising and promotion and reporting of adverse experiences with the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims are subject to prior FDA review and approval. There also are continuing, annual user fee requirements for any marketed products and the establishments at which such products are manufactured, as well as new application fees for supplemental applications with clinical data.

In addition, drug manufacturers and other entities involved in the manufacture and distribution of approved drugs are required to register their establishments with the FDA and state agencies, and are subject to periodic unannounced inspections by the FDA and these state agencies for compliance with cGMP requirements. Changes to the manufacturing process are strictly regulated and often require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting and documentation requirements upon the sponsor and any third-party manufacturers that the sponsor may decide to use. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance.

Once an approval is granted, the FDA may withdraw the approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical studies to assess new safety risks; or imposition of distribution or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- fines, warning letters or holds on post-approval clinical studies;
- refusal of the FDA to approve pending NDAs or supplements to approved NDAs, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Drugs may be promoted only for the approved indications and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

Patent Term Restoration and Marketing Exclusivity

Depending upon the timing, duration, and specifics of FDA approval of the use of our drug candidates, some of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Act. The Hatch-Waxman Act permits a patent term to be extended up to five years as compensation for patent term effectively lost due to the FDA's pre-market approval requirements. However, patent term restoration cannot extend the remaining term of a patent beyond a total of 14 years from the product's approval date. The patent term restoration period is generally one-half the time between the effective date of an IND and the submission date of an NDA, plus the time between the submission date of an NDA and the approval of that application, except that the review period is reduced by any time during which the applicant failed to exercise due diligence. Only one patent applicable to an approved drug is eligible for the extension. Extensions are not granted as a matter of right and the extension must be applied for prior to expiration of the patent and within a 60 day period from the date the product is first approved for commercial marketing. The U.S. Patent and Trademark Office, in consultation with the FDA, reviews and approves the application for any patent term extension or restoration. Where a product contains multiple active ingredients, if any one active ingredient has not been previously approved, it can form the basis of an extension of patent term provided the patent claims that ingredient or the combination.

In the future, we may apply for patent term restoration for some of our presently owned patents to add patent life beyond their current expiration date, depending on the expected length of clinical studies and other factors involved in the submission of the relevant NDA; however, there can be no assurance that any such extension will be granted to us.

The Biologics Price Competition and Innovation Act of 2009 provides up to twelve years of non-patent data exclusivity within the United States to the first applicant to gain approval of a BLA for a new biologic product that has not previously been approved by the FDA, which we refer to as a reference product. This twelve-year data exclusivity may prohibit the FDA from approving a biosimilar or interchangeable product of such reference product until twelve years after the licensure of such reference product. In addition, the FDA will not accept a biosimilar or interchangeable product application for review until four years after the date of first licensure of such reference product. Moreover, pediatric exclusivity, if granted, may add six months of exclusivity if the reference product has been studied with respect to a pediatric indication in accordance with certain regulatory requirements. A reference product may also be granted seven years of orphan-drug exclusivity for the treatment of a rare disease or condition under section 527(a) of FDCA, which would run in parallel with the twelve years of data exclusivity of the reference product, if applicable.

Non-U.S. Regulation

In order to market any product outside of the United States, we would need to comply with numerous and varying regulatory requirements of other countries and jurisdictions regarding quality, safety and efficacy and governing, among other things, clinical studies, marketing authorization, commercial sales and distribution of our products. Whether or not we obtain FDA approval for a product, we would need to obtain the necessary approvals by the comparable foreign regulatory authorities before we can commence clinical studies or marketing of the product in foreign countries and jurisdictions. Although many of the issues discussed above with respect to the United States apply similarly in the context of the European Union, the approval process varies between countries and jurisdictions and can involve additional product testing and additional administrative review periods, as described in greater detail below. The time required to obtain approval in other countries and jurisdictions might differ from and be longer than that required to obtain FDA approval. Regulatory approval in one country or jurisdiction does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country or jurisdiction may negatively impact the regulatory process in others.

European Union Drug Review Approval

In the European Economic Area, or EEA (which is comprised of the 28 Member States of the European Union plus Norway, Iceland and Liechtenstein), medicinal products can only be commercialized after obtaining a Marketing Authorization, or MA. There are two types of marketing authorizations: the Community MA, which is issued by the European Commission through the Centralized Procedure based on the opinion of the Committee for Medicinal Products for Human Use, or CHMP, a body of the EMA, and which is valid throughout the entire territory of the EEA; and the National MA, which is issued by the competent authorities of the Member States of the EEA and only authorizes marketing in that Member State's national territory and not the EEA as a whole.

The Centralized Procedure is compulsory for human medicines for the treatment of human immunodeficiency virus (HIV) or acquired immune deficiency syndrome (AIDS), cancer, diabetes, neurodegenerative diseases, auto-immune and other immune dysfunctions, and viral diseases; for veterinary medicines for use as growth or yield enhancers; for medicines derived from biotechnology processes, such as genetic engineering; for advanced-therapy medicines, such as gene-therapy, somatic cell-therapy or tissue-engineered medicines; and for officially designated 'orphan medicines' (medicines used for rare human diseases). The Centralized Procedure is optional for products containing a new active substance not yet authorized in the EEA, or for products that constitute a significant therapeutic, scientific or technical innovation or for products which are in the interest of public health in the European Union. The National MA is for products not falling within the mandatory scope of the Centralized Procedure. Where a product has already been authorized for marketing in a Member State of the EEA, this National MA can be recognized in another Member State through the Mutual Recognition Procedure. If the product has not received a National MA in any Member State at the time of application, it can be approved simultaneously in various Member States through the Decentralized Procedure. Under the Decentralized Procedure an identical dossier is submitted to the competent authorities of each of the Member States in which the MA is sought, one of which is selected by the applicant as the Reference Member State, or RMS. If the RMS proposes to authorize the product, and the other Member States do not raise objections, the product is granted a national MA in all the Member States where the authorization was sought. Before granting the MA, the EMA or the competent authorities of the Member States of the EEA make an assessment of the risk-benefit balance of the product on the basis of scientific criteria concerning its quality, safety and efficacy.

Regulation in the European Union

Product development, the regulatory approval process, and safety monitoring of medicinal products and their manufacturers in the European Union proceed in much the same manner as they do in the United States. Therefore, many of the issues discussed above apply similarly in the context of the European Union. In addition, drugs are subject to the extensive price and reimbursement regulations of the various European Union Member States.

Clinical Studies

As is the case in the United States, the various phases of pre-clinical and clinical research in the European Union are subject to significant regulatory controls. The Clinical Trials Directive 2001/20/EC, as amended (and which will be replaced from the end of May 2019 or later by Regulation (EU) No 536/2014) provides a system for the approval of clinical studies in the European Union via implementation through national legislation of the Member States. Under this system, approval must be obtained from the competent national authorities of the European Union Member States in which the clinical trial is to be conducted. Furthermore, a clinical trial may only be started after a competent ethics committee has issued a favorable opinion on the clinical trial application, which must be supported by an investigational medicinal product dossier with supporting information prescribed by the Clinical Trials Directive and corresponding national laws of the Member States and further detailed in applicable guidance documents. A clinical trial may only be undertaken if provision has been made for insurance or indemnity to cover the liability of the investigator or sponsor. In certain countries, the sponsor of a clinical trial has a strict (faultless) liability for any (direct or indirect) damage suffered by trial subjects. The sponsor of a clinical trial, or its legal representative, must be based in the European Economic Area. European regulators and ethics committees also require the submission of adverse event reports during a study and a copy of the final study report.

Marketing Approval

Marketing approvals under the European Union regulatory system may be obtained through a centralized or decentralized procedure. The centralized procedure results in the grant of a single marketing authorization that is valid for all (currently 28) European Union Member States and three EFTA members (Norway, Iceland, Liechtenstein).

Pursuant to Regulation (EC) No. 726/2004, as amended, the centralized procedure is mandatory for drugs developed by means of specified biotechnological processes, advanced therapy medicinal products, drugs for human use containing a new active substance for which the therapeutic indication is the treatment of specified diseases, including but not limited to acquired immune deficiency syndrome, neurodegenerative disorders, auto-immune diseases and other immune dysfunctions, as well as drugs designated as orphan drugs. The CHMP also has the discretion to permit other products to use the centralized procedure if it considers them sufficiently innovative or they contain a new active substance.

In the marketing authorization application, or MAA, the applicant has to properly and sufficiently demonstrate the quality, safety and efficacy of the drug. Under the centralized approval procedure, the CHMP, possibly in conjunction with other committees, is responsible for drawing up the opinion of the EMA on any matter concerning the admissibility of the files submitted in accordance with the centralized procedure, such as an opinion on the granting, variation, suspension or revocation of a marketing authorization, and pharmacovigilance.

The CHMP and other committees are also responsible for providing guidelines and have published numerous guidelines that may apply to our product candidates. These guidelines provide additional guidance on the factors that the EMA will consider in relation to the development and evaluation of drug products and may include, among other things, the pre-clinical studies required in specific cases; and the manufacturing and control information that should be submitted in a MAA; and post-approval measures required to monitor patients and evaluate the long term efficacy and potential adverse reactions. Although these guidelines are not legally binding, we believe that our compliance with them is likely necessary to gain approval for any of our product candidates.

The maximum timeframe for the evaluation of an MAA by the CHMP under the centralized procedure is 210 days after receipt of a valid application. This period will be suspended until such time as the supplementary information requested by the CHMP, has been provided by the applicant. Likewise, this time-limit will be suspended for the time allowed for the applicant to prepare oral or written explanations. When an application is submitted for a marketing authorization in respect of a drug which is of major interest from the point of view of public health and in particular from the viewpoint of therapeutic innovation, the applicant may request an accelerated assessment procedure. If the CHMP accepts such request, the time-limit of 210 days will be reduced to 150 days but it is possible that the CHMP can revert to the standard time-limit for the centralized procedure if it considers that it is no longer appropriate to conduct an accelerated assessment.

If the CHMP concludes that the quality, safety and efficacy of the product are sufficiently proven, it adopts a positive opinion. This is sent to the European Commission which drafts a decision. After consulting with the Member States, the European Commission adopts a decision and grants a marketing authorization, which is valid for the whole of the European Economic Area, or EEA. The marketing authorization may be subject to certain conditions, which may include, without limitation, the performance of post-authorization safety and/or efficacy studies.

The EMA has various programs, including accelerated assessment, conditional approval, and PRIME, which are intended to increase agency interactions, expedite or facilitate the process for reviewing drug candidates, and/or provide for initial approval on the basis of surrogate endpoints. One or more of our product candidates may qualify for some of these expedited development and review programs. Even if a drug candidate qualifies for one or more of these programs, the EMA may later decide that the drug candidate no longer meets the conditions for qualification. Eligibility to the PRIME scheme is limited to products considered to offer a major therapeutic advantage in high unmet need populations. PRIME is a voluntary scheme aimed at enhancing interaction and early dialogue with developers of promising medicines through the early appointment of the product Rapporteur, optimizing development plans and speeding up evaluation so these medicines can reach patients earlier. Products benefiting from PRIME can expect to be eligible for accelerated assessment at the time of application for an MAA.

European Union legislation also provides for a system of regulatory data and market exclusivity. According to Article 14(11) of Regulation (EC) No. 726/2004, as amended, and Article 10(1) of Directive 2001/83/EC, as amended, upon receiving marketing authorization, new chemical entities approved on the basis of a complete independent data package benefit from eight years of data exclusivity and an additional two years of market exclusivity. Data exclusivity prevents regulatory authorities in the European Union from referencing the innovator's data to assess a generic (abbreviated) application. During the additional two-year period of market exclusivity, a generic marketing authorization can be submitted, and the innovator's data may be referenced, but no generic medicinal product can be marketed until the expiration of the market exclusivity. The overall ten-year period will be extended to a maximum of eleven years if, during the first eight years of those ten years, the marketing authorization holder, or MAH, obtains an authorization for one or more new therapeutic indications which, during the scientific evaluation prior to their authorization, are held to bring a significant clinical benefit in comparison with existing therapies. Even if a compound is considered to be a new chemical entity and the innovator is able to gain the period of data exclusivity, another company nevertheless could also market another version of the drug if such company obtained marketing authorization based on an MAA with a complete independent data package of pharmaceutical test, pre-clinical tests and clinical studies. However, products designated as orphan medicinal products enjoy, upon receiving marketing authorization, a period of 10 years of orphan market exclusivity. See also “—Orphan Drug Regulation” below. Depending upon the timing and duration of the EU marketing authorization process, products may be eligible for up to five years' supplementary protection certification, or SPC, pursuant to Regulation (EC) No. 469/2009. Such SPCs extend the rights under the basic patent for the drug.

In the EU, the pediatric regulation (Regulation (EC) No 1901/2006 as amended) requires sponsors to submit a pediatric investigation plan at the end of Phase I. This plan will provide the details of the quality, non-clinical and clinical studies required to support the authorization of a pediatric indication. Additional rules apply to medicinal products for pediatric use under Regulation (EC) No. 1901/2006. Potential incentives include a six-month extension of any supplementary protection certificate granted pursuant to Regulation (EC) No. 469/2009, but not in cases in which the relevant product is designated as orphan medicinal products pursuant to Regulation (EC) No. 141/2000, as amended. Instead, medicinal products designated as orphan medicinal product may enjoy an extension of the ten-year market exclusivity period granted under Regulation (EC) No. 141/2000 to twelve years subject to the conditions applicable to orphan drugs.

Orphan Drug Regulation

In the European Union, Regulation (EC) No. 141/2000, as amended, states that a drug will be designated as an orphan drug if its sponsor can establish:

- that it is intended for the diagnosis, prevention or treatment of a life-threatening or chronically debilitating condition affecting not more than five in ten thousand persons in the Community when the application is made, or that it is intended for the diagnosis, prevention or treatment of a life-threatening, seriously debilitating or serious and chronic condition in the European Union and that without incentives it is unlikely that the marketing of the drug in the European Union would generate sufficient return to justify the necessary investment; and
- that there exists no satisfactory method of diagnosis, prevention or treatment of the condition in question that has been authorized in the European Union or, if such method exists, that the drug will be of significant benefit to those affected by that condition.

Regulation (EC) No. 847/2000 sets out further provisions for implementation of the criteria for designation of a drug as an orphan drug. An application for the designation of a drug as an orphan drug must be submitted at any stage of development of the drug before filing of a marketing authorization application.

If a European Union-wide community marketing authorization in respect of an orphan drug is granted or if all the European Union Member States have granted marketing authorizations in accordance with the procedures for mutual recognition, the European Union and the Member States will not, for a period of 10 years, accept another application for a marketing authorization, or grant a marketing authorization or accept an application to extend an existing marketing authorization, for the same therapeutic indication, in respect of a similar drug. This period may however be reduced to six years if, at the end of the fifth year, it is established, with respect to the drug concerned, that the criteria for orphan drug designation are no longer met, in other words, when it is shown on the basis of available evidence that the product is sufficiently profitable not to justify maintenance of market exclusivity. Notwithstanding the foregoing, a marketing authorization may be granted, for the same therapeutic indication, to a similar drug if:

- the holder of the marketing authorization for the original orphan drug has given its consent to the second applicant;
- the holder of the marketing authorization for the original orphan drug is unable to supply sufficient quantities of the drug; or
- the second applicant can establish in the application that the second drug, although similar to the orphan drug already authorized, is safer, more effective or otherwise clinically superior.

Other incentives available to orphan drugs in the European Union include financial incentives such as a reduction of fees or fee waivers and protocol assistance. Orphan drug designation does not shorten the duration of the regulatory review and approval process.

Manufacturing and Manufacturers' License

Pursuant to Directive 2003/94/EC, as transposed into the national laws of the Member States, the manufacturing of investigational medicinal products and approved drugs is subject to a separate manufacturer's license and must be conducted in strict compliance with cGMP requirements, which mandate the methods, facilities, and controls used in manufacturing, processing, and packing of drugs to assure their safety and identity. Manufacturers must have at least one qualified person permanently and continuously at their disposal. The qualified person is ultimately responsible for certifying that each batch of finished product released onto the market has been manufactured in accordance with cGMP and the specifications set out in the marketing authorization or investigational medicinal product dossier. cGMP requirements are enforced through mandatory registration of facilities and inspections of those facilities. Failure to comply with these requirements could interrupt supply and result in delays, unanticipated costs and lost revenues, and subject the applicant to potential legal or regulatory action, including but not limited to warning letters, suspension of manufacturing, seizure of product, injunctive action or possible civil and criminal penalties.

Wholesale Distribution and License

Pursuant to Directive 2001/83/EC, the wholesale distribution of medicinal products is subject to the possession of an authorization to engage in activity as a wholesaler in medicinal products. Possession of a manufacturing authorization includes authorization to distribute by wholesale the medicinal products covered by that authorization. The distribution of medicinal products must comply with the principles and guidelines of good distribution practices, or GDP.

Advertising

In the European Union, the promotion of prescription medicines is subject to intense regulation and control, including EU and national legislation as well as self-regulatory codes (industry codes). Advertising legislation inter alia includes a prohibition on direct-to-consumer advertising. All prescription medicines advertising must be consistent with the product's approved summary of products characteristics, and must be factual, accurate, balanced and not misleading. Advertising of prescription medicines pre-approval or off-label is not allowed. Some jurisdictions require that all promotional materials for prescription medicines be subjected to either prior internal or regulatory review and approval.

Other Regulatory Requirements

A marketing authorization holder, or MAH, for a medicinal product is legally obliged to fulfill a number of obligations by virtue of its status as an MAH. The MAH can delegate the performance of related tasks to third parties, such as distributors or marketing partners, provided that this delegation is appropriately documented and the MAH maintains legal responsibility and liability.

The obligations of an MAH include:

Manufacturing and batch release—MAHs should guarantee that all manufacturing operations comply with relevant laws and regulations, applicable good manufacturing practices, with the product specifications and manufacturing conditions set out in the marketing authorization and that each batch of product is subject to appropriate release formalities.

Availability and continuous supply—Pursuant to Directive 2001/83/EC, as transposed into the national laws of the Member States, the MAH for a medicinal product and the distributors of the said medicinal product actually placed on the market in a Member State shall, within the limits of their responsibilities, ensure appropriate and continued supplies of that medical product to pharmacies and persons authorized to supply medicinal products so that the needs of patients in the Member State in question are covered.

Pharmacovigilance—MAHs are obliged to establish and maintain a pharmacovigilance system, including a qualified person responsible for oversight, submit safety reports to the regulators and comply with the good pharmacovigilance practice guidelines adopted by the EMA.

Advertising and promotion—MAHs remain responsible for all advertising and promotion of its products, including promotional activities by other companies or individuals on their behalf and in some cases must conduct internal or regulatory pre-approval of promotional materials. Regulation in this area also covers interactions with healthcare practitioners and/or patient groups, and in some jurisdictions legal or self-regulatory obligations to disclose such interactions exist.

Medical affairs/scientific service—MAHs are required to disseminate scientific and medical information on its medicinal products to healthcare professionals, regulators and patients. Legal representation and distributor issues. MAHs are responsible for regulatory actions or inactions of their distributors and agents.

Preparation, filing and maintenance of the application and subsequent marketing authorization—MAHs must maintain appropriate records, comply with the marketing authorization's terms and conditions, fulfill reporting obligations to regulators, submit renewal applications and pay all appropriate fees to the authorities. We may hold any future marketing authorizations granted for our product candidates in our own name, or appoint an affiliate or a collaboration partner to hold marketing authorizations on our behalf. Any failure by an MAH to comply with these obligations may result in regulatory action against an MAH and ultimately threaten our ability to commercialize our products.

Price and Reimbursement

In the European Union, the pricing and reimbursement mechanisms by private and public health insurers vary largely by country and even within countries. The public systems reimbursement for standard drugs is determined by guidelines established by the legislator or responsible national authority. The approach taken varies by Member State. Some jurisdictions operate positive and negative list systems under which products may only be marketed once a reimbursement price has been agreed. Other Member States allow companies to fix their own prices for medicines, but monitor and control company profits and may limit or restrict reimbursement. The downward pressure on healthcare costs in general, particularly prescription drugs, has become very intense. As a result, increasingly high barriers are being erected to the entry of new products and some of EU countries require the completion of studies that compare the cost-effectiveness of a particular product candidate to currently available therapies in order to obtain reimbursement or pricing approval. Special pricing and reimbursement rules may apply to orphan drugs. Inclusion of orphan drugs in reimbursement systems tend to focus on the medical usefulness, need, quality and economic benefits to patients and the healthcare system as for any drug. Acceptance of any medicinal product for reimbursement may come with cost, use and often volume restrictions, which again can vary by country. In addition, results based rules of reimbursement may apply.

Other Healthcare Laws

In addition to FDA restrictions on marketing of pharmaceutical products, federal and state healthcare laws restrict certain business practices in the biopharmaceutical industry. These laws include, but are not limited to, anti-kickback, false claims, data privacy and security, and transparency statutes and regulations.

The federal Anti-Kickback Statute prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving remuneration, directly or indirectly, to induce, or in return for, purchasing, leasing, ordering or arranging for the purchase, lease or order of any good, facility, item or service reimbursable under Medicare, Medicaid or other federal healthcare programs. The term “remuneration” has been broadly interpreted to include anything of value, including for example, gifts, discounts, the furnishing of supplies or equipment, credit arrangements, payments of cash, waivers of payment, ownership interests and providing anything at less than its fair market value. The Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on one hand and prescribers, purchasers and formulary managers on the other. Although there are a number of statutory exceptions and regulatory safe harbors protecting certain common activities from prosecution, the exceptions and safe harbors are drawn narrowly, and our practices may not in all cases meet all of the criteria for a statutory exception or safe harbor protection. Practices that involve remuneration that may be alleged to be intended to induce prescribing, purchases or recommendations may be subject to scrutiny if they do not qualify for an exception or safe harbor. Failure to meet all of the requirements of a particular applicable statutory exception or regulatory safe harbor does not make the conduct per se illegal under the Anti-Kickback Statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all of its facts and circumstances. Several courts have interpreted the statute’s intent requirement to mean that if any one purpose of an arrangement involving remuneration is to induce referrals of federal healthcare covered business, the statute has been violated. The Patient Protection and Affordable Care Act as amended by the Health Care and Education Reconciliation Act, or collectively, PPACA, amended the intent requirement under the Anti-Kickback Statute and criminal healthcare fraud statutes (discussed below) such that a person or entity no longer needs to have actual knowledge of the statute or the specific intent to violate it in order to have committed a violation. In addition, PPACA provides that the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act (discussed below). Further, the civil monetary penalties statute imposes penalties against any person or entity that, among other things, is determined to have presented or caused to be presented a claim to a federal health program that the person knows or should know is for an item or service that was not provided as claimed or is false or fraudulent.

The federal false claims laws prohibit, among other things, any person or entity from knowingly presenting, or causing to be presented, a false or fraudulent claim for payment or approval to the federal government or knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government. As a result of a modification made by the Fraud Enforcement and Recovery Act of 2009, a claim includes “any request or demand” for money or property presented to the U.S. government. Recently, several pharmaceutical and other healthcare companies have been prosecuted under these laws for, among other things, allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. Other companies have been prosecuted for causing false claims to be submitted because of the companies’ marketing of the product for unapproved, and thus non-covered, uses. The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, created new federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third-party payors and knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of, or payment for, healthcare benefits, items or services.

In addition, we may be subject to data privacy and security regulation by both the federal government and the states in which we conduct our business. HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, and its implementing regulations, imposes certain requirements relating to the privacy, security and transmission of individually identifiable health information. Among other things, HITECH makes HIPAA's privacy and security standards directly applicable to business associates— independent contractors or agents of covered entities that receive or obtain protected health information in connection with providing a service on behalf of a covered entity. HITECH also created four new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorney's fees and costs associated with pursuing federal civil actions. In addition, state laws govern the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

Additionally, the PPACA also included the federal Physician Payments Sunshine Act, which requires that certain manufacturers of drugs, devices, biologicals and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report information related to certain payments or other transfers of value made or distributed to physicians and teaching hospitals, or to entities or individuals at the request of, or designated on behalf of, the physicians and teaching hospitals and to report annually certain ownership and investment interests held by physicians and their immediate family members.

Also, many states have similar healthcare statutes or regulations that apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor. Certain states require the posting of information relating to clinical studies, pharmaceutical companies to implement a comprehensive compliance program that includes a limit on expenditures for, or payments to, individual medical or health professionals and track and report gifts and other payments made to physicians and other healthcare providers. If our operations are found to be in violation of any of the health regulatory laws described above or any other laws that apply to us, we may be subject to penalties, including potentially significant criminal, civil and/or administrative penalties, damages, fines, disgorgement, individual imprisonment, exclusion of products from reimbursement under government programs, contractual damages, reputational harm, administrative burdens, diminished profits and future earnings and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations. To the extent that any of our products will be sold in a foreign country, we may be subject to similar foreign laws and regulations, which may include, for instance, applicable post-marketing requirements, including safety surveillance, anti-fraud and abuse laws and implementation of corporate compliance programs and reporting of payments or transfers of value to healthcare professionals.

Pharmaceutical Coverage, Pricing and Reimbursement

In both domestic and foreign markets, our sales of any approved products will depend in part on the availability of coverage and adequate reimbursement from third-party payors. Third-party payors include government authorities, managed care providers, private health insurers and other organizations. Patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Patients are unlikely to use our products, if approved, unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our products. Sales of our products will therefore depend substantially, both domestically and abroad, on the extent to which the costs of our products will be paid by third-party payors. These third-party payors are increasingly focused on containing healthcare costs by challenging the price and examining the cost-effectiveness of medical products and services.

In addition, significant uncertainty exists as to the coverage and reimbursement status of newly approved healthcare product candidates. The market for our product candidates for which we may receive regulatory approval will depend significantly on access to third-party payors' drug formularies, or lists of medications for which third-party payors provide coverage and reimbursement. The industry competition to be included in such formularies often leads to downward pricing pressures on pharmaceutical companies. Also, third-party payors may refuse to include a particular branded drug in their formularies or otherwise restrict patient access to a branded drug when a less costly generic equivalent or other alternative is available. Because each third-party payor individually approves coverage and reimbursement levels, obtaining coverage and adequate reimbursement is a time-consuming, costly and sometimes unpredictable process. We may be required to provide scientific and clinical support for the use of any product to each third-party payor separately with no assurance that approval would be obtained, and we may need to conduct expensive pharmaco-economic studies in order to demonstrate the cost-effectiveness of our products. This process could delay the market acceptance of any product and could have a negative effect on our future revenues and operating results. We cannot be

certain that our product candidates will be considered cost-effective. Because coverage and reimbursement determinations are made on a payor-by-payor basis, obtaining acceptable coverage and reimbursement from one payor does not guarantee the Company will obtain similar acceptable coverage or reimbursement from another payor. If we are unable to obtain coverage of, and adequate reimbursement and payment levels for, our product candidates from third-party payors, physicians may limit how much or under what circumstances they will prescribe or administer them and patients may decline to purchase them. This in turn could affect our ability to successfully commercialize our products and impact our profitability, results of operations, financial condition and future success.

Furthermore, in many foreign countries, particularly the countries of the European Union, the pricing of prescription drugs is subject to government control. In some non-U.S. jurisdictions, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing vary widely from country to country. For example, the European Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. We may face competition for our product candidates from lower-priced products in foreign countries that have placed price controls on pharmaceutical products. In addition, there may be importation of foreign products that compete with our own products, which could negatively impact our profitability.

Healthcare Reform

In the United States and other jurisdictions, there have been, and we expect there will continue to be, a number of legislative and regulatory changes to the healthcare system that could affect our future results of operations as we begin to directly commercialize our products.

In particular, there have been and continue to be a number of initiatives at the U.S. federal and state level that seek to reduce healthcare costs. Initiatives to reduce the federal deficit and to reform healthcare delivery are increasing cost-containment efforts. We anticipate that Congress, state legislatures and the private sector will continue to review and assess alternative benefits, controls on healthcare spending through limitations on the growth of private health insurance premiums and Medicare and Medicaid spending, the creation of large insurance purchasing groups, price controls on pharmaceuticals and other fundamental changes to the healthcare delivery system. Any proposed or actual changes could limit or eliminate our spending on development projects and affect our ultimate profitability.

In March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively, the Health Care Reform Law was signed into law. The Health Care Reform Law has the potential to substantially change the way healthcare is financed by both governmental and private insurers. The Health Care Reform Law among other things, established an annual, nondeductible fee on any entity that manufactures or imports certain branded prescription drugs and biologic agents; revised the methodology by which rebates owed by manufacturers for covered outpatient drugs under the Medicaid Drug Rebate Program are calculated; increased the minimum Medicaid rebates owed by most manufacturers under the Medicaid Drug Rebate Program; extended the Medicaid Drug Rebate program to utilization of certain injectable outpatient drugs, as well as prescriptions of individuals enrolled in Medicaid managed care organizations; required manufacturers to offer 50% point-of-sale discounts on negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D; and implemented payment system reforms including a national pilot program on payment bundling to encourage hospitals, physicians and other providers to improve the coordination, quality and efficiency of certain healthcare services through bundled payment models.

The future of the Health Care Reform Law remains uncertain. In January 2017, Congress voted to adopt a budget resolution for fiscal year 2017, or the Budget Resolution, that authorized the implementation of legislation that would repeal portions of the Health Care Reform Law. Further, on January 20, 2017, President Trump signed an Executive Order directing federal agencies with authorities and responsibilities under the Health Care Reform Law to waive, defer, grant exemptions from, or delay the implementation of any provision of the Health Care Reform Law that would impose a fiscal or regulatory burden on states, individuals, healthcare providers, health insurers, or manufacturers of pharmaceuticals or medical devices. The practical implications of that order are unclear, and the future of the Health Care Reform Law is uncertain. Congress also could consider subsequent legislation to replace elements of the Health Care Reform Law that are repealed.

In the future, there may continue to be additional proposals relating to the reform of the United States healthcare system, some of which could further limit the prices we are able to charge for our products candidates, or the amounts of reimbursement available for our product candidates. If future legislation were to impose direct governmental price controls and access restrictions, it could have a significant adverse impact on our business. Managed care organizations, as well as Medicaid and other government agencies, continue to seek price discounts. Some states have implemented, and other states are considering, price controls or patient access constraints under the Medicaid program, and some states are considering price-control regimes that would apply to broader segments of their populations that are not Medicaid-eligible. Due to the volatility in the current economic and market dynamics, we are unable to predict the impact of any unforeseen or unknown legislative, regulatory, payor or policy actions, which may include cost containment and healthcare reform measures. Such policy actions could have a material adverse impact on our profitability.

Moreover, the recently enacted federal Drug Supply Chain Security Act imposes new obligations on manufacturers of pharmaceutical products, among others, related to product tracking and tracing. Among the requirements of this new federal legislation, manufacturers will be required to provide certain information regarding the drug product to individuals and entities to which product ownership is transferred, label drug product with a product identifier, and keep certain records regarding the drug product. Further, under this new legislation, manufacturers will have drug product investigation, quarantine, disposition, and notification responsibilities related to counterfeit, diverted, stolen, and intentionally adulterated products, as well as products that are the subject of fraudulent transactions or which are otherwise unfit for distribution such that they would be reasonably likely to result in serious health consequences or death.

Physician Payment Sunshine Act

The Physician Payment Sunshine Act requires most pharmaceutical manufacturers to report annually to the Secretary of HHS any and all financial arrangements, payments, or other transfers of value made by that entity to physicians and teaching hospitals. The payment information is made publicly available in a searchable format on a CMS website. Over the next several years, we will need to dedicate significant resources to establish and maintain systems and processes in order to comply with these regulations. Failure to comply with the reporting requirements can result in significant civil monetary penalties. Similar laws have been enacted or are under consideration in foreign jurisdictions, including France which has adopted the Loi Bertrand, or French Sunshine Act, which became effective in 2013.

Environmental, Health and Safety Laws and Regulations

We are subject to numerous environmental, health and safety laws and regulations and permitting requirements, including those governing laboratory procedures, decontamination activities and the handling, transportation, use, remediation, storage, treatment, and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, and the risk of injury, contamination or noncompliance with environmental, health and safety requirements cannot be eliminated. Although compliance with such laws and regulations and permitting requirements has not had a material effect on our capital expenditures, earnings or competitive position, environmental, health and safety laws and regulations and permitting requirements have tended to become increasingly stringent and, to the extent legal or regulatory changes occur in the future, they could result in, among other things, increased costs to us or the impairment of our research, development or production efforts.

C. Organizational structure

We are a Swiss stock corporation (*société anonyme*) organized under the laws of Switzerland. We were formed as a Swiss limited liability company (*société à responsabilité limitée*) on February 13, 2003 with our registered office and domicile in Basel, Switzerland. We converted to a Swiss stock corporation (*société anonyme*) under the laws of Switzerland on August 25, 2003. Our Swiss enterprise identification number is CHE-109.878.825. Prior to our initial public offering, we were a privately owned company. Our domicile and registered office is in Ecublens, near Lausanne, Canton of Vaud, Switzerland. Our registered and principal executive offices are located at EPFL Innovation Park, Building B, 1015 Lausanne, Switzerland, our general telephone number is (41) 21 345 91 21 and our internet address is www.acimmune.com.

We did not have any subsidiaries as of December 31, 2018.

D. Property, plant and equipment

The Company's capital expenditures were CHF 1.9 million in 2018 with CHF 1.4 million for lab equipment and leasehold improvements. These investments are to enhance our research facilities.

Facilities

We lease approximately 22,700 square feet of space at the Innovation Park of the EPFL (École Polytechnique Fédérale Lausanne), Switzerland as of December 31, 2018. This property serves as our corporate headquarters, our research facility and laboratories. We believe that using the EPFL facilities instead of building our own infrastructure helps us to maximize the value of our research and development capital and make efficient use of our funds as we continue to build and develop our pipeline. We believe that the space of our existing facilities is sufficient to meet our current needs.

ITEM 4A. UNRESOLVED STAFF COMMENTS

None.

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

You should read the following discussion and analysis of our financial condition and results of operations together with the information under "Item 3. Key Information—A. Selected Financial Data" and our audited financial statements, including the notes thereto, included in this Annual Report. The following discussion is based on our financial information prepared in accordance with IFRS as issued by the IASB, which might differ in material respects from generally accepted accounting principles in other jurisdictions. The following discussion includes forward-looking statements that involve risks, uncertainties and assumptions. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of many factors, including but not limited to those described under "Item 3. Key Information—D. Risk Factors" and elsewhere in this Annual Report.

A. Operating results

Overview

We are a clinical stage biopharmaceutical company leveraging our two proprietary technology platforms to discover, design and develop novel, proprietary medicines for prevention, diagnosis and treatment of neurodegenerative diseases associated with protein misfolding. Our SupraAntigen platform focuses on vaccines and antibodies specific to disease causing conformations. Currently, an anti-Tau monoclonal antibody candidate is being developed under a collaboration agreement with Genentech. A Phase 2 clinical study in prodromal-to-mild AD patients commenced in the fourth quarter of 2017. Crenezumab a humanized, monoclonal, conformation-specific anti-Abeta antibody that we developed using our proprietary SupraAntigen platform had the CREAD 1 and CREAD 2 Phase III studies in people with prodromal to mild sporadic Alzheimer's disease (AD) discontinued in January 2019. However, the Phase 2 development of crenezumab continues in a preventive trial of cognitively healthy individuals in Colombia with a risk of developing AD.

Two of our other clinical product candidates, ACI-24 and ACI-35, are being developed using our SupraAntigen platform and target AD through active immunization, where the immune system is stimulated to make its own antibodies against pathological proteins:

- ACI-24 is our wholly-owned anti-Abeta vaccine candidate which recently completed its Phase 1/2 study. Due to the clean safety profile and potential dose dependent reduction of Abeta plaques as measured by PET imaging, ACI-24 has been moved forward into a Phase 2 study. The main objectives of the trial are to assess the safety, tolerability, immunogenicity and target engagement of ACI-24 formulations using intramuscular injections and analyze ACI-24's efficiency to reduce Abeta plaques in a larger cohort size. The Phase 2 study has started with the first patient randomized in October 2018.
- ACI-35 is an anti-Tau vaccine candidate that we are developing under a collaboration agreement with Janssen. The Phase 1b study has been completed. AC Immune and Janssen have jointly decided to advance the anti-Tau vaccine program into further development. The elaboration of the development plan is under preparation. In a scientific advisory meeting, the UK regulatory authority, MHRA, were supportive of a shortened pre-clinical development of new second generation anti-Tau vaccines. These promising second generation vaccines are intended to be tested in the next Phase 1b/2a clinical study.

We are also using our Morphomer platform to develop complementary diagnostic products such as positron emission tomography, or PET, ligands, which are tracers that can directly measure misfolded Tau, alpha-synuclein and TDP-43 in the brain, to enable early and reliable disease diagnoses.

We use our two unique proprietary platform technologies, SupraAntigen (conformation-specific biologics) and Morphomer (conformation-specific small molecules), to discover, design and develop medicines and diagnostics to target misfolded proteins. These platforms are our engines for generating novel molecules that are designed to bind to their targets with high affinity and conformational specificity, meaning they enabled differentiating between misfolded proteins and normally-folded proteins. All of our product candidates and our development programs have been derived from our proprietary platforms.

To date, we have primarily financed our operations through the proceeds from our three follow on and initial public offerings, private placements of preferred securities and upfront and milestone payments from our collaboration partners. We have no products approved for commercialization and have never generated any revenues from product sales. Biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of risk. It may be several years, if ever, before we or our collaboration partners complete pivotal clinical studies and have a product candidate approved for commercialization and we begin to generate revenue and royalties from product sales. Since our inception, we have received upfront and milestone payments from our collaboration partners and certain other revenue. However, we have also incurred significant operating losses. For example, we incurred net losses of CHF 50.9 million for the fiscal year ended December 31, 2018. In addition, we had accumulated losses of CHF 121.9 million as of December 31, 2018.

Strategic Collaborations and Licensing Agreements

Since our inception, we have entered into strategic collaboration agreements with a range of partners covering a number of our product candidates. We entered into a strategic collaboration with Genentech in November 2006 (as amended in May 2015) regarding the development, manufacture and commercialization of crenezumab, and we refer to this agreement as the 2006 Genentech agreement. In June 2012, we entered into an additional strategic collaboration agreement with Genentech regarding the development, manufacture and commercialization of anti-Tau antibodies, and we refer to this agreement as the 2012 Genentech agreement. We expect to capitalize on Genentech's drug development and regulatory expertise and commercial capabilities to bring our partnered therapeutic products to market. In May 2014, we entered into a license and collaboration agreement with Life Molecular Imaging (formerly Piramal Imaging SA) covering Tau-PET Imaging tracer. In December 2014 (and as amended in April 2016 and July 2017), we entered into a strategic collaboration agreement with Janssen regarding the development, manufacture and commercialization of ACI-35, an anti-Tau vaccine. We expect to capitalize on Janssen and Johnson & Johnson's extensive regulatory expertise and experience in developing, manufacturing and, if approved, commercializing vaccines to bring ACI-35 to market.

In April 2016, we entered into a non-exclusive collaboration with Biogen covering our alpha-synuclein PET imaging tracer and future initiatives targeted at TDP-43 PET imaging tracers, which is a protein that has been recently linked to neurodegeneration in diseases including AD, PD and amyotrophic lateral sclerosis (commonly known as ALS or Lou Gehrig's disease). This collaboration is expiring in April 2019. In May 2017, we entered into a Research Project Agreement with Essex to develop a recombinant protein therapeutic candidate acting on a unique neuroprotective mechanism for treatment of neurological diseases, such as Alzheimer's disease and frontotemporal dementia. Essex continues to provide joint research commitment as well as financial support to AC Immune for the pre-IND development of the biological agent. As part of this agreement, the parties have agreed to an initial two year Research Plan, which intends to develop a basic Fibroblast Growth Factor as a therapeutic for the treatment of neurodegenerative diseases and to generate novel antibody therapeutics.

In December 2018, we entered into a license agreement with Lilly to research and develop Tau Morphomer small molecules for the treatment of Alzheimer's disease and other neurodegenerative diseases. Under the terms of this agreement, we will conduct the development of Tau Morphomer small molecules through the completion of Phase 1, starting in the second quarter of 2019. Lilly will fund and lead further clinical development and will retain global commercialization rights for all indications, including Alzheimer's disease and other neurodegenerative diseases. The agreement became effective when the requirements of the Hart-Scott-Rodino Antitrust Improvements Act of 1976 were satisfied subsequent to the year end, on January 23, 2019.

Genentech

We have two partnership agreements with Genentech, a company with a reputation for scientific excellence and a history of bringing innovative protein therapeutics to market.

Crenezumab Collaboration Agreement of 2006

We signed our first agreement with Genentech in November 2006 and amended the agreement in May 2015. This is an exclusive, worldwide licensing agreement for crenezumab, our humanized monoclonal antibody targeting misfolded Abeta. The agreement provides for a second therapeutic product based on the same intellectual property and anti-Abeta antibody compound, as well as an anti-Abeta diagnostic product. Genentech commenced Phase 3 clinical studies for crenezumab in the first quarter of 2016 and the first quarter of 2017.

Under the agreement with Genentech, we may become eligible to receive payments totaling up to approximately USD 340 (CHF 339) million, excluding royalties. The agreement includes upfront and milestone payments. In addition, we may receive royalties on sales. The structure of the collaboration agreement is as follows:

- A right-to-use license;
- *Clinical milestone payments* are payable upon commencement of each of Phase 1 and Phase 2 of clinical developments, and upon the earlier of Genentech's decision to authorize Phase 3 or the commencement of Phase 3 of clinical developments. In addition, for a second indication, clinical milestone payments would be payable upon commencement of Phase 2 of clinical developments and upon the earlier of Genentech's decision to authorize Phase 3 or the commencement of Phase 3 of clinical developments;
- *Regulatory milestone payments* upon making regulatory filings in the U.S. and Europe, respectively, and milestone payments upon obtaining marketing approval in each of the U.S. and Europe. In addition, for a second indication, additional regulatory and approval milestones would be payable.
- *Royalties* on sales with different royalty rates applicable in the U.S. and Europe. Royalty levels are tied to annual sales volumes. We may receive royalties on sales of crenezumab with the percentage rates ranging from net high single digits to the mid-teens.

To date, we have received total payments of USD 65 million (CHF 70.1 million) which comprise upfront and clinical milestone payments. We received a USD 25 million upfront payment at the time of signing of the collaboration agreement and have since then obtained three milestone payments totaling USD 40 million, including the Phase 3 milestone payment we received in July 2015.

Under the terms of the agreement, Genentech bears all the costs of developing crenezumab through the clinical phases. In addition, Genentech is responsible for the costs associated with seeking and obtaining regulatory and marketing approvals, manufacturing costs, sales and marketing costs. Intellectual property costs related to any crenezumab-related intellectual property filed solely by us and any costs associated with filing, maintaining and protecting intellectual property filed jointly we share with Genentech. The agreement will terminate by its terms on the date on which all obligations between the parties with respect to the payment of milestones or royalties for licensed products have passed or expired. However, Genentech may terminate the agreement at any time by providing three months' notice to us.

On January 30, 2019, we announced that Roche, the parent company of our collaboration partner, is discontinuing the CREAD 1 and CREAD 2 (BN29552 and BN29553) Phase III studies of crenezumab, in people with prodromal to mild sporadic Alzheimer's disease (AD). The Phase 2 development of crenezumab continues in a preventive trial of cognitively healthy individuals in Colombia with a risk of developing AD.

Anti-Tau Antibody Collaboration Agreement of 2012

In June 2012, we entered into a second partnership with Genentech to commercialize anti-Tau antibodies for use as immunotherapeutics. The value of this exclusive, worldwide alliance is potentially greater than CHF 400 million and includes upfront and milestone payments. In addition to milestones, we will be eligible to receive royalties on sales at percentage rates ranging from the mid-single digits to high single digits. The agreement also provides for collaboration on two additional indications built on the same anti-Tau antibody program, as well as a potential anti-Tau diagnostic product.

To date, we have received payments totaling CHF 59 million. We received a CHF 17 million upfront payment associated with this agreement at the time of signing the collaboration agreement. Additionally, we received a CHF 14 million milestone payment received and recognized in the fourth quarter of 2017 associated with the first patient dosing in a Phase 2 clinical trial for Alzheimer's disease with an anti-Tau monoclonal body known as RG6100, a CHF 14 million milestone payment recognized in the second quarter of 2016 and received in July 2016, associated with the announcement of the commencement of the Phase 1 clinical study of the lead anti-Tau antibody candidate and a CHF 14 million milestone payment received in 2015 in connection with the ED-GO decision.

The structure of the collaboration agreement is as follows:

- A right-to-use license;
- *Preclinical and clinical milestone payments* upon selection of a lead candidate, commencement of each of Phase 1, 2 and 3 of clinical development. In addition, for a second indication, clinical milestone payments would be payable upon commencement of each of Phase 2 and 3 of clinical development;
- *Regulatory milestones payments* upon making regulatory filings for marketing approvals in the U.S., Europe, and Japan, respectively. In addition, for a second indication, similar regulatory milestones would be payable;
- *Commercialization milestones* payable upon making a first commercial sale in each of the U.S., Europe and Japan. For a second indication, commercialization milestones exist for each of the U.S., Europe and Japan which are triggered by the first commercial sale for the second indication in each of those jurisdictions; and
- *Royalties* on sales with royalty rates differing based on the source of the intellectual property underlying the commercial product.

Under the terms of the agreement, Genentech bears all the costs of developing the anti-Tau antibody compound through the clinical phases. In addition, Genentech is responsible for the costs associated with seeking and obtaining regulatory and marketing approvals, manufacturing costs, sales and marketing costs. Intellectual property costs related to any anti-Tau antibody-related intellectual property filed solely by us and any costs associated with filing, maintaining and protecting intellectual property filed jointly we share with Genentech. The agreement will terminate by its terms on the date on which all obligations between the parties with respect to the payment of milestones or royalties for licensed products have passed or expired. However, Genentech may terminate the agreement at any time by providing three months' notice to us.

Janssen Pharmaceuticals

In December 2014, we entered into an agreement with Janssen Pharmaceuticals, Inc., one of the Janssen Pharmaceutical Companies of Johnson & Johnson, to develop and commercialize therapeutic anti-Tau vaccines for the treatment of AD and potentially other Tauopathies. The value of this partnership is potentially up to CHF 500 million and includes upfront and clinical, regulatory and commercial milestones. We and Janssen will co-develop the two second generation lead therapeutic vaccines, ACI-35.030 and JACI-35.054, through Phase 1b/2a completion. From Phase 2b and onwards, Janssen will assume responsibility for the clinical development, manufacturing and commercialization of one selected second generation vaccine. ACI-35.030 and JACI-35.054 are active therapeutic vaccines stimulating the patient's immune system to produce a polyclonal antibody response against phosphorylated Tau protein. The agreement also allows for the collaboration to be expanded to a second indication based on the same anti-Tau vaccine program and based on intellectual property related to this program.

In January 2016, we received a pre-payment of CHF 1.5 million for research and external research costs for 2016. We recognized the proceeds over a 12-month period on a straight-line basis pursuant to the terms of the collaboration agreement. In May 2016, we received a CHF 4.9 million payment for reaching a clinical milestone in the Phase 1b study. As we met all performance obligations on reaching the milestone, we have recognized this milestone as revenue.

As part of this agreement, AC Immune and Janssen have committed to spending approximately CHF 13.8 million in clinical development until the end of the Phase 1b clinical study. Any remaining commitment not spent on the Phase 1b study will be carried forward to cover additional development costs with Janssen continuing to be responsible for any costs above the stated CHF 13.8 million.

In July 2017, AC Immune and Janssen entered into a Second Amendment to the December 2014 License, Development and Commercialization Agreement. The Amendment allows for the alignment of certain payment provisions with the new Development Plan and Research Plan activities. ACI and Janssen will jointly share R&D costs until the completion of the first Phase 2b. Under the terms of the agreement, Janssen may terminate the agreement at any time after completion of the first Phase 1b clinical study by providing 90 days' notice to us.

The structure of the collaboration agreement is as follows:

- A right-to-use license;
- *Clinical milestone payments* upon completion of Phase 1b, commencement of each of Phase 2 and 3 of clinical development. For a second cohort, a milestone payment is payable to us upon commencement of Phase 2 clinical studies. In addition, for a second indication, clinical milestone payments would be payable upon commencement of Phase 3 clinical studies;
- *Regulatory milestone payments* upon making regulatory filings in the U.S., Europe, and Japan, respectively. In addition, for a second indication, similar regulatory milestones would be payable. For a second indication, additional regulatory milestone payments are payable by Janssen to us upon receipt of each of the regulatory approvals in the U.S., Europe and Japan;
- *Commercialization milestones* payable upon making a first commercial sale in each of the U.S., Europe and Japan, and upon achieving certain commercial milestones; and
- *Royalties* on sales with royalty rates differing based on the level of annual sales.

The agreement will terminate by its terms on the date on which all royalty obligations have been paid thereunder. However, under the terms of the agreement, Janssen may terminate the agreement at any time after completion of the Phase 1b clinical study by providing 90 days' notice to us.

Life Molecular Imaging SA (formerly Piramal Imaging SA)

In May 2014, we entered into the LCA for our first diagnostic partnership with Life Molecular Imaging. The agreement with Life Molecular is for a compound from the Morphomer chemical library that binds to pathogenic Tau for use as a PET tracer.

The exclusive, worldwide licensing agreement with Life Molecular Imaging includes upfront and milestone payments totaling up to EUR 157 (CHF 179) million plus royalties on sales at percentage rates ranging from mid-single digits to low double digits.

The structure of the collaboration agreement is as follows:

- A right-to-use license;
- *Clinical milestone payments* upon the commencement of the Phase 1 study in PSP, commencement of Phase 2 and 3 for generation of data intended to support a regulatory submission in the U.S. or EU and acceptance of Regulatory filing (NDA) and Regulatory approval for Commercialization in the US or EU. We would be entitled to further clinical milestone payments for the commencement of Phase 2 and 3 for a second indication; and
- *Sales milestones* tied to specific annual net sales amounts.

The LCA agreement will terminate by its terms on the date of expiration of the last-to-expire royalty term, where each royalty term under the LCA expires on a product-by-product basis and country-by-country basis on the later of (i) ten years after the first commercial sale of the relevant product in such country or (ii) the date on which the patent covering the sale of such product in such country is no longer valid or enforceable. However, Life Molecular Imaging may terminate the LCA at any time after the first eighteen months from the effective date of this LCA on a Product-by-Product and country-by-country basis by providing three months' notice to us.

Alpha-synuclein and TDP-43 PET Imaging Tracers – Collaboration with Biogen

In April 2016, we entered into a non-exclusive research and development agreement with Biogen International GmbH, or Biogen. Under the agreement, we and Biogen have agreed to collaborate in the research and early clinical development of our alpha-synuclein PET Tracer program for Parkinson's disease and other synucleinopathies, and a second program for the identification, research and development of novel PET ligands against TDP-43, a protein recently linked to neurodegeneration in diseases such as amyotrophic lateral sclerosis. In addition, we have agreed to share the costs of the collaboration with Biogen, with Biogen primarily funding the majority of research costs, subject to a cap, which includes an upfront technology access fee and funding towards research and development personnel and activities. We will own all intellectual property rights to any invention relating to alpha-synuclein or TDP-43 PET tracers.

The collaboration will expire in April 2019. AC Immune is committed to pursue the development of the first-generation alpha-synuclein PET tracer and our lead candidate will enter into clinical development in H1 2019.

Recombinant protein therapeutic candidate – Collaboration with Essex Bio-Technology Limited

On May 19, 2017, we entered into a Research Project Agreement with Essex Bio-Technology Limited, or Essex, to develop a recombinant protein therapeutic candidate acting on a unique neuroprotective mechanism for treatment of neurological diseases, such as Alzheimer's disease and frontotemporal dementia. Essex will provide a joint research commitment as well as financial support to AC Immune for the pre-IND development of the biological agent.

As part of this agreement, the parties thereto have agreed to an initial two-year Research Plan, which intends to develop a basic Fibroblast Growth Factor as a therapeutic for the treatment of neurodegenerative diseases and to generate novel antibody therapeutics.

Under the terms of the agreement, Essex will provide support to AC Immune until the selection of a collaboration product by the Joint Steering Committee, up to a maximum of CHF 750 thousand per year.

Tau Morphomer Small Molecule – Collaboration with Eli Lilly

In December 2018, we entered into a license agreement with Lilly to research and develop Tau Morphomer small molecules for the treatment of Alzheimer's disease and other neurodegenerative diseases. Under the terms of the agreement, we will conduct the development of Tau Morphomer small molecules through the completion of Phase 1, starting in the second quarter of 2019. Lilly will fund and lead further clinical development and will retain global commercialization rights for all indications, including Alzheimer's disease and other neurodegenerative diseases.

Under the agreement, we may become eligible to receive payments totaling up to approximately CHF 1.8 billion, excluding royalties. The agreement includes an upfront payment as well as various conditional milestone payments. In addition, the Company will receive royalties on sales of licensed products. The effectiveness of, and any payment to us under, the agreement was conditioned upon customary antitrust review and the receipt of Hart-Scott-Rodino ("HSR") clearance. This clearance was provided subsequent to the year end and the agreement was deemed effective on January 23, 2019.

The structure of the agreement is as follows:

- *An exclusive license* granted by us to Lilly under certain of our intellectual property to develop, manufacture and commercialize products containing Tau Morphomer small molecules throughout the world in any indication;
- *Clinical milestone payments* within 10 business days after Lilly's completion of its pre-clinical activities period and 60 days after the first dosing of a patient in a phase 3 clinical study;
- *Regulatory milestone payments* within 60 days after obtaining regulatory approval for any licensed product in the the first indication and any licensed product in certain additional indications in the U.S., Europe and Japan, respectively;
- *Commercialization milestones* payable upon achieving certain commercial sales milestones; and
- *Royalties* on sales with royalty rate differing based on the level of annual sales of licensed products.

The agreement will terminate by the date of expiration of the last royalty term for the last licensed product. However, under the terms of the agreement, Lilly may terminate the agreement at any time after completion of the Lilly pre-clinical activities period by providing three months' notice to us.

We and Lilly also entered into a convertible note agreement on December 11, 2018, which became effective on January 23, 2019. As the convertible note was not effective as of December 31, 2018, there is no corresponding recognition in our financial statements. The convertible note is a senior unsecured obligation that bears interest at a rate of 0.75% per annum, which may be paid in cash or result in the accretion of the principal amount thereof, at our election. Subject to the terms and conditions set forth in the convertible note agreement, the convertible note will automatically convert into the Company's common shares on the 90th day after the effective date of the license agreement, at a conversion price equal to USD 13.83 per share.

Michael J. Fox Foundation for Parkinson's Research

In 2015, we were awarded an important grant from the Michael J. Fox Foundation for Parkinson's Research (MJFF). The grant is funding the development of a diagnostic imaging agent capable of detecting PD at an early stage. The project focuses on alpha-synuclein PET tracers. We have identified molecules from our Morphomer library that stain selectively alpha-synuclein pathological structures in human PD brain sections. We are optimizing the potency, selectivity and pharmacokinetics of these tracers and expect to select a lead candidate. We were awarded a one year continuation of this grant in September 2017 for activities scheduled through September 2018. In November 2018, we were awarded a follow-up grant to facilitate the execution of a first-in-human study for a potential alpha-synuclein PET tracer with the current lead compound. The study will commence in H1 2019.

Critical Accounting Policies and Significant Judgments and Estimates

Revenue Recognition

In May 2014, the International Accounting Standards Board (IASB) issued IFRS 15 – *Revenue from Contracts with Customers* which amends the guidance for accounting for revenues from contracts with customers. This IFRS replaces all current revenue standards in IFRS including IAS 11 – *Construction Contracts*, IAS 18 – *Revenue* and various interpretations. The Company adopted this new standard on January 1, 2018, and would have recognized the cumulative effect of initially applying the new revenue standard as an adjustment to the opening balance of accumulated losses; however, the Company did not deem any adjustments required in the transition to the new standard.

This standard applies to all contracts with customers, except for contracts that are within the scope of other standards, such as leases, insurance, collaboration arrangements and financial instruments. Under IFRS 15, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration that the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that an entity determines are within the scope of IFRS 15, the entity performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. The Company only applies the five-step model to contracts when it is probable that the entity will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. At contract inception, once the contract is determined to be within the scope of IFRS 15, we assess the goods or services promised within each contract and identify, as a performance obligation, and assess whether each promised good or service is distinct. We then recognize as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

Contract revenue

The Company enters into licensing agreements which are within the scope of IFRS 15, under which it licenses certain rights to its product candidates and intellectual property to third parties. The terms of these arrangements typically include payment to the Company of one or more of the following: non-refundable, up-front license fees; development, regulatory and/or commercial milestone payments; payments for research and clinical services the Company provides through either its full-time employees or third-party vendors; and royalties on net sales of licensed products commercialized from the Company's intellectual property. Each of these payments results in license, collaboration and other revenues, which are classified as contract revenue on the statements of loss, except for revenues from royalties on net sales of products commercialized from the Company's intellectual property, which are classified as royalty revenues.

Licenses of intellectual property: If the license to the Company's intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenues from non-refundable, up-front fees allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the license. For licenses that are sold in conjunction with a related service, the Company uses judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time. If the performance obligation is settled over time, the Company determines the appropriate method of measuring progress for purposes of recognizing revenue from non-refundable, up-front fees. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition.

Milestone payments: At the inception of each arrangement that includes development, regulatory and/or commercial milestone payments, the Company evaluates whether the milestones are considered highly probable of being reached and estimates the amount to be included in the transaction price using the most likely amount method. If it is highly probable that a significant revenue reversal would not occur in future periods, the associated milestone value is included in the transaction price. These amounts for the performance obligations under the contract are recognized as they are satisfied. At the end of each subsequent reporting period, the Company re-evaluates the probability of achievement of such milestones and any related constraint, and if necessary, adjusts its estimate of the overall transaction price. Any such adjustments recorded would affect contract revenues and earnings in the period of adjustment.

Research and development services: The Company has certain arrangements with our collaboration partners that include contracting our full-time employees for research and development programs. The Company assesses if these services are considered distinct in the context of each contract and, if so, they are accounted for as separate performance obligations. These revenues are recorded in contract revenue as the services are performed.

Sublicense revenues: The Company has certain arrangements with our collaboration partners that include provisions for sublicensing. The Company recognizes any sublicense revenues at the point in time it is highly probable to obtain and not subject to reversal in the future.

Royalties: For arrangements that include sales-based royalties, including milestone payments based on the level of sales, and the license is deemed to be the predominant item to which the royalties relate, the Company recognizes revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied). To date, the Company has not recognized any royalty revenue resulting from any of its licensing and collaboration agreements.

Contract balances: The Company receives payments and determines credit terms from its licensees for its various performance obligations based on billing schedules established in each contract. The timing of revenue recognition, billings and cash collections results in billed other current receivables, accrued income (contract assets), and deferred income (contract liabilities) on the balance sheet. Amounts are recorded as other current receivables when the Company's right to consideration is unconditional. The Company does not assess whether a contract has a significant financing component if the expectation at contract inception is such that the period between payment by the licensees and the transfer of the promised goods or services to the licensees will be one year or less.

Accrued Research and Development Costs

We record accrued expenses for estimated costs of our research and development activities conducted by third party service providers, which include amongst others the conduct of preclinical studies and clinical studies and contract manufacturing activities. We record accrued expenses for estimated costs of our research and development activities based upon the estimated amount of services provided but not yet invoiced, and we include these costs in accrued expenses on the balance sheets and within research and development expenses in the statements of loss. These costs are a significant component of our research and development expenses.

We record accrued expenses for these costs based on the estimated amount of work completed in accordance with agreements established with these third parties which involves the following process:

- communicating with our applicable personnel to identify services that have been performed on our behalf and estimating the level of service performed and the associated cost incurred for the service when we have not yet been invoiced or otherwise notified of actual cost;
- estimating and accruing expenses in our financial statements as of each balance sheet date based on facts and circumstances known to us at the time; and

- periodically confirming the accuracy of our estimates with selected providers and making adjustments, if necessary.

Examples of estimated research and development expenses that we accrue include:

- fees paid to CROs in connection with preclinical and toxicology studies and clinical studies;
- fees paid to investigative sites in connection with clinical studies;
- fees paid to contract manufacturing organizations in connection with the production of our product candidates prior to qualifying for capitalization as inventory; and
- professional service fees for consulting and related services.

We base our expense accruals related to clinical studies on our estimates of the services received and efforts expended pursuant to contracts with multiple research institutions and clinical research organizations that conduct and manage clinical studies on our behalf. The financial terms of these agreements vary from contract to contract and may result in uneven payment flows. Payments under some of these contracts depend on factors, such as the successful enrollment of patients and the completion of clinical study milestones. Our service providers invoice us monthly in arrears for services performed. In accruing service fees, we estimate the time period over which services will be performed and the level of effort to be expended in each period. If we do not identify costs that we have begun to incur or if we underestimate or overestimate the level of services performed or the costs of these services, our actual expenses could differ from our estimates.

To date, we have not experienced significant changes in our estimates of accrued research and development expenses after a reporting period. However, due to the nature of estimates, we may be required to make changes to our estimates in the future as we become aware of additional information about the status or conduct of our clinical studies and other research activities.

Share-Based Compensation

Options

The Company operates an equity-settled, share-based compensation plan. We account for awards of equity instruments issued to employees and directors under the fair value method of accounting and recognize such amounts in our statements of loss. The total amount to be expensed over the vesting period is determined by reference to the fair value of the instruments granted, excluding the impact of any non-market vesting conditions. Non-market vesting conditions are included in assumptions about the number of instruments that are expected to become exercisable. At each balance sheet date, the Company revises its estimates of the number of instruments that are expected to become exercisable. It recognizes the impact of the revision of original estimates, if any, in the statements of loss, and a corresponding adjustment to equity over the remaining vesting period.

We estimate the fair value of all time-vested options as of the date of grant using the Black-Scholes option pricing model. Key assumptions in determining the fair value of share options granted utilizing the Black-Scholes valuation method include the following:

<u>Assumption</u>	<u>Method of estimation</u>
<ul style="list-style-type: none"> • Estimated expected term of options • Expected volatility 	<ul style="list-style-type: none"> • Simplified method • Estimate based on average historical volatilities of common shares of comparable publicly traded companies. We will continue to apply this process to grants made as a public company until a sufficient amount of historical information regarding volatility of our own stock price becomes available
<ul style="list-style-type: none"> • Risk-free interest rate • Forfeiture rates 	<ul style="list-style-type: none"> • Yields of long dated Swiss government zero coupon bond issues • Historical and expected forfeiture data
<ul style="list-style-type: none"> • Expected dividends 	<ul style="list-style-type: none"> • Zero percent as dividends have not been paid

Historically, for all periods prior to the IPO, the fair value of the common shares underlying our share-based awards was estimated on each grant date by our management and approved by our board of directors. In order to determine the fair value of our common shares underlying option grants, our board of directors considered, among other things, the breadth of our product candidate portfolio, the stages of development of our various product candidates and major changes to stage of development, the progress and additions to our collaboration agreements, risks inherent in our activities, the lack of liquidity of our Company's securities and the valuations and sentiment toward biotech companies. Given the absence of a public trading market for our common shares, our board of directors exercised reasonable judgment and considered a number of objective and subjective factors to determine the best estimate of the fair value of our common shares, including our stage of development, progress of our research and development efforts, the strength of our balance sheets and capital base, equity market conditions affecting comparable public companies and the lack of liquidity of our common shares.

Amendment of Plan A Stock Option Plan

In 2015 and 2017, we amended the Plan A stock option plan that we established in 2004. Two key amendments were made to the program: (i) the duration of the stock option plan was increased from 10.5 to 15.5 years and (ii) the split adjusted strike price of the option was reduced from CHF 0.93 to a split adjusted strike price of CHF 0.15. The lengthening of the plan's term and lowering of the strike price was effected to bring the plan in line with our other plans, and resulted in a material increase in the value of the options to the option holders and required us to recognize the increase of the transfer in value on our accounts in the first half of 2015 and first half of 2017. The impact of the amendment of the Plan A stock option plan totaled CHF 0.4 million in 2015 and an immaterial amount in 2017. As these expenses were incremental charges from the date of the amendment, there was no incremental expense in 2016. There are no further expenses that we need to recognize in the future associated with this plan.

Acceleration of Options

The original terms of our Stock Option Plan of 2005 (Plan C) contained a provision that would result in the automatic acceleration of all unvested options upon the consummation of an initial public offering. Pursuant to a board resolution on October 13, 2015 the Stock Option Plan of 2005 was amended and the automatic acceleration feature was removed. Instead, employees had the right, but not the obligation, to have their unvested options accelerated such that they vest immediately. Accordingly, a total of 1,250 options were accelerated as a result of AC Immune's IPO in September 2016.

Our board of directors had the authority to accelerate the vesting of all outstanding unvested options granted to employees prior to July 2014, in the event of an initial public offering. Pursuant to a board decision on September 18, 2015, 76,000 options previously granted to directors and executive officers were accelerated upon consummation of AC Immune's IPO in September 2016.

Restricted Shares and Restricted Share Units

We estimate the fair value of non-vested stock awards (restricted shares and restricted share units) using a reasonable estimate of market value of the common stock on the date of the award. We classify our share-based payments as equity-classified awards as they are settled in shares of our common stock. We measure equity-classified awards at their grant date fair value and do not subsequently remeasure them. Compensation costs related to equity-classified awards are equal to the fair value of the award at grant-date amortized over the vesting period of the award using the graded method. We reclassify that portion of vested awards to share premium as the awards vest.

Financial Operations Overview

Revenue

Given our stage of development, we have not generated any revenue from product sales. Our revenue to date has been derived primarily from six separate collaboration agreements on some of our product candidates in various stages of pre-clinical and clinical developments and a number of research grants we have secured.

Effective January 1, 2018, the Company adopted IFRS 15 *Revenue from Contracts with Customers* and deemed that no adjustments were necessary in the transition to the new standard. This standard applies to all contracts with customers, except for contracts that are within the scope of other standards, such as leases, insurance, collaboration arrangements and financial instruments. Under IFRS 15, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To determine revenue recognition

for arrangements that an entity determines are within the scope of IFRS 15, the entity performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. The Company only applies the five-step model to contracts when it is probable that the entity will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. At contract inception, once the contract is determined to be within the scope of IFRS 15, the Company assesses the goods or services promised within each contract and determines those that are performance obligations, and assesses whether each promised good or service is distinct. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

Our revenues have experienced fluctuations over the past three years as a result of securing new collaboration agreements, the timing of milestone achievement and the size of each milestone payment. We expect that any revenue we generate from our two collaboration agreements with Genentech, our collaboration agreements with each of Janssen, Life Molecular Imaging, Biogen and Essex, research and development grants, and any other current or future collaboration partners will fluctuate from year to year as a result of the timing and amount of milestones and other payments.

Research and Development Expenses

Research and development costs are expensed as incurred and consist of salaries and benefits, lab supplies, materials, intellectual property and facility costs, as well as fees paid to other nonemployees and entities that conduct certain research and development activities on our behalf. Amounts incurred in connection with collaboration and license agreements are also included in research and development expense. Payments made prior to the receipt of goods or services to be used in research and development are capitalized until the goods or services are received.

Clinical trial costs are a component of research and development expenses. We accrue and expense clinical trial activities performed by third parties based upon actual work completed in accordance with agreements established with clinical research organizations and clinical sites. We determine the actual costs through monitoring patient enrollment and discussions with internal personnel and external service providers as to the progress or stage of completion of trials or services and the agreed-upon fee to be paid for such services.

Manufacturing start-up costs are a component of research and development expenses. Additionally, manufacturing costs incurred after regulatory approval but in connection with significant changes and/or enhancements to the approved manufacturing process are recorded as research and development expenses. We accrue and expense manufacturing activities performed by third parties based upon actual work completed in accordance with agreements established with contract manufacturers.

Our investment in research and development activities, including the clinical development of our product candidates has historically been and is projected to be more than 75% of our total annual operating costs. Research and development expenses represent costs incurred to conduct research, such as the discovery and development of our product candidates, as well as development of new product candidates from our SupraAntigen and Morphomer platforms as well as the development of product candidates pursuant to our collaboration agreements with Genentech, Janssen, Life Molecular Imaging, Biogen and Essex. We recognize all research and development costs as they are incurred. Clinical study costs, contract manufacturing and other development costs incurred by third parties are expensed as the contracted work is performed. At present, our research activities comprise three major areas:

- Alzheimer's disease;
- Non-Alzheimer's diseases; and
- Diagnostics

We expect our research and development expenses to increase substantially in the future and expect to fund a broader number of projects, which will impact our research strategy in four key ways:

(i) we expect to undertake later-stage research and development of our product candidates and, if approved, to take some of those product candidates into commercialization;

- (ii) we will allocate more funding to existing programs to advance the development of these programs;
- (iii) we will increase our research and development efforts on non-AD indications including neuro-orphans and diagnostics; and
- (iv) we will initiate a number of new research initiatives that are complementary to our existing and planned research initiatives.

We expect that our total future research and development costs will continue to increase over current levels in line with our three-pillar strategy that focuses on (i) Alzheimer's disease, (ii) other significant neurodegenerative diseases and neuro-orphan indications, and (iii) diagnostics for early detection and earlier treatment of these diseases.

General and Administrative Expenses

General and administrative expenses include personnel costs, expenses for outside professional services, and all other allocated expenses. Personnel costs consist of salaries, cash bonuses, benefits and share-based compensation. Outside professional services consist of legal, accounting and audit services, IT and other consulting fees. Allocated expenses consist of rent expense related to our office and research and development facility. We continue to incur additional expenses as a result of operating as a public company, including expenses related to compliance with the rules and regulations of the SEC, and those of any national securities exchange on which our securities are traded (Nasdaq), additional insurance expenses, investor relations activities and other administrative and professional services.

Finance Result, net

Financial income and expenses include bank fees associated with charges levied by banks on foreign payments and foreign exchange transactions and remeasurement gains and losses which arise from our cash held in currency other than Swiss Francs, certain collaboration agreements such as the collaboration agreements with Genentech and Life Molecular Imaging being denominated in currencies other than Swiss Francs and selected purchases, which we effect in foreign currencies.

Interest income consists of interest received from banks on our cash balances. Interest expense relates to interest paid to banks and accrued interest for our debt obligation (Note 10).

Taxation

We are subject to corporate taxation in Switzerland.

We are also entitled under Swiss laws to carry forward any losses incurred for a period of seven years and can offset our losses carried forward against future taxes. As of December 31, 2018, we had tax loss carryforwards totaling CHF 108.7 million. There is no certainty that we will make sufficient profits to be able to utilize these tax loss carryforwards in full.

The ordinary corporate tax rate in the Canton of Vaud where we are domiciled is currently 13.63% as from January 1, 2019 onwards. There might be additional changes regarding the applicable tax rate depending on the outcome of the Tax Proposal 17.

Value Added Tax, or VAT, is charged on all qualifying goods and services by VAT-registered businesses. An amount of 7.7% of the value of the goods or services is added to all sales invoices and is payable to the Swiss tax authorities. Similarly, VAT paid on purchase invoices is reclaimable from the Swiss tax authorities.

Results of Operations

The numbers below have been derived from our audited financial statements included elsewhere herein. The discussion below should be read along with these financial statements and it is qualified in its entirety by reference to them.

Comparison of the Years Ended December 31, 2018 and 2017**Revenue**

The following table summarizes our revenues during the years ended December 31, 2018 and 2017:

	in CHF thousands	For the Years Ended December 31,		Change
		2018	2017	
Contract revenue		7,194	20,255	(13,061)
Total revenues		7,194	20,255	(13,061)

Our revenues experience fluctuations as a result of securing new collaboration agreements, the timing of milestone achievements and the size of each milestone payment. The decline in revenues in 2018 compared to the same period in 2017 is primarily related to the timing and size of clinical milestones recognized in each of those periods.

In 2018, the Company did not recognize milestone revenues from its contract agreements. We recorded an increase of CHF 0.9 million and CHF 0.1 million for our Janssen and Biogen collaborations, respectively. For Janssen, this relates to an increase in cost sharing activities for our advancement of ACI-35 in the development plan. The Company also recorded an increase of CHF 0.6 million in its collaboration with Essex as this collaboration was in effect for the entire year 2018.

In 2017, the Company recorded a CHF 14 million milestone for Genentech dosing the first patient in a Phase 2 clinical trial for Alzheimer's disease (AD) with an anti-Tau monoclonal antibody known as RG6100. The Company also recorded a CHF 1.1 million milestone from Life Molecular related to the initiation of "Part B" of the first-in-man Phase 1 clinical trial for PSP (Progressive Supranuclear Palsy). Finally, in its collaboration with Biogen, AC Immune recognized CHF 0.5 million for the Technology Access Fee. These items were not repeated in 2018.

Research and Development Expenses

Research and development activities are essential to our business and represent the majority of our costs incurred. Costs for certain development activities, such as clinical trials, are recognized based on an evaluation of the progress to completion of specific tasks using information from the clinical sites and our vendors. Our collaboration arrangements share costs for the development of our product candidates differently. We have completed our research and development spending in both of our Genentech collaborations. Janssen will be responsible for the full development cost from the completion of the first Phase 2 or first Phase 3 clinical trial. In addition to these arrangements, we expect that our total future research and development costs will continue to increase over current levels in line with our three-pillar strategy that focuses on Alzheimer's disease, neuro-orphan indications and diagnostics.

The table below provides a breakdown of our research and development costs, including direct research and development costs and manufacturing costs related to research and development, by major development categories of our programs for the periods covered by this Annual Report. The research and development costs not allocated to specific programs include employment costs, regulatory, quality assurance and intellectual property costs. We do not assign our internal costs, such as salary and benefits, stock-based compensation expense, laboratory supplies and other direct expenses and infrastructure costs to individual research and development projects, because the employees within our research and development groups typically are deployed across multiple research and development programs.

The following table summarizes our research and development expenses during the years ended December 31, 2018 and 2017:

Detailed Research and Development Expenditures by Major Development Category

in CHF thousands	For the Years Ended December 31,		Change
	2018	2017	
Alzheimer's disease	14,033	10,473	3,560
Non-Alzheimer's diseases	2,765	2,259	506
Diagnostics	2,350	1,759	591
New discovery programs	11,771	7,871	3,900
Total Programs	30,919	22,362	8,557
R&D Expenses not allocated to specific programs	13,358	10,301	3,057
Total	44,277	32,663	11,614

R&D expenses in Alzheimer's disease increased by CHF 3.6 million in 2018 and were driven by a CHF 3.0 million increase for investments related to the completion of the Phase 1b study for ACI-35 and advancement of the vaccine through the development plan. Additionally, for ACI-24 AD, the Company spent an incremental CHF 1.4 million in set-up fees such as site selection, administration and related manufacturing costs associated with the Phase 2 study. The Company also incurred costs for the next stages of clinical development for each of these respective candidates. In Non-Alzheimer's diseases, the Company invested an incremental CHF 0.6 million for its ACI-24 for Down syndrome's Phase 1b clinical study. Diagnostic investments entail predominantly increases in spending related to our alpha-synuclein and TDP-43 PET tracer programs. New discovery programs increase CHF 3.9 million was driven by CHF 1.5 million related to continued proof-of-concept and manufacturing activities for studies related to our lead compounds in the Anti-Tau Morphomers and investments in new therapeutic and preventive vaccine technology. We also spent an additional CHF 0.5 million increase related to manufacturing activities in our vaccine technology program and a CHF 0.8 million for anti-a-Synuclein antibody. Finally, the Company increased its investment by CHF 0.7 million for neuroinflammation discovery program costs related to medicinal chemistry and preclinical evaluation of the compounds.

R&D Expenses not allocated to specific programs increased CHF 3.1 million predominantly driven by a CHF 2.5 million increase in salaries and related costs, CHF 0.4 million in depreciation expense and CHF 0.1 million in administrative and regulatory costs. Our total research and development costs are likely to continue to rise substantially in the coming years as the Company continues to develop and advance product candidates from the pre-clinical to clinical stages across its three-pillar strategy.

in CHF thousands	For the Years Ended December 31,		Change
	2018	2017	
Operating expenses (1)	32,921	23,822	9,099
Salaries and related costs (2)	11,356	8,841	2,515
Total research and development expenses	44,277	32,663	11,614

(1) Includes depreciation expense

(2) Includes share-based compensation

Our research and development expenses increased to CHF 44.3 million for the year ended December 31, 2018, from CHF 32.7 million, an increase of CHF 11.6 million, as compared to year ended December 31, 2017 as discussed in the Major Development Category comparison above.

Our salaries and costs related to our research and development activities rose by CHF 2.5 million to CHF 11.4 million for the year ended December 31, 2018 from CHF 8.8 million for the year ended December 31, 2017. The increase is primarily due to the hiring of almost 19 full time equivalent employees in the Company's research and development organization to accelerate the development of its proprietary and partnered pipeline candidates as well as additional share based compensation expense of CHF 0.4 million.

General and Administrative Expenses

The following table summarizes our general and administrative expenses during the years ended December 31, 2018 and 2017:

	in CHF thousands	For the Years Ended December 31,		Change
		2018	2017	
Operating expenses (1)		4,903	3,857	1,046
Salaries and related costs (2)		7,564	6,274	1,290
Total general and administrative expenses		12,467	10,131	2,336

- (1) Includes depreciation expense
(2) Includes share-based compensation

For the year ended December 31, 2018 our general and administrative expenses totaled CHF 12.5 million, up by CHF 2.3 million from CHF 10.1 million we incurred during the year ended December 31, 2017. The increase is due to a CHF 1.3 million increase in salary and benefit related costs, including higher stock based compensation expense of CHF 0.5 million relating predominantly to an increase of stock options and non-vested stock awards issued to executive officers and directors.

Operating expenses were CHF 1.0 million higher driven by increased operating expenses in line with the growth of the Company recorded in General and Administrative expenses in 2018 compared to 2017. Rental and IT support expenditures increased CHF 0.5 million along with an increase of CHF 0.5 million for professional services.

Finance Result, Net

The following table summarizes our financial income and expenses during the years ended December 31, 2018 and 2017:

	in CHF thousands	For the Years Ended December 31,		Change
		2018	2017	
Interest income/(expense), net		(269)	184	(453)
Foreign currency remeasurement gain/(loss), net		(1,194)	(4,049)	2,855
Other finance costs		62	(7)	69
Finance result, net		(1,401)	(3,872)	2,471

Net finance result was a loss of CHF 1.4 million for the year ended December 31, 2018, a reduction in loss from CHF 3.9 million for the year ended December 31, 2017. The decrease was driven by a reduced loss related to foreign exchange rates on our cash balances in U.S. dollars of CHF 1.2 million in 2018 compared to a CHF 4.2 million loss in 2017. The Company also recorded a CHF 0.1 gain on extinguishment within other finance costs. The variance is offset by an increase in net interest expense of CHF 0.3 million, predominantly for cash held on deposit.

Comparison of the Years Ended December 31, 2017 and 2016

Revenue

The following table summarizes our revenues during the years ended December 31, 2017 and 2016:

	in CHF thousands	For the Years Ended December 31,		Change
		2017	2016	
Contract revenue		20,255	23,214	(2,959)
Total revenues		20,255	23,214	(2,959)

Our revenues experience fluctuations as a result of securing new collaboration agreements, the timing of milestone achievements and the size of each milestone payment. The decline in revenues in 2017 compared to the same period in 2016 is primarily related to the timing and size of clinical milestones recognized in each of those periods. In 2017, the Company recorded a CHF 14 million milestone for Genentech dosing the first patient in a Phase 2 clinical trial for Alzheimer’s disease (AD) with an anti-Tau monoclonal antibody known as RG6100. The Company also recorded a CHF 1.1 million milestone from Life Molecular related to the initiation of “Part B” of the first-in-man Phase 1 clinical trial for PSP (Progressive Supranuclear Palsy). Finally, in its collaboration with Biogen, AC Immune recognized CHF 0.5 million for the Technology Access Fee. As AC Immune began the second year of its collaboration with Biogen in April 2017, the Company additionally recognized CHF 3.4 million for research and collaboration services which were not recorded in 2016.

In 2016, revenues resulted from the recognition of a CHF 4.9 million clinical milestone and CHF 1.5 million recognized for research contributions received related to ACI-35 pursuant to our collaboration agreement with Janssen, the recognition of a CHF 14 million milestone payment for commencement of Phase 1 clinical studies for the anti-Tau antibody under collaboration with Genentech, the recognition of an approximate CHF 1.0 million share of the Biogen upfront payment received in April 2016 that was recognized over a twelve month period and CHF 1.1 million in research contribution revenues related to the Biogen collaboration.

Research and Development Expenses

The following table summarizes our research and development expenses during the years ended December 31, 2017 and 2016:

Detailed Research and Development Expenditures by Major Development Category

in CHF thousands	For the Years Ended December 31,		
	2017	2016	Change
Alzheimer’s disease	10,473	10,678	(205)
Non-Alzheimer’s diseases	2,259	2,039	220
Diagnostics	1,759	1,031	728
New discovery programs	7,871	4,111	3,760
Total Programs	22,362	17,859	4,503
R&D Expenses not allocated to specific programs	10,301	7,915	2,386
Total	32,663	25,774	6,889

R&D expenses in Alzheimer’s disease were driven by the investments related to the completion of the Phase 1b study for ACI-35, as well as costs related to the Phase 2 for ACI-24 AD. In addition, the Company incurred costs for the next stages of clinical development for each of these respective candidates. In Non-Alzheimer’s diseases, the Company continues to incur costs in ACI-24 for Down syndrome’s Phase 1b clinical study. Diagnostic investments entail predominantly increases in spending related to our alpha-synuclein and TDP-43 PET tracer programs. New discovery programs increase CHF 3.8 million was driven by CHF 3.3 million related to finalizing the proof-of-concept and manufacturing activities for studies related to our lead compounds in the Anti-Tau Morphomers and investments in new therapeutic and preventive vaccine technology. R&D Expenses not allocated to specific programs increased CHF 2.4 million predominantly driven by a CHF 1.8 million increase in salaries and related costs, CHF 0.3 million in depreciation expense and CHF 0.1 million in regulatory costs. Our total research and development costs are likely to rise substantially in the coming years as the Company continues to develop and advance product candidates from the pre-clinical to clinical stages across its three-pillar strategy.

in CHF thousands	For the Years Ended December 31,		
	2017	2016	Change
Operating expenses (1)	23,822	18,767	5,055
Salaries and related costs (2)	8,841	7,007	1,834
Total research and development expenses	32,663	25,774	6,889

(1) Includes depreciation expense

(2) Includes share-based compensation

Our research and development expenses increased to CHF 32.7 million for the year ended December 31, 2017, from CHF 25.8 million, an increase of CHF 6.9 million, as compared to year ended December 31, 2016 as discussed in the Major Development Category comparison above.

Our salaries and costs related to our research and development activities rose by CHF 1.8 million to CHF 8.8 million for the year ended December 31, 2017 from CHF 7.0 million for the year ended December 31, 2016. The increase is primarily due to the hiring of more than 15 full time equivalent employees in the Company's research and development organization to accelerate the development of its proprietary and partnered pipeline candidates.

General and Administrative Expenses

The following table summarizes our general and administrative expenses during the years ended December 31, 2017 and 2016:

in CHF thousands	For the Years Ended December 31,		Change
	2017	2016	
Operating expenses (1)	3,857	3,168	689
Salaries and related costs (2)	6,274	4,728	1,546
Total general and administrative expenses	10,131	7,896	2,235

(1) Includes share-based compensation.

For the year ended December 31, 2017 our general and administrative expenses totaled CHF 10.1 million, up by CHF 2.2 million from CHF 7.9 million we incurred during the year ended December 31, 2016. The increase is due to a CHF 1.5 million increase in salary and benefit related costs, including higher stock based compensation expense of CHF 0.8 million relating to stock options and non-vested stock awards issued to executive officers and directors, board compensation as we were a U.S. public company for all of 2017 and bonus accruals. Additionally, there was an increase of CHF 0.3 million increase in temporary assistance as the Company expanded operations in 2017.

Operating expenses were CHF 0.7 million higher driven by increased professional service costs recorded in General and Administrative expenses in 2017 compared to 2016, such as legal and audit fees costs. AC Immune was a public company for the full year in 2017. Additionally, certain legal and audit fees were offset within equity as transaction costs associated with the IPO in 2016 and not reflected in the statements of loss. This net increase totaled CHF 248 thousand. The Company also incurred incremental costs for public relations and rents of CHF 250 thousand in 2017 compared to 2016.

Finance Result, Net

The following table summarizes our financial income and expenses during the years ended December 31, 2017 and 2016:

in CHF thousands	For the Years Ended December 31,		Change
	2017	2016	
Interest income/(expense), net	184	36	148
Foreign currency remeasurement gain/(loss), net	(4,049)	3,443	(7,492)
Other finance costs	(7)	(119)	112
Finance result, net	(3,872)	3,360	(7,232)

Net finance result was a loss of CHF 3.9 million for the year ended December 31, 2017, from a gain of CHF 3.4 million for the year ended December 31, 2016. The decrease was driven by losses related to foreign exchange rates on our cash balances in U.S. dollars of CHF 4.2 million in 2017 compared to a CHF 3.4 million gain in 2016. The variance is offset by an increase in net interest income of CHF 148 thousand.

Cash Flows***Comparison of the Years Ended December 31, 2018 and 2017***

The following table summarizes our cash flows for the years ended December 31, 2018 and 2017:

	in CHF thousands	For the Years Ended December 31,		Change
		2018	2017	
Net cash provided by (used in):				
Operating activities		(44,078)	(22,094)	(21,984)
Investing activities		(32,036)	(1,842)	(30,194)
Financing activities		109,378	271	109,107
Net change in cash and cash equivalents		33,264	(23,665)	56,929

Operating activities

The net cash used in operating activities was CHF 44.1 million for the year ended December 31, 2018, compared to net cash used in operating activities of CHF 22.1 million for the year ended December 31, 2017. The change in operating cash flows is driven by two factors: (i) reporting a net loss of CHF 50.9 million in 2018 compared with a CHF 26.4 million net loss for 2017 and (ii) offsets due to changes in working capital.

Investing activities

Net cash used in investing activities was CHF 32.0 million for the year ended December 31, 2018, compared with CHF 1.8 million for the year ended December 31, 2017. The CHF 30.2 million increase in cash used in investing activities was due to a CHF 30 million increase in fixed-term deposits with a maturities of six to 12 months.

Financing activities

Net cash provided by financing activities was CHF 109.4 million for the year ended December 31, 2018, compared to CHF 0.3 million for the year ended December 31, 2017. The increase in financing activity cash inflows was driven primarily by the CHF 109.5 million in net proceeds raised from the three follow-on offerings in 2018 compared to no such activity in 2017.

Operating Capital Requirements and Plan of Operations

We do not expect to generate revenues from royalties based on product sales unless and until our partners obtain regulatory approval of and commercialize our current or any future product candidates. There can be no certainty as to the exact timing, or in fact whether any future milestone payments will ever be made given that these milestone payments are contingent on clear milestones being reached. As of December 31, 2018 we had cash balances totaling CHF 156.5 million, short-term financial assets totaling CHF 30.0 million which combined to total CHF 186.5 million in liquidity. To date, the Company has financed its liquidity requirements primarily from its initial public offering, share issuances and revenues from collaboration agreements.

Accordingly, assuming we do not receive further milestone payments and based on our currently contemplated research and development strategy and expenditures, we believe that our existing capital resources, not including potential milestone payments, will be sufficient to meet our projected operating requirements through at least the third quarter of 2023.

We expect to generate losses for the foreseeable future, and these losses could increase as we continue product development and if we successfully achieve regulatory approvals for our product candidates and begin to commercialize any approved products. We are subject to all the risks pertinent to the development of new products, and we may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may harm our business. Upon closing of the IPO, we incurred additional costs associated with operating a public company and we anticipate that we will need substantial additional funding in connection with our continuing operations.

Our future funding requirements will depend on many factors, including but not limited to the following:

- the scope, rate of progress, results and cost of our pre-clinical and clinical studies and other related activities;
- the cost of manufacturing clinical supplies and establishing commercial supplies of our existing product candidates and any other products we may develop;
- the cost, timing, and outcomes of regulatory approvals;
- the cost and timing of establishing sales, marketing and distribution capabilities;
- the terms and timing of any collaborative, licensing, and other arrangements that currently exist or that we may establish in the future, including any required milestone and royalty payments thereunder;
- the emergence of competing technologies or other adverse market developments; and
- the potential cost and timing of managing and protecting our portfolio of intellectual property.

Cash Flows

Comparison of the Years Ended December 31, 2017 and 2016

The following table summarizes our cash flows for the years ended December 31, 2017 and 2016:

	in CHF thousands	For the Years Ended December 31,		Change
		2017	2016	
Net cash provided by (used in):				
Operating activities		(22,094)	(5,646)	(16,448)
Investing activities		(1,842)	(899)	(943)
Financing activities		271	78,790	(78,519)
Net change in cash and cash equivalents		(23,665)	72,245	(95,910)

Operating activities

The net cash used in operating activities was CHF 22.1 million for the year ended December 31, 2017, compared to net cash used in operating activities of CHF 5.6 million for the year ended December 31, 2016. The change in operating cash flows is driven by three factors: (i) reporting a net loss of CHF 26.4 million in 2017 compared with a CHF 7.1 million net loss for 2016, (ii) a CHF 7.2 million variance in financial results, net driven by a CHF 4.2 million foreign currency loss on cash and cash equivalents compared to a CHF 3.4 million gain in 2016, and (iii) offsets due to changes in working capital.

Investing activities

Net cash used in investing activities was CHF 1.8 million for the year ended December 31, 2017, compared with CHF 0.9 million for the year ended December 31, 2016. The CHF 0.9 million increase in cash used in investing activities was due to an increase in investments in fixed assets, primarily for laboratory equipment.

Financing activities

Net cash provided by financing activities was CHF 0.3 million for the year ended December 31, 2017, compared to CHF 78.8 million for the year ended December 31, 2016. The decrease in financing activity cash inflows was driven primarily by the CHF 74.5 million in gross proceeds (CHF 65.3 million net underwriting fees and IPO related costs) raised from the IPO in September 2016 and a Series E Private Placement Extension in 2016 of CHF 13.2 million. There were no such financing activities completed in 2017.

C. Research and development, patents and licenses, etc.

See “Item 4. Information on the Company – B. Business Overview” and Item 5. Operating and Financial Review and Prospects –A. Operating Results – Results of Operations.”

D. Trend information

See “Item 5. Operating and Financial Review and Prospects”.

E. Off-balance sheet arrangements

We do not have any material off-balance sheet arrangements or commitments.

F. Tabular disclosure of contractual obligations

We have been a tenant at our current location in the EPFL Innovation Park since shortly after our inception in 2003. We have entered into long-term rental lease agreements with respect to these facilities. However, our lease agreements are structured such that we can exit these lease agreements without penalty provided we give the owner of our premises sufficient notice.

The following table presents information relating to our contractual obligations that are committed as of December 31, 2018:

in CHF thousands	Payments Due by Period				Total
	Less Than 1 Year	Between 1-3 Years	Between 3-5 years	More than 5 years	
Operating lease obligations	793	34	34	—	861
Research and development obligations	18,755	6,775	4,975	1,190	31,695
Debt-obligation	332	186	—	—	518
Total	19,880	6,995	5,009	1,190	33,074

G. Safe harbor

See “Forward-Looking Statements.”

H. Non-IFRS Financial Measures

In addition to our operating results, as calculated in accordance with International Financial Reporting Standards, or IFRS, as adopted by the International Accounting Standards Board, we use Adjusted Loss and Adjusted Loss per share when monitoring and evaluating our operational performance. Adjusted Loss is defined as loss for the relevant period, as adjusted for certain items that we believe are not indicative of our ongoing operating performance. Adjusted Loss per share is defined as Adjusted Loss for the relevant period divided by the weighted-average number of shares for such period.

We believe that these measures assist our shareholders because they enhance comparability of our results each period and provide more useful insight into operational results for the period. The Company’s executive management uses these non-IFRS measures to evaluate our operational performance. These non-IFRS financial measures are not meant to be considered alone or substitute for our IFRS financial measures and should be read in conjunction with AC Immune’s financial statements prepared in accordance with IFRS. The most directly comparable IFRS measure to these non-IFRS measures is net loss and loss per share. The following table reconciles net loss and loss per share to Adjusted Net Loss and Adjusted Net Loss per share for the periods presented:

**Reconciliation of Loss to Adjusted Loss and
Loss per Share to Adjusted Loss per Share**

	For the Years Ended December 31,		
	2018	2017	2016
in CHF thousands except for share and per share data			
Loss	(50,951)	(26,411)	(7,096)
Adjustments:			
Non-cash share-based payments (a)	2,518	1,579	1,317
Foreign currency (gains)/losses (b)	1,179	4,168	(3,443)
Adjusted Loss	(47,254)	(20,664)	(9,222)
Loss per share – basic and diluted	(0.82)	(0.46)	(0.14)
Adjustment to loss per share – basic and diluted	0.06	0.10	(0.04)
Adjusted Loss per share – basic and diluted	(0.76)	(0.36)	(0.18)
Weighted-average number of shares used to compute Adjusted Loss per share – basic and diluted	61,838,228	57,084,295	50,096,859

- (a) Reflects non-cash expenses associated with share-based compensation for equity awards issued to Directors, Management and employees of the Company. This expense reflects the awards' fair value recognized for the portion of the equity award which is vesting over the period.
- (b) Reflects foreign currency remeasurement gains and losses for the period, predominantly impacted by the change in the exchange rate between the US Dollar and the Swiss Franc.

Adjustments for the years ended December 31, 2018, 2017 and 2016, were CHF 3.7 million in net losses, CHF 5.7 million in net losses and CHF 2.1 million in net gains, respectively. These were largely due to foreign currency remeasurement losses of CHF 1.2 million, CHF 4.2 million and gains of CHF 3.4 million for the years ended December 31, 2018, 2017 and 2016, respectively, predominantly related to the cash balance of the Company as a result of fluctuations of the US Dollar against the Swiss Franc. The Company also recorded CHF 2.5 million, CHF 1.6 million and CHF 1.3 million for the years ended December 31, 2018, 2017 and 2016, respectively, for share-based compensation expenses.

The Company also discloses liquidity which is defined as a financial indicator comprised of cash and cash equivalents and short term financial assets. See Note 3 "Summary of significant accounting policies" to our Financial Statements for further definition.

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

A. Directors and senior management

Executive Officers, Other Key Employees and Board of Directors

The following table presents information about our executive officers, other key employees and, directors and director nominees, including their ages, as of March 1, 2019. The term of each of our directors is one year and, accordingly, will expire at our 2019 annual shareholder meeting to be held in June 2019.

Name	Position	Age	Initial Year of Appointment
Executive Officers			
Andrea Pfeifer, Ph.D.	Chief Executive Officer and Director	61	2003
Joerg Hornstein	Chief Financial Officer	41	2017
Jean-Fabien Monin	Chief Administrative Officer	48	2009
Marie Kosco-Vilbois, Ph.D.	Chief Scientific Officer	61	2019
Piergiorgio Donati	Head of Technical Operations and Program Management	48	2019
Sonia Poli, Ph.D.	Head of Translational Science	53	2019
Other Key Employees			
Olivier Sol, M.D.	Head of Clinical Team	52	2016
Julian Gray, M.D., Ph.D.	Clinical Advisor	61	2007
Non-Executive Directors			
Martin Velasco	Chairman and Director	64	2003
Detlev Riesner, Ph.D.	Director	77	2004
Friedrich von Bohlen und Halbach, Ph.D.	Director	56	2015
Peter Bollmann, Ph.D.	Director	65	2015
Thomas Graney	Director	54	2016
Douglas Williams, Ph.D.	Director	60	2018
Werner Lanthaler, Ph.D.	Director	50	2018

The current business addresses for our executive officers, other key employees, directors and director nominee is AC Immune SA, EPFL Innovation Park, Building B, 1015 Lausanne, Switzerland.

Executive Officers

Andrea Pfeifer, Ph.D., Co-Founder, Chief Executive Officer and Director: Dr. Pfeifer co-founded AC Immune in April 2003, and has served as a director on our board since our IPO. Prior to founding us, Dr. Pfeifer was head of Nestlé’s Global Research in Lausanne, Switzerland. While at Nestlé, she led the scientific development of the first Functional Food, LC1, and one of the first Cosmoceutical products in a joint venture with L’Oreal, Innéov Fermeté. She also co-founded the Nestlé Venture Capital Fund, a Life Sciences corporate venture fund. She serves as chairwoman of Investment Fund BioMedInvest, Basel and AB2 Bio, Lausanne and is a member of the Supervisory Board of Symrise AG, Holzminden. Dr. Pfeifer is a member of the CEOi Initiative on Alzheimer’s Disease.

Dr. Pfeifer holds a Ph.D. in Toxicology, Cancer Research from the University of Würzburg, Germany. She continued with post-doctoral work in Molecular Carcinogenesis at the National Institutes of Health, Human Carcinogenesis Branch, in Bethesda, Maryland. Dr. Pfeifer is a registered toxicologist and pharmacist. She received her habilitation from the University of Lausanne, Switzerland and is also an honorary professor at the École Polytechnique Fédérale de Lausanne (EPFL).

Joerg Hornstein, Chief Financial Officer: Mr. Hornstein has served as our Chief Financial Officer since April 2017. Prior to joining AC Immune, Mr. Hornstein served as Senior Vice President Group Controlling for Unternehmensgruppe Theo Müller based in Luxembourg from January 2014 to March 2017. Between 2002 and 2013 he worked for Merck KGaA, a leading science and technology company in healthcare, life science and performance materials, where he held various senior finance roles. Amongst others, he was CFO for Merck’s operations in Indonesia and Merck Serono’s operations in China. Furthermore, he served as Vice President Group Controlling for Merck Group Headquarters in Germany and as Divisional CFO for Merck Millipore in the U.S. Mr. Hornstein holds an MBA with Distinction from London Business School, UK, and a Bachelor of Business Administration from Baylor University in the U.S.

Jean-Fabien Monin, Chief Administrative Officer: Mr. Monin was nominated Chief Administrative Officer in July 2015 following his role as our Chief Financial Officer from March 2009 to July 2015. Prior to AC Immune, he held several positions during his tenure of 14 years at bioMérieux, a leading international *in vitro* diagnostics group, culminating in his nomination as Chief Financial Officer. His last position was CFO of bioMérieux Central Europe based in Vienna, Austria from December 2006 to March 2009. Mr. Monin holds a Masters in Finance and International Business from the University of Paris-Dauphine, France.

Marie Kosco-Vilbois, Ph.D., Chief Scientific Officer: A US citizen, Dr. Kosco-Vilbois has extensive experience in the biopharmaceutical industry and served as Chief Scientific Officer of Novimmune since 2005. Prior to joining Novimmune in 2002, Dr. Kosco-Vilbois was Head of Immunology and Preclinical Pharmacology at the Serono Pharmaceutical Research Institute, a Senior Scientist and then Head of Immunology at the Glaxo Wellcome Research Institute in Geneva and a Scientific Member of the Basel Institute for Immunology. During her career, she has taken numerous Biologicals from discovery into pre-clinical studies and clinical development, most notably filing market applications of a Biological for an Orphan indication. Dr. Kosco-Vilbois gained her Bachelor’s Degree in Biology from Rutgers University, New Jersey, US, and a PhD in Anatomy and Immunology from the Medical College of Virginia/Virginia Commonwealth University School of Medicine, US.

Piergiorgio Donati, Head of Technical Operations and Program Management: Mr. Donati joined AC Immune in June 2018 as Director, Global Program Management, having previously worked for AC Immune from 2011-2015 as Head of Manufacturing and Project Management. Between 2015 and 2018, Mr. Donati was Head of CMC program development at Glenmark Pharmaceuticals and Biotech CMC Lead at Merck KGaA. Prior to 2011, he held R&D positions at Abiogen, Merck Group and Serono. Mr. Donati holds a degree in Chemistry from the Technical Institute G.L. Bernini.

Sonia Poli, Ph.D., Head of Translational Science: Dr. Poli joined AC Immune from Addex Therapeutics, where she worked for 13 years, and was promoted to Chief Scientific Officer. Prior to Addex she spent seven years at Roche, most recently as Scientific Specialist in the CNS discovery Drug Metabolism and Pharmacokinetics group. Dr. Poli holds a Ph.D. in Industrial Chemistry from Università degli Studi di Milano. Dr. Poli is also a member of the Board of Directors of Dimerix Ltd.

Other Key Employees

Oliver Sol, M.D., Head of Clinical Team: Prior to joining AC Immune, Dr. Olivier Sol was Clinical Director of Exonhit (Paris) and thereafter Medical & Regulatory Affairs Director for Diaxonhit, where he was responsible for the development and medical validation of in-vitro diagnostic products in cancer, infectious diseases and Alzheimer's disease. Dr. Sol spent his over 20-year career as a Medical Expert in several therapeutic areas with a strong focus on central nervous system diseases, within pharmaceutical companies as Janssen, UCB-Pharma, GlaxoSmithKline and Sanofi. He contributed to the clinical development of currently marketed drugs in epilepsy (topiramate and levetiracetam) and galantamine in Alzheimer's. He has also gained significant experience in the field of biological biomarkers. Dr. Sol holds an M.D. from the Paris-Sud University (Paris-Saclay) with a specialization in Medical Biology.

Julian Gray, M.D., Ph.D., Clinical Advisor: Dr. Gray has served as Clinical Advisor to our programs in neurodegenerative diseases since January 2007 and works in this function exclusively for AC Immune. He has previously held the position of Head of CNS Therapeutics at Eisai Ltd in London leading the global development of early and late-stage CNS projects in Alzheimer's disease, Parkinson's disease and other CNS areas. Prior to this he served as Head of Alzheimer Clinical Research at Hoffmann-La Roche in Basel where he conducted large scale clinical trials in the US and Europe. After his studies he was Medical Expert at Sandoz Pharmaceuticals in Basel undertaking clinical studies of different compounds in dementia and Parkinson's disease. Dr. Gray holds the title of a Specialist in Pharmaceutical Medicine (Switzerland). He received his medical degree (MBBS) from the University of London, a BA and Ph.D. from the University of Oxford and an MBA from the Oxford Brookes University.

Non-Executive Directors

Martin Velasco, Chairman and Director: Mr. Velasco has served on our board of directors since December 2003. Martin Velasco is an entrepreneur and Business Angel with extensive experience in the IT, medical and biotech areas. He serves on the board of directors or advisory board of several other high-tech companies including: as Founder, Chairman and Chief Executive Officer of Anecova, an assisted reproductive technology (ART) company and World Economic Forum Technology Pioneer 2008 as Chairman of the Supervisory Board of Cocomore, a digital communications agency and IT services firm and as a Board Member of Aridhia, a Health Informatics company. Martin is also the Founder of Infantia Foundation, a philanthropic organization aiding children in the developing world. He is an Ambassador of BlueOrchard, the leading private microfinance investment advisory company and a member of the Strategic Advisory Board of the EPFL.

Detlev H. Riesner, Ph.D., Director: Prof. Riesner has served on our board since 2004. He held the Chair of Biophysics at the Heinrich-Heine-University in Düsseldorf, Germany from 1980 to 2007. He has also held the positions of Dean of the Science Faculty and Vice-President of Research. From 2007 through 2017, he was a member of the university's Board of Trustees. He worked as a research fellow at Princeton University and held a guest professorship at the department of Neurology at the University of California, San Francisco. Prof. Riesner is a co-founder of Qiagen N.V., Netherlands, was a member and from 1999 to 2014 chairman of the Supervisory Board. He was also a member of the supervisory boards of NewLab Bioquality AG, Erkrath, Direvo AG, Köln, and Alantos AG, Heidelberg. Currently, he is the chairman of the Advisory Board of Evoxx Technologies GmbH, Monheim am Rhein. Prof. Riesner was a member of the scientific advisory boards of the Friedrich-Löffler-Institut, Isle of Riems, and PrioNet and APRI, both Canada. He received the Max-Planck Forschungspreis for International Co-operation and the Bundesverdienstkreuz 1. Klasse from the Bundespräsident of Germany.

Friedrich von Bohlen und Halbach, Ph.D., Director: Dr. von Bohlen has served on our board since October 2015. He is co-founder and managing director of dievini Hopp BioTech holding GmbH & Co. KG. He brings extensive industry experience from Fresenius AG, FAG Kugelfischer, and WASAG-Chemie AG, founded LION bioscience AG in 1997 (now Expedeon) and served as the company's CEO. Dr. von Bohlen is a board member of various companies of the dievini portfolio, CEO of Molecular Health GmbH and Chairman of Apogenix AG and Novaliq GmbH. He holds a PhD in Neurobiology from the Swiss Federal Institute of Technology in Zurich, Switzerland.

Peter Bollmann, Ph.D., Director: Dr. Bollmann has joined our board in December 2015. He has extensive management and finance experience in Switzerland and abroad as CEO, CFO and member of the board. His broad industry experience embraces biotechnology and medical technology firms including previous Board positions with Cytos Biotechnology and Prionics.

Thomas Graney, Director: Mr. Thomas Graney is currently the Chief Financial Officer of Generation Bio. Prior to Generation Bio he was Senior Vice President and Chief Financial Officer at Vertex Pharmaceuticals Inc. and Chief Financial Officer and Senior Vice President of Finance & Corporate Strategy at Ironwood Pharmaceuticals. Prior to Ironwood Pharmaceuticals, Mr. Graney spent 20 years working with J&J and its affiliates, serving for four years as worldwide vice president of finance and Chief Financial Officer of Ethicon. Mr. Graney has extensive global experience that spans corporate development, commercial strategy, portfolio management and supply chain management, communication and investor relations. A Chartered Financial Analyst charterholder, Mr. Graney holds a B.S. in accounting from the University of Delaware and an M.B.A. in Marketing, Finance and International Business from the Leonard N. Stern School of Business at New York University.

Douglas Williams Ph. D., Director: Dr. Douglas E. Williams is currently the President, CEO and member of the Board of Directors of Codiak BioSciences. He was previously Biogen's Executive Vice President, Research and Development, serving in this role from January 2011 to July 2015. He joined Biogen from ZymoGenetics, where he was most recently CEO and member of the Board of Directors. Previously, he held leadership positions within the biotechnology industry, including Chief Scientific Officer and Executive Vice President of Research and Development at Seattle Genetics, and Senior Vice President and Washington Site Leader at Amgen. Dr. Williams served in a series of scientific and senior leadership positions over a decade at Immunex, including Executive Vice President and Chief Technology Officer and a member of the Board of Directors. During his more than thirty year career in the biotechnology industry he has played a role in the development of several novel drugs including Enbrel, Tecfidera, and Spinraza. He has served on the board of numerous biotechnology companies and is currently a member of the Board of Directors of Ironwood Pharmaceuticals, Ovid Therapeutics, and AC Immune.

Werner Lanthaler Ph. D., Director: Dr. Werner Lanthaler is the CEO of Evotec AG, a drug discovery alliance and development partnership company focused on rapidly progressing innovative product approaches with leading pharmaceutical and biotechnology companies, academics, patient advocacy groups and venture capitalists. Since joining Evotec in 2009, Dr. Lanthaler has focused the company on collaborating with biotech and pharma companies and academia - supporting biotech innovation. He previously served as Chief Financial Officer at Intercell AG where he played a key role in many of the company's major milestones. During his tenure, Intercell undertook an Initial Public Offering and developed from a venture-backed biotechnology company into a global vaccine player. Dr. Lanthaler has also served as Director of the Federation of Austrian Industry, and from 1995 to 1998 was a Senior Management Consultant at McKinsey & Company. Dr. Lanthaler is a Non-Executive Member of the Board of Directors of arGEN-X and is a member of the Supervisory Board of Topas Therapeutics GmbH. He holds a Doctorate in Economics from Vienna University, a Master's degree in Business Administration from Harvard University, and a degree in Psychology.

B. Compensation

Compensation of Directors and Executive Officers

For the year ended December 31, 2018, the aggregate compensation accrued or paid to the members of our board of directors and our executive officers for services in all capacities was CHF 4.9 million. Compensation totals include our former CSO, Dr. Andreas Muhs, who passed away on December 6, 2018.

During the year ended December 31, 2018, the total fair value of stock options and non-vested share awards (restricted shares and restricted share units) granted to directors and executive officers was CHF 2.0 million.

The amount set aside or accrued by us to provide pension, retirement or similar benefits to members of our board of directors and executive officers amounted to a total of CHF 160 thousand in the year ended December 31, 2018.

We incorporate by reference into this Annual Report the information in “Item 1.C—2017 Board Compensation” and “Item 2.C—2017 Executive Compensation” of Exhibit 99.3 to our report on Form 6-K filed with the SEC on March 21, 2019.

Equity Incentive Plans

We ceased issuing new grants under our existing equity incentive plans, which we refer to as the Prior Plans, and adopted a new omnibus equity incentive plan under which we have the discretion to grant a broad range of equity-based awards to eligible participants.

Prior Plans: A, B, C1, and C2

Since our inception in 2003, we have had five separate Plans: Plan A, which was established in 2004 and amended in June 2015 and June 2017; Plan B, which was established in 2005; Plan C1, which was established in 2006; and Plan C2, which was also established in 2006 but which is intended specifically for members of our board of directors to purchase our common shares. Options granted under the C1 Plan from 2013 through the current 2016 Equity Incentive Plan were taxed upon exercise instead of at grant for prior C1 options due to a change in taxation rules.

Furthermore, pursuant to a board resolution on October 13, 2015 all options which were granted to directors and executive officers in connection with IPO were accelerated upon consummation of the IPO. This resulted in the acceleration of a total of 76,000 unvested options.

Plan Administration. Under each of the Prior Plans (A, B, C1, and C2), an option, which can only be granted with the approval of our board of directors, is evidenced by an option agreement signed by the participant to indicate his or her acceptance of the option subject to the terms and conditions of the applicable Prior Plan.

Eligibility. Under Plans A, B and C1, options were granted to our directors, employees, advisors and agents. Under Plan C2, options were granted only to selected members of our board of directors.

Option Exercise Price. With the exception of Plan A, the exercise price of all options issued under the Prior Plans is CHF 0.15. The original exercise price for options issued under Plan A was CHF 0.93. However, this exercise price was amended in June 2015 with the approval of our board of directors to be CHF 0.15. As a result, as of December 31, 2018, all options outstanding under our Prior Plans have an exercise price of CHF 0.15.

Vesting Period. The vesting periods of options issued under our Prior Plans vary. The options granted under Plan A vested immediately but were subject to a four year lockup period. The options granted under Plan B vested over a four year period with 25% of these options vested after one year of service and thereafter, 6.25% of the options granted vesting each quarter. Under Plan C1, the vesting period for options was four years with 25% of the options vesting each year. Under Plan C2, options were immediately exercisable.

Expiration Period. The expiry dates for each plan are as follows:

Plan A: 15.5 years (amended from 10.5 years)

Plan B: 10.5 years

Plan C1: 10 years

Plan C2: 10 years

Amendment. Our board of directors has the authority to amend each of the Prior Plans.

2016 Stock Option and Incentive Plan

At the November 15, 2016 AGM of the Company, our board of directors approved the 2016 Stock Option and Incentive Plan (the “2016 Plan”). The maximum number of shares available for issuance under the 2016 Plan is 2,057,740 common shares. The Plan was registered with the SEC on March 8, 2017. As of December 31, 2018, there were a total aggregate of 932,175 exercisable and 1,618,856 outstanding common shares underlying outstanding options, restricted share awards and restricted share units issued from both our Prior Plans and the 2016 Stock Option and Incentive Plan.

Plan Administration. The 2016 Plan is administered by the either our board of directors or the compensation committee, or a similar committee performing the functions of the compensation committee. Approval of the plan administrator is required for all grants of awards under the 2016 Plan, but the administrator may delegate to our Chief Executive Officer the authority to grant awards, subject to certain limitations set forth on the plan.

Awards. Awards may be granted in the form of incentive stock options, non-qualified stock options, stock appreciation rights, restricted share units, restricted share awards, unrestricted share awards, performance share awards and dividend equivalent rights.

Eligibility. Under the 2016 Plan, full or part-time officers and other employees, non-employee directors and consultants of the Company and its subsidiaries who are selected by the administrator are eligible to participate in the plan.

Option Exercise Price. Under the 2016 Plan, the option exercise price is determined by the plan administrator at the time of grant, but will not be less than fair market value (as defined in the 2016 Plan) on the grant date, and for incentive stock options granted to any employee who is a 10 percent owner in the Company, will not be less than 110 percent of the fair market value on the grant date.

Vesting Period. Vesting conditions are determined by the administrator at the time of grant and are specified in the applicable award certificate.

Accelerated Vesting. The administrator may accelerate the exercisability or vesting of all or any portion of any award in circumstances involving the grantee's death, disability, retirement or termination of employment, or a change in control.

Amendment. Our board of directors has the authority to amend the 2016 Plan.

Equity Compensation

For the fiscal year ended December 31, 2018, we have granted our directors and executive officers, in the aggregate, options for the right to acquire 256,528 shares at exercise prices ranging from CHF 8.36 to CHF 9.33 per share, that vest over a four year period with vesting to occur quarterly. In addition to the stock options granted, the Company also granted 58,741 restricted share units to its directors and executive officers. The restricted share units granted to directors total 54,489 and vest over a one-year period. The remaining 4,252 restricted share units were granted to executives and have a four year vesting life to be vested quarterly.

C. Board practices

Board Composition and Election of Directors

Our board of directors is composed of eight directors. Each director is elected for a one-year term. The current members of our board of directors were appointed at a shareholders' meeting held on July 6, 2018 to serve until the 2019 shareholders' meeting to be held in June 2019.

We are a foreign private issuer. As a result, in accordance with the Nasdaq stock exchange listing requirements, we rely on home country governance requirements and certain exemptions thereunder rather than relying on the stock exchange corporate governance requirements. For an overview of our corporate governance principles, see "Item 16G. Corporate governance."

Board Meetings

Our Board of Directors held five physical meetings in 2018 and several additional meetings by conference call. The Board discussed and analyzed the scientific, business, financial and organizational risks of the Company based on the external factors and internal changes impacting the risks for the Company in the future.

Director Independence

As a foreign private issuer, under the listing requirements and rules of Nasdaq, we are not required to have independent directors on our board of directors, except to the extent that our audit and finance committee is required to comply with independence requirements, subject to certain phase-in schedules. However, our board of directors has determined that, under current listing requirements and rules of Nasdaq (which we are not subject to) and taking into account any applicable committee independence standards, Martin Velasco, Detlev Riesner, Friedrich von Bohlen Und Halbach, Peter Bollmann, Thomas Graney, Douglas Williams and Werner Lanthaler are "independent directors." In making such determination, our board of directors considered the relationships that each non-employee director has with us and all other facts and circumstances our board of directors deemed relevant in determining the director's independence, including the number of ordinary shares beneficially owned by the director and his or her affiliated entities, if any.

Committees of the Board of Directors

Our board of directors established two separate committees: an audit and finance committee and a compensation, nomination and governance committee.

Audit and Finance Committee

The audit and finance committee, which consists of Peter Bollmann, Thomas Graney, Werner Lanthaler and Martin Velasco, assists our board of directors in overseeing our accounting and financial reporting processes and the audits of our financial statements. In addition, the audit and finance committee is directly responsible for the appointment, compensation, retention and oversight of the work of our independent registered public accounting firm. Peter Bollmann serves as Chairman of the committee. The audit and finance committee consists exclusively of members of our supervisory board who are financially literate, and Peter Bollmann, Thomas Graney and Werner Lanthaler are considered to be “audit committee financial experts” as defined by the SEC. Our board of directors has determined that Peter Bollmann, Thomas Graney, Werner Lanthaler and Martin Velasco satisfy the “independence” requirements set forth in Rule 10A-3 under the Exchange Act.

The audit and finance committee is governed by a charter that complies with Nasdaq rules. The audit and finance committee has the responsibility to, among other things:

- review and assess the qualifications, independence, performance and effectiveness of the independent auditor;
- review the scope of the prospective audit by the independent auditor, the estimated fees, and any other matters pertaining to the audit;
- approve any audit and non-audit services proposed to be provided by the independent auditor to ensure independent auditor independence;
- review and assess the independent auditor’s report, management letters and take notice of all comments of the independent auditor on accounting procedures and systems of control, and review the independent auditor’s reports with management;
- be responsible for the resolution of disagreements between the management and the independent auditor;
- review and evaluate the lead audit partner of the independent audit team and confirm and evaluate their rotation;
- review, discuss with the chief financial officer and the independent auditor and approve (i) the annual and quarterly financial statements, (ii) reports intended for publication and (iii) any other financial statements intended for publication to consider significant financial reporting issues and judgments made in connection with the preparation of our financial statements, including any significant changes in our selection or application of accounting principles;
- review with the management, personnel responsible for the design and implementation of the internal audit function and the independent auditor in separate meetings any analysis or other written communication prepared by the management and/or the independent auditor setting forth significant financial reporting issues and judgments made in connection with the preparation of the financial statements, including critical accounting policies, the effect of regulatory and accounting initiatives, as well as off-balance sheet transactions and structures on our financial statements;
- review and approve our quarterly financial statements for the first three quarters of each calendar year and the corresponding financial results releases;
- review in cooperation with the independent auditor and the management whether the accounting principles applied are appropriate in view of our size and complexity;

- periodically review our policies and procedures for risk management and assess the effectiveness thereof including discussing with management our major financial risk exposures and the steps that have been taken to monitor and control such exposures;
- discuss with management and external advisors any legal matters that may have a material impact on our financial statements and any material reports or inquiries from regulatory or governmental agencies which could materially impact our contingent liabilities and risks;
- review our disclosure controls and procedures and internal control over financial reporting which shall include significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting;
- establish procedures for the receipt, retention and treatment of complaints received regarding accounting, internal accounting controls or auditing matters, and the confidential, anonymous submission by employees of concerns regarding questionable accounting or auditing matters; and
- recommend to the board whether to approve and ratify any related person transaction in accordance with our related person transaction policy.

The audit and finance committee will meet as often as it determines is appropriate to carry out its responsibilities, but in any event will meet at least four times per year.

Compensation, Nomination and Governance Committee

The compensation, nomination and governance committee, consists of Douglass Williams (Chair), Detlev Riesner, Martin Velasco and Thomas Graney and will assist our board of directors in overseeing our cash compensation and equity award recommendations for our executive officers along with the rationale for such recommendations, as well as summary information regarding the aggregate compensation provided to our executive officers. Swiss law requires that we adopt a compensation committee, so in accordance with Nasdaq Listing Rule 5615(a)(3), we will follow home country requirements with respect to the compensation, nomination and governance committee. As a result, our practice will vary from the requirements of Nasdaq Listing Rule 5605(d), which sets forth certain requirements as to the responsibilities, composition and independence of compensation committees, and from the independent director oversight of director nominations requirements of Nasdaq Listing Rule 5605(e). We will be subject to the Swiss Ordinance Against Executive Compensation (“Say on Pay” Rule). This means that the compensation of our board of directors and Executive Officers must be presented by the board of directors to our shareholders and our shareholders must vote on the proposed compensation.

In addition, this committee will also be responsible for director and board committee nominations as well as reviewing and amending, if required, our corporate governance framework and guidelines.

D. Employees

As of December 31, 2018, we employed 104 employees, 12 of whom were part-time employees. 50 of our employees hold Ph.D. degrees and 33 hold M.Sc. degrees. Our 104 employees are from over 20 countries. The average number of employees (calculated on full time equivalents) in 2018 was 90.6. As of December 31, 2017 and 2016 we had 86 and 67 employees, respectively. We have never had a work stoppage, and none of our employees are represented by a labor organization or under any collective-bargaining arrangements. We consider our employee relations to be good.

E. Share ownership

See “Item 7. Major Shareholders and Related Party Transactions-A. Major shareholders.”

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

A. Major shareholders

The following table presents information relating to the beneficial ownership of our common shares as of the date of this Annual Report by:

- each person, or group of affiliated persons, known by us to own beneficially 5% or more of our outstanding common shares;
- each of our executive officers and directors; and
- all executive officers and directors as a group.

The number of common shares beneficially owned by each entity, person, executive officer or director is determined in accordance with the rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. Under such rules, beneficial ownership includes any common shares over which the individual has sole or shared voting power or investment power as well as any common shares that the individual has the right to acquire within 60 days of March 1, 2019 through the exercise of any option, warrant or other right. Except as otherwise indicated, and subject to applicable community property laws, the persons named in the table have sole voting and investment power with respect to all common shares held by that person.

The percentage of outstanding common shares is computed on the basis of 67,562,333 common shares outstanding as of March 1, 2019. Common shares that a person has the right to acquire within 60 days of March 1, 2019 are deemed outstanding for purposes of computing the percentage ownership of the person holding such rights, but are not deemed outstanding for purposes of computing the percentage ownership of any other person, except with respect to the percentage ownership of all executive officers and directors as a group. Unless otherwise indicated below, the address for each beneficial owner is AC Immune, EPFL Innovation Park, Building B, 1015 Lausanne, Switzerland.

Shareholder	Number	Shares Beneficially Owned Percent
5% Shareholders		
dievini Hopp BioTech holding GmbH & Co KG ⁽¹⁾	18,041,000	26.7%
Varuma AG ⁽²⁾	11,999,999	17.8%
BVF Inc. ⁽³⁾	5,663,760	8.4%
Executive Officers and Directors		
Andrea Pfeifer ⁽⁴⁾	2,642,285	3.9%
Joerg Hornstein ⁽⁵⁾	*	*
Jean-Fabien Monin ⁽⁶⁾	*	*
Marie Kosco-Vilbois ⁽⁷⁾	*	*
Piergiorgio Donati ⁽⁸⁾	*	*
Sonia Poli ⁽⁹⁾	*	*
Martin Velasco ⁽¹⁰⁾	*	*
Detlev Riesner ⁽¹¹⁾	784,723	1.2%
Friedrich von Bohlen und Halbach ⁽¹²⁾	*	*
Peter Bollmann ⁽¹³⁾	*	*
Thomas Graney ⁽¹⁴⁾	*	*
Douglas Williams ⁽¹⁵⁾	*	*
Werner Lanthaler ⁽¹⁶⁾	*	*
All executive officers and directors as a group (13 persons)	4,338,415	6.4%

* Indicates beneficial ownership of less than 1% of the total issued and outstanding common shares.

- 1) Represents 18,041,000 shares held by dievini Hopp BioTech holding GmbH & Co KG. Dietmar Hopp controls the voting and investment decisions of the ultimate parent company of dievini Hopp BioTech holding GmbH & Co KG. The shares registered in the name of dievini Hopp BioTech holding GmbH & Co KG may also be deemed to be beneficially owned by Friedrich von Bohlen und Halbach, who is a managing director of dievini Hopp BioTech holding GmbH & Co KG. The address for dievini Hopp BioTech holding GmbH & Co KG and Friedrich von Bohlen und Halbach is Johann-Jakob-Astor Str. 57, 69190 Walldorf, Germany.
- 2) Represents 11,999,999 shares held by Varuma AG set forth in a Schedule 13G/A filed with the SEC on February 12, 2019. The address for Varuma AG is Aeschenvorstadt 55, CH-4051 Basel, Switzerland. Rudolf Maag controls the voting and investment decisions of Varuma AG.
- 3) Based on information set forth in a Schedule 13G filed with the SEC by Biotechnology Value Fund on February 12, 2019, these shares consist of 5,663,760 shares held of record by BVF Inc. The address of BVF Inc. is 44 Montgomery St., 40th Floor, San Francisco, California 94104.

- 4) Consists of 2,412,796 of our common shares and options to purchase 229,489 of our common shares exercisable within 60 days of March 1, 2019.
- 5) Consists of 0 of our common shares and options to purchase 85,672 of our common shares exercisable within 60 days of March 1, 2019.
- 6) Consists of 330,296 of our common shares and options to purchase 4,823 of our common shares exercisable within 60 days of March 1, 2019.
- 7) Dr. Kosco-Vilbois holds neither common shares nor non-vested equity instruments exercisable within 60 days of March 1, 2019.
- 8) Consists of 4,500 of our common shares with no equity instruments exercisable within 60 days of March 1, 2019.
- 9) Consists of 0 of our common shares and options to purchase 1,113 of our common shares exercisable within 60 days of March 1, 2019.
- 10) Consists of 450,125 of our common shares and options to purchase 10,250 of our common shares exercisable within 60 days of March 1, 2019.
- 11) Consists of 784,723 of our common shares. Includes shares held through an entity controlled by Dr. Riesner and, as such, Dr. Riesner has sole voting and dispositive power over such shares. Additionally includes 154,179 shares held by Dr. Riesner's spouse for which Dr. Riesner has no voting or power.
- 12) Consists of 5,875 of our common shares, and excludes the 18,041,000 shares registered in the name of dievini Hopp BioTech holding GmbH & Co KG that may also be beneficially owned by Friedrich von Bohlen und Halbach. See note (1) above.
- 13) Consists of 5,875 of our common shares with no equity instruments exercisable within 60 days of March 1, 2019.
- 14) Consists of 9,898 of our common shares with no equity instruments exercisable within 60 days of March 1, 2019.
- 15) Consists of 2,980 of our common shares with no equity instruments exercisable within 60 days of March 1, 2019.
- 16) Dr. Lanthaler holds neither common shares nor non-vested equity instruments exercisable within 60 days of March 1, 2019.

Holders

As of March 10, 2019, we had approximately 201 shareholders of record of our common stock. The actual number of stockholders is greater than this number of record holders and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust or by other entities.

Significant Changes in Ownership by Major Shareholders

We have experienced significant changes in the percentage ownership held by major shareholders as a result of our initial public offering. Prior to our initial public offering in September 2016, our principal shareholders were dievini Hopp BioTech holding GmbH & Co KG (36.5%) and Varuma AG (23.1%).

In September 2016, we completed our initial public offering and listed our common shares on the Nasdaq Global Market. In the initial public offering, we issued and sold 6,900,000 common shares, including 900,000 common shares sold to the underwriters pursuant to the underwriters' over-allotment option. While none of our existing shareholders sold common shares in the initial public offering, the percentage ownership held by certain shareholders decreased as a result of the issuance of the common shares sold by us in the initial public offering.

In July 2018, we completed three offerings of our common shares. In these offerings, we issued and sold 10,000,000 common shares, including 1,108,695 sold to the underwriters pursuant to the underwriters' over-allotment option. The percentage ownership held by certain shareholders decreased as a result of the issuance of the common shares sold by us in these offerings.

B. Related party transactions

On July 31, 2018, as part of the Company's previously announced second subscription rights offering, a major shareholder and members of the Board and Executive Management purchased an aggregate of 614,147 of the Company's common shares on the same basis and otherwise on the same terms as the other participants in such rights offering.

The above transaction represents the only related party transactions we have entered into since January 1, 2018 with any of our executive officers, directors and holders of more than 10% of any class of our voting securities, or any member of the immediate family of any of the foregoing persons, other than the compensation arrangements we describe under "Item 6. Directors, Senior Management and Employees—B. Compensation."

Registration Rights Agreement

We entered into a registration rights agreement in connection with the Series E Private Placement with certain investors in the Series E Private Placement pursuant to which we granted them certain demand and piggyback registration rights for the resale of the common shares held by them, as described below. The registration rights described below will expire on the earlier to occur of (i) the fifth anniversary of the completion of our initial public offering and (ii) the date on which there are no remaining registrable securities held by the parties to the registration rights agreement. The registration rights agreement provides that we must pay certain registration expenses in connection with any demand, piggyback or shelf registration. The registration rights agreement contains customary indemnification and contribution provisions.

Demand Registration Rights

Pursuant to the terms of the registration rights agreement, a shareholder or group of shareholders holding at least 10% of our outstanding common shares may request that we effect a registration under the Securities Act of all or any portion of such requesting shareholders' registrable securities. As of March 1, 2019 dievini Hopp BioTech holding GmbH & Co KG and Varuma AG were our only shareholders party to the registration rights agreement holding at least 10% of our outstanding common shares, and together they beneficially held 30,040,099 of our common shares, representing approximately 44.5% of the voting power of our common shares outstanding as of March 1, 2019. At least 10 business days prior to the anticipated filing date of the registration statement relating to such demand registration, we must give all other shareholders party to the registration rights agreement notice of such requested registration. Within five business days of such notice, any of the other shareholders party to the registration rights agreement may request that we also effect the registration of the registrable securities held by them. We will not be required to effect a registration of all such registrable securities unless the aggregate proceeds expected to be received from the sale of such registrable securities equals or exceeds USD 10 million or such lesser amount that constitutes all of the requesting shareholders' registrable securities (*provided* that such lesser amount is at least USD 5 million). In no event will we be required to effect more than two demand registrations or underwritten take downs referred to under "Shelf Registration Rights" below. Depending on certain conditions, we may postpone a demand registration on two occasions during any period of twelve consecutive months for up to 90 days.

Piggyback Registration Rights

Pursuant to the terms of the registration rights agreement, at any time after the trigger date, if we propose to register any of our securities, whether or not for sale for our own account, we must give notice to the shareholders party to the registration rights agreement, and they will be entitled to certain piggyback registration rights allowing them to add any of their remaining registrable securities in the registration, subject to certain marketing and other limitations. As a result, whenever we propose to file a registration statement under the Securities Act, the holders of these shares are entitled to notice of the registration and to request that we include their shares in the registration.

Shelf Registration Rights

Pursuant to the terms of the registration rights agreement, if we are eligible to use a shelf registration statement, then a shareholder or group of shareholders holding at least 10% of our outstanding common shares may request that we effect a shelf registration on similar terms as the demand registrations described above, except that offerings will be conducted as underwritten takedowns. As of March 1, 2019 dievini Hopp BioTech holding GmbH & Co KG and Varuma AG were our only shareholders party to the registration rights agreement holding at least 10% of our outstanding common shares, representing approximately 44.5% of the voting power of our common shares outstanding as of March 1, 2019. We will only be required to effect one public offering from such shelf registration statement within any six month period, each of which shall be deemed to constitute a demand registration for purposes of the number of demand registrations we are required to effect as described under “—Demand Registration Rights” above.

In August 2018, we filed a registration statement on Form F-3 to register the resale of one of our shareholder’s common shares pursuant to the requirements of the registration rights agreement.

Related Person Transaction Policy

Prior to our initial public offering, we entered into a new related person transaction policy under which any such transaction must be approved or ratified by the audit and finance committee.

Indemnification Agreements

In connection with our initial public offering, we entered into indemnification agreements with our executive officers and directors. The indemnification agreements and our Articles of Association require us to indemnify our executive officers and directors to the fullest extent permitted by law.

C. Interests of Experts and Counsel

Not applicable.

ITEM 8. FINANCIAL INFORMATION

A. Consolidated statements and other financial information

Financial statements

See “Item 18. Financial Statements,” which contains our financial statements prepared in accordance with IFRS.

Legal Proceedings

From time to time we may become involved in legal proceedings that arise in the ordinary course of business. During the period covered by the financial statements contained herein, we have not been a party to or paid any damages in connection with litigation that has had a material adverse effect on our financial position. No assurance can be given that future litigation will not have a material adverse effect on our financial position. When appropriate in management’s estimation, we may record reserves in our financial statements for pending litigation and other claims.

Dividends and Dividend Policy

We have never declared or paid cash dividends on our capital stock. We intend to retain all available funds and any future earnings, if any, to fund the development and expansion of our business and we do not anticipate paying any cash dividends in the foreseeable future. Any future determination related to dividend policy will be made at the discretion of our board of directors.

Under Swiss law, any dividend must be proposed by our board of directors and approved by our shareholders. In addition, our auditors must confirm that the dividend proposal of our board of directors conforms to Swiss statutory law and our articles of incorporation. A Swiss corporation may pay dividends only if it has sufficient distributable profits brought forward from the previous business years (“*report des bénéfices*”) or if it has distributable reserves (“*réserves à libre disposition*”), each as evidenced by its audited standalone statutory balance sheet prepared pursuant to Swiss law and after allocations to reserves required by Swiss law and its articles of association have been deducted. Distributable reserves are generally booked either as “free reserves” (“*réserves libres*”) or as “reserve from capital contributions” (“*apports de capital*”). Distributions out of nominal share capital, which is the aggregate nominal value of a corporation’s issued shares, may be made only by way of a share capital reduction.

B. Significant changes

A discussion of the significant changes in our business can be found under “Item 4. Information on the Company—A. History and development of the Company” and “Item 4. Information on the Company—B. Business Overview.”

ITEM 9. THE OFFER AND LISTING

A. Offering and listing details

See “—C. Markets” below.

B. Plan of distribution

Not applicable.

C. Selling shareholders

Not applicable.

D. Dilution

Not applicable.

E. Expenses of the issue

Not applicable.

ITEM 10. ADDITIONAL INFORMATION

A. Share capital

Not applicable.

B. Memorandum and articles of association

On March 26, 2018, we adopted updated Articles of Association reflecting the increase of the Company's issued share capital following various exercises of options and the corresponding adjustment of the conditional share capital increase for employee benefit plans. On July 19 and 30, 2018, we adopted two subsequent versions of our Articles of Association, in each case to reflect the increase of the Company's issued share capital following the three offerings carried out in July 2018. The Articles of Association dated July 30, 2018 are filed as Exhibit 3.1 hereto.

We incorporate by reference into this annual report on Form 20-F the description of our Articles of Association contained in our Registration Statement on Form F-1 (File No. 333-211714) filed with the SEC on September 23, 2016, Form F-3 (File No. 333-224694) filed with the SEC on May 4, 2018 and Form F-3 (File No. 333-227016) filed with the SEC on August 24, 2018. Such description, together with the immediately preceding paragraph, sets forth a summary of certain provisions of our Articles of Association as currently in effect.

C. Material contracts

Except as otherwise disclosed in this Annual Report on Form 20-F (including the Exhibits), we are not currently, and have not been in the last two years, party to any material contract, other than contracts entered into in the ordinary course of business.

D. Exchange controls

There are no Swiss governmental laws, decrees or regulations that restrict, in a manner material to us, the export or import of capital, including any foreign exchange controls, or that generally affect the remittance of dividends or other payments to non-residents or non-citizens of Switzerland who hold our common shares.

E. Taxation

The following summary contains a description of the material Swiss and U.S. federal income tax consequences of the acquisition, ownership and disposition of common shares, but it does not purport to be a comprehensive description of all the tax considerations that may be relevant to a decision to purchase common shares. The summary is based upon the tax laws of Switzerland and regulations thereunder and on the tax laws of the United States and regulations thereunder as of the date hereof, which are subject to change.

Taxation of AC Immune SA

On June 6, 2018, the Swiss Federal Council published the draft bill of the new tax reform named “Tax Proposal 17” (*Steuervorlage 17*) and there will be a vote on such bill on May 19, 2019. Thus, uncertainty will continue about the future level of Swiss Federal corporate income taxes that may apply to us until revised proposals are put forward and gain acceptance. If the Tax Proposal 2017 is accepted by the public, the main aspects of the reform are expected to come into force no earlier than on January 1, 2020. The Tax Proposal 17 includes – amongst other measures – the following measures:

- repealing the status companies at the cantonal level as well as certain tax practices at the federal level, including transitional measures;
- introducing a mandatory patent box regime at the cantonal level, and;
- introducing an optional R&D “super deduction” at the cantonal level.

On January 1, 2019, the applicable corporate tax rate in the canton of Vaud was reduced to an actual combined effective Swiss income tax rate of 13.63%.

Swiss Tax Considerations

Federal, cantonal and communal individual income tax and corporate income tax

Non-Resident Shareholders

Shareholders who are not resident in Switzerland for tax purposes, and who, during the relevant taxation year, have not engaged in a trade or business carried on through a permanent establishment or fixed place of business situated in Switzerland for tax purposes (all such shareholders for purposes of this section, “Non-Resident Shareholders”), will not be subject to any Swiss federal, cantonal and communal income tax on dividends and similar cash or in-kind distributions on Shares (including liquidation proceeds and stock dividends) (for the purposes of this section, “Dividends”), distributions based upon a capital reduction (*remboursements liés à la réduction de la valeur nominale des actions*) and distributions paid out of reserves from capital contributions (*apports de capital*) on Shares, or capital gains realized on the sale or other disposition of Shares (see, however, “—Swiss Federal Withholding Tax” below for a summary of Swiss federal withholding tax on Dividends).

Resident Private Shareholders

Swiss resident individuals who hold their Shares as private assets are required to include Dividends, but not distributions based upon a capital reduction (*remboursements liés à la réduction de la valeur nominale des actions*) and distributions paid out of reserves from capital contributions (*apports de capital*), in their personal income tax return and are subject to Swiss federal, cantonal and communal income tax on any net taxable income for the relevant taxation period, including the Dividends, but not the distributions based upon a capital reduction (*remboursements liés à la réduction de la valeur nominale des actions*) and distributions paid out of reserves from capital contributions (*apports de capital*). Capital gains resulting from the sale or other disposition of Shares are not subject to Swiss federal, cantonal and communal income tax, and conversely, capital losses are not tax-deductible for Resident Private Shareholders (the shareholders referred to in this paragraph for the purposes of this section, “Resident Private Shareholders”). See “— Domestic Commercial Shareholders” below for a summary of the taxation treatment applicable to Swiss resident individuals, who, for income tax purposes, are classified as “professional securities dealers”.

Domestic Commercial Shareholders

Corporate and individual shareholders who are resident in Switzerland for tax purposes, and corporate and individual shareholders who are not resident in Switzerland, and who, in each case, hold their Shares as part of a trade or business carried on in Switzerland, in the case of corporate and individual shareholders not resident in Switzerland, through a permanent establishment or fixed place of business situated, for tax purposes, in Switzerland, are required to recognize Dividends, distributions based upon a capital reduction (*remboursements liés à la réduction de la valeur nominale des actions*) and distributions paid out of reserves from capital contributions (*apports de capital*) received on Shares and capital gains or losses realized on the sale or other disposition of Shares in their income statement for the relevant taxation period and are subject to Swiss federal, cantonal and communal individual or corporate income tax, as the case may be, on any net taxable earnings for such taxation period. The same taxation treatment also applies to Swiss-resident private individuals who, for income tax purposes, are classified as “professional securities dealers” for reasons of, *inter alia*, frequent dealing, or leveraged investments, in shares and other securities (the shareholders referred to in this paragraph for purposes of this section, “Domestic Commercial Shareholders”). Domestic Commercial Shareholders who are corporate taxpayers may be eligible for dividend relief (*réduction pour participations*) in respect of Dividends and distributions based upon a capital reduction (*remboursements liés à la réduction de la valeur nominale des actions*) and distributions paid out of reserves from capital contributions (*apports de capital*) if the Shares held by them as part of a Swiss business have an aggregate market value of at least CHF 1 million.

Swiss cantonal and communal private wealth tax and capital tax

Non-Resident Shareholders

Non-Resident Shareholders are not subject to Swiss cantonal and communal private wealth tax or capital tax.

Resident Private Shareholders and Domestic Commercial Shareholders

Resident Private Shareholders and Domestic Commercial Shareholders who are individuals are required to report their Shares as part of their private wealth or their Swiss business assets, as the case may be, and will be subject to Swiss cantonal and communal private wealth tax on any net taxable wealth (including Shares), in the case of Domestic Commercial Shareholders to the extent the aggregate taxable wealth is allocable to Switzerland. Domestic Commercial Shareholders who are corporate taxpayers are subject to Swiss cantonal and communal capital tax on taxable capital to the extent the aggregate taxable capital is allocable to Switzerland.

Swiss Federal Withholding Tax

Dividends that the Company pays on the Shares are subject to Swiss Federal withholding tax (*impôt anticipé*) at a rate of 35% on the gross amount of the Dividend. The Company is required to withhold the Swiss federal withholding tax from the Dividend and remit it to the Swiss Federal Tax Administration. Distributions based upon a capital reduction (*remboursements liés à la réduction de la valeur nominale des actions*) and distributions paid out of reserves from contributions (*apports de capital*) are not subject to Swiss federal withholding tax.

The Swiss federal withholding tax on a Dividend will be refundable in full to a Resident Private Shareholder and to a Domestic Commercial Shareholder, who, in each case, *inter alia*, as a condition to a refund, duly reports the Dividend in his individual income tax return as income or recognizes the Dividend in his income statement as earnings, as applicable.

A Non-Resident Shareholder may be entitled to a partial or full refund, as the case may be, of the Swiss federal withholding tax on a Dividend if the country of his or her residence for tax purposes has entered into a bilateral treaty for the avoidance of double taxation with Switzerland and the conditions of such treaty are met. Such shareholders should be aware that the procedures for claiming treaty benefits (and the time required for obtaining a refund) might differ from country to country. For example, a shareholder who is a resident of the U.S. for the purposes of the bilateral tax treaty between the U.S. and Switzerland is eligible for a partial refund

of the amount of the withholding tax in excess of the 15% treaty rate, provided such shareholder: (i) qualifies for benefits under this treaty and qualifies as beneficial owner of the Dividends; (ii) holds, directly or indirectly, less than 10% of the voting stock of the Company; (iii) does not qualify as a pension scheme or retirement arrangement for the purpose of the bilateral treaty; and (iv) does not conduct business through a permanent establishment or fixed base in Switzerland to which the Shares are attributable. Such an eligible U.S. shareholder may apply for a refund of the amount of the withholding tax in excess of the 15% treaty rate. The applicable refund request form may be filed with the Swiss Federal Tax Administration following receipt of the Dividend and the relevant deduction certificate, however no later than 31 December of the third year following the calendar year in which the Dividend was payable.

Swiss Federal Stamp Taxes

The Company will be subject to and pay to the Swiss Federal Tax Administration a 1% Swiss federal issuance stamp tax (*taxe sur les émissions*) on the consideration received for the issuance of the Shares less certain costs incurred in connection with the issuance. The issuance and delivery of the Shares to the initial shareholders at the offering price is not subject to Swiss federal securities turnover tax (*droit de timbre de négociation*).

Any subsequent dealings in the Shares, where a bank or another securities dealer in Switzerland, as defined in the Swiss Federal Stamp Tax Act, acts as an intermediary, or is a party, to the transaction, are, subject to certain exemptions provided for in the Swiss Federal Stamp Tax Act, subject to Swiss securities transfer stamp duty tax at an aggregate tax rate of up to 0.15% of the consideration paid for such Shares.

Material U.S. Federal Income Tax Considerations for U.S. Holders

The following is a description of the material U.S. federal income tax consequences to U.S. Holders, as defined below, of owning and disposing of our common shares. It does not describe all tax considerations that may be relevant to a particular person's decision to acquire common shares.

This discussion applies only to a U.S. Holder that holds common shares as capital assets for U.S. federal income tax purposes. In addition, it does not describe all of the U.S. federal income tax consequences that may be relevant in light of a U.S. Holder's particular circumstances, including alternative minimum tax consequences, the potential application of the provisions of the Code known as the Medicare contribution tax and tax consequences applicable to U.S. Holders subject to special rules, such as:

- certain financial institutions;
- dealers or traders in securities who use a mark-to-market method of tax accounting;
- persons holding common shares as part of a hedging transaction, straddle, wash sale, conversion transaction or other integrated transaction or persons entering into a constructive sale with respect to the common shares;
- U.S. Holder whose functional currency for U.S. federal income tax purposes is not the U.S. dollar;
- entities classified as partnerships for U.S. federal income tax purposes;
- tax-exempt entities, including an "individual retirement account" or "Roth IRA";
- persons that own or are deemed to own ten percent or more of our shares, by vote or value; or
- persons holding common shares in connection with a trade or business conducted outside of the United States.

If an entity that is classified as a partnership for U.S. federal income tax purposes holds common shares, the U.S. federal income tax treatment of a partner will generally depend on the status of the partner and the activities of the partnership. Partnerships holding common shares and partners in such partnerships should consult their tax advisers as to the particular U.S. federal income tax consequences of owning and disposing of the common shares.

This discussion is based on the Code, administrative pronouncements, judicial decisions, final, temporary and proposed Treasury regulations, and the income tax treaty between Switzerland and the United States (the “Treaty”) all as of the date hereof, any of which is subject to change or differing interpretations, possibly with retroactive effect.

A “U.S. Holder” is a holder who, for U.S. federal income tax purposes, is a beneficial owner of common shares, who is eligible for the benefits of the Treaty and who is:

- a citizen or individual resident of the United States;
- a corporation, or other entity taxable as a corporation, created or organized in or under the laws of the United States, any state therein or the District of Columbia; or
- an estate or trust the income of which is subject to U.S. federal income taxation regardless of its source.

U.S. Holders should consult their tax advisers concerning the U.S. federal, state, local and non-U.S. tax consequences of owning and disposing of common shares in their particular circumstances.

Taxation of Distributions

As discussed above under “Dividends and Dividend Policy,” we do not currently expect to make distributions on our common shares. In the event that we do make distributions of cash or other property, subject to the passive foreign investment company rules described below, distributions paid on common shares, other than certain pro rata distributions of common shares, will generally be treated as dividends to the extent paid out of our current or accumulated earnings and profits (as determined under U.S. federal income tax principles). Because we do not maintain calculations of our earnings and profits under U.S. federal income tax principles, we expect that distributions generally will be reported to U.S. Holders as dividends. For so long as our common shares are listed on Nasdaq or we are eligible for benefits under the Treaty, dividends paid to certain non-corporate U.S. Holders will be eligible for taxation as “qualified dividend income” and therefore, subject to applicable limitations, will be taxable at rates not in excess of the long-term capital gain rate applicable to such U.S. Holder.

U.S. Holders should consult their tax advisers regarding the availability of the reduced tax rate on dividends in their particular circumstances. The amount of a dividend will include any amounts withheld by us in respect of Swiss income taxes. The amount of the dividend will be treated as foreign-source dividend income to U.S. Holders and will not be eligible for the dividends-received deduction generally available to U.S. corporations under the Code. Dividends will be included in a U.S. Holder’s income on the date of the U.S. Holder’s receipt of the dividend. The amount of any dividend income paid in Swiss Francs will be the U.S. dollar amount calculated by reference to the exchange rate in effect on the date of actual or constructive receipt, regardless of whether the payment is in fact converted into U.S. dollars at that time. If the dividend is converted into U.S. dollars on the date of receipt, a U.S. Holder should not be required to recognize foreign currency gain or loss in respect of the dividend income. A U.S. Holder may have foreign currency gain or loss if the dividend is converted into U.S. dollars after the date of receipt.

Subject to applicable limitations, some of which vary depending upon the U.S. Holder’s particular circumstances, Swiss income taxes withheld from dividends on common shares at a rate not exceeding the rate provided by the Treaty will be creditable against the U.S. Holder’s U.S. federal income tax liability. The rules governing foreign tax credits are complex and U.S. Holders should consult their tax advisers regarding the creditability of foreign taxes in their particular circumstances. In lieu of claiming a foreign tax credit, U.S. Holders may, at their election, deduct foreign taxes, including any Swiss income tax, in computing their taxable income, subject to generally applicable limitations under U.S. law. An election to deduct foreign taxes instead of claiming foreign tax credits applies to all foreign taxes paid or accrued in the taxable year.

Sale or Other Disposition of Common Shares

Subject to the passive foreign investment company rules described below, gain or loss realized on the sale or other disposition of common shares will be capital gain or loss, and will be long-term capital gain or loss if the U.S. Holder held the common shares for more than one year. The amount of the gain or loss will equal the difference between the U.S. Holder’s tax basis in the common shares disposed of and the amount realized on the disposition, in each case as determined in U.S. dollars. This gain or loss will generally be U.S.-source gain or loss for foreign tax credit purposes. The deductibility of capital losses is subject to various limitations.

Passive Foreign Investment Company Rules

Under the Code, we will be a PFIC for any taxable year in which, after the application of certain “look-through” rules with respect to subsidiaries, either (i) 75% or more of our gross income consists of “passive income,” or (ii) 50% or more of the average quarterly value of our assets consist of assets that produce, or are held for the production of, “passive income.” For purposes of the above calculations, we will be treated as if we hold our proportionate share of the assets of, and receive directly our proportionate share of the income of, any other corporation in which we directly or indirectly own at least 25%, by value, of the shares of such corporation. Passive income generally includes interest, dividends, rents, certain non-active royalties and capital gains. Based on our income and assets during 2018 and certain estimates and projections, including as to the relative values of our assets, we do not believe that we were a PFIC in 2018. However, there can be no assurance that the IRS will agree with our conclusion. In addition, whether we will be a PFIC in 2019 or any future years is uncertain because, among other things, (i) we may not generate a substantial amount of non-passive gross income, for U.S. federal income tax purposes, in any year, (ii) we currently own, and will own, a substantial amount of passive assets, including cash, and (iii) the estimated valuation, for PFIC purposes, of our assets that generate non-passive income for PFIC purposes, including our intangible assets, is likely to be dependent in large part on our market capitalization and is therefore uncertain and may vary substantially over time. In this respect, our market capitalization has experienced significant declines and volatility after the beginning of 2019, which could increase the risk that we will be a PFIC in 2019 or later years. Accordingly, there can be no assurance that we will not be a PFIC for any taxable year. If we are a PFIC for any year during which a U.S. Holder holds common shares, we generally would continue to be treated as a PFIC with respect to that U.S. Holder for all succeeding years during which the U.S. Holder holds common shares, even if we ceased to meet the threshold requirements for PFIC status.

If we were a PFIC for any taxable year during which a U.S. Holder held common shares (assuming such U.S. Holder has not made a timely mark-to-market election, as further described below), gain recognized by a U.S. Holder on a sale or other disposition (including certain pledges) of the common shares would be allocated ratably over the U.S. Holder’s holding period for the common shares. The amounts allocated to the taxable year of the sale or other disposition and to any year before we became a PFIC would be taxed as ordinary income. The amount allocated to each other taxable year would be subject to tax at the highest rate in effect for individuals or corporations, as appropriate, for that taxable year, and an interest charge would be imposed on the amount allocated to that taxable year. Further, to the extent that any distribution received by a U.S. Holder on its common shares exceeds 125% of the average of the annual distributions on the common shares received during the preceding three years or the U.S. Holder’s holding period, whichever is shorter, that distribution would be subject to taxation in the same manner as gain, described immediately above.

A U.S. Holder can avoid certain of the adverse rules described above by making a mark-to-market election with respect to its common shares, provided that the common shares are “marketable.” Common shares will be marketable if they are “regularly traded” on a “qualified exchange” or other market within the meaning of applicable Treasury regulations. If a U.S. Holder makes the mark-to-market election, it generally will recognize as ordinary income any excess of the fair market value of the common shares at the end of each taxable year over their adjusted tax basis, and will recognize an ordinary loss in respect of any excess of the adjusted tax basis of the common shares over their fair market value at the end of the taxable year (but only to the extent of the net amount of income previously included as a result of the mark-to-market election). If a U.S. Holder makes the election, the holder’s tax basis in the common shares will be adjusted to reflect the income or loss amounts recognized. Any gain recognized on the sale or other disposition of common shares in a year when we are a PFIC will be treated as ordinary income and any loss will be treated as an ordinary loss (but only to the extent of the net amount of income previously included as a result of the mark-to-market election).

In addition, in order to avoid the application of the foregoing rules, a United States person that owns stock in a PFIC for U.S. federal income tax purposes may make a “qualified electing fund” election (a “QEF Election”) with respect to such PFIC if the PFIC provides the information necessary for such election to be made. If a United States person makes a QEF Election with respect to a PFIC, the United States person will be currently taxable on its pro rata share of the PFIC’s ordinary earnings and net capital gain (at ordinary income and capital gain rates, respectively) for each taxable year that the entity is classified as a PFIC and will not be required to include such amounts in income when actually distributed by the PFIC. We do not intend to provide information necessary for U.S. Holders to make qualified electing fund elections.

In addition, if we were a PFIC or, with respect to particular U.S. Holder, were treated as a PFIC for the taxable year in which we paid a dividend or for the prior taxable year, the preferential dividend rates discussed above with respect to dividends paid to certain non-corporate U.S. Holders would not apply.

If a U.S. Holder owns common shares during any year in which we are a PFIC, the holder generally must file annual reports containing such information as the U.S. Treasury may require on IRS Form 8621 (or any successor form) with respect to us, generally with the holder's federal income tax return for that year.

U.S. Holders should consult their tax advisers concerning our potential PFIC status and the potential application of the PFIC rules.

Information Reporting and Backup Withholding

Payments of dividends and sales proceeds that are made within the United States or through certain U.S.-related financial intermediaries generally are subject to information reporting, and may be subject to backup withholding, unless (i) the U.S. Holder is a corporation or other exempt recipient or (ii) in the case of backup withholding, the U.S. Holder provides a correct taxpayer identification number and certifies that it is not subject to backup withholding.

The amount of any backup withholding from a payment to a U.S. Holder will be allowed as a credit against the holder's U.S. federal income tax liability and may entitle it to a refund, provided that the required information is timely furnished to the IRS.

Information With Respect to Foreign Financial Assets

Certain U.S. Holders who are individuals (and, under proposed regulations, certain entities) may be required to report information relating to an interest in our common shares, subject to certain exceptions (including an exception for common shares held in accounts maintained by certain U.S. financial institutions). U.S. Holders should consult their tax advisers regarding the effect, if any, of this legislation on their ownership and disposition of the common shares.

F. Dividends and paying agents

Not applicable.

G. Statement by experts

Not applicable.

H. Documents on display

We are subject to the informational requirements of the Exchange Act. Accordingly, we are required to file reports and other information with the SEC, including annual reports on Form 20-F and reports on Form 6-K. You may inspect and copy reports and other information filed with the SEC at the Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Information on the operation of the Public Reference Room may be obtained by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains an Internet website that contains reports and other information about issuers, like us, that file electronically with the SEC. The address of that website is www.sec.gov.

Additionally, pursuant to Swiss law, any shareholder of record has the right to receive a free copy of this Annual Report and to inspect this Annual Report at any time at our registered office in Ecublens, near Lausanne, Canton of Vaud, Switzerland.

As a foreign private issuer, we are exempt under the Exchange Act from, among other things, the rules prescribing the furnishing and content of proxy statements, and our executive officers, directors and principal shareholders are exempt from the reporting and short-swing profit recovery provisions contained in Section 16 of the Exchange Act. In addition, we will not be required under the Exchange Act to file periodic reports and financial statements with the SEC as frequently or as promptly as U.S. companies whose securities are registered under the Exchange Act.

I. Subsidiary information

Not applicable.

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The Company's activities expose it to the following financial risks: market risk (currency and interest rate risk), credit risk and liquidity risk. The Company's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the Company's financial performance.

Market risk arises from our exposure to fluctuation in currency exchange rates. We are exposed to market risks in the ordinary course of our business, which are principally limited to foreign currency exchange rate fluctuations and to a lesser degree, interest rate fluctuations.

Market Risk

Foreign exchange risk

The Company is exposed to foreign exchange risk arising from currency exposures, primarily with respect to the EUR, USD and to a lesser extent to GBP, DKK and SEK. The currency exposure is not hedged. However, the Company has the policy of matching its cash holdings to the currency structure of its expenses. As of December 31, 2018, the Company holds almost 81% of its overall cash and cash equivalents balance in CHF with the remainder predominantly in EUR and USD (see also Note 5 of the financial statements). The Company holds almost 84% of its liquidity (cash and cash equivalents plus short-term financial assets) in CHF.

We have a number of collaboration agreements where the upfront payments, milestone payments and future royalty payments are not denominated in Swiss Francs, our reporting currency. Furthermore, many of our research and development activities are subcontracted to parties outside of Switzerland and we purchase materials from suppliers outside of Switzerland. As a result, we are exposed to foreign exchange risk. Approximately 46% of our total costs are incurred in currencies other than the Swiss Franc. Due to the size of some of the income received from collaboration agreements but also the high percentage of our costs indirectly being in foreign currencies, a hypothetical 10% change in exchange rates relative to the Swiss Franc could have a material impact on our financial statements.

Interest rate risk

We maintain financial instruments in accordance with our treasury management policy. The primary objectives of our policy are to preserve principal, maintain proper liquidity and meet operating needs. Our financial assets are subject to interest rate risk and will decrease in value if market interest rates increase due to the current negative interest rates in Switzerland and our policy to maintain the majority of our cash and cash equivalents in our functional currency. However, due to the conservative nature of our investments and relatively short duration, interest rate risk is mitigated. We do not own derivative financial instruments. Accordingly, we do not believe that there is any material market risk exposure with respect to derivative or other financial instruments.

Credit risk

The Company maintains a formal treasury risk and investment management policy to limit counterparty credit risk. As of December 31, 2018, the Company's cash and cash equivalents and short-term financial assets are held with three financial institutions each with a high credit-rating assigned by international credit-rating agencies. The maximum amount of credit risk is the carrying amount of the financial assets. Receivables are fully performing, not past due and not impaired (see Notes 5 and 7).

Liquidity risk

Inherent in the Company's business are various risks and uncertainties, including its limited operating history and the high uncertainty that new therapeutic concepts will succeed. AC Immune's success may depend in part upon its ability to (i) establish and maintain a strong patent position and protection, (ii) enter into collaborations with partners in the biotech and pharmaceutical industry, (iii) acquire and keep key personnel employed, and (iv) acquire additional capital to support its operations.

The Company's approach of managing liquidity is to ensure sufficient cash to meet its liabilities when due. Therefore, management closely monitors the cash position on rolling forecasts based on expected cash flow to enable the Company to finance its operations for at least 18 months.

Based on the Company's current liquidity position, comprised of cash and cash equivalents and short-term financial assets, the Company is well financed through the third quarter of 2023, excluding any potential milestones

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

A. Debt securities

Not applicable.

B. Warrants and rights

Not applicable.

C. Other securities

Not applicable.

D. American Depositary Shares

Not applicable.

PART II

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

A. Defaults

No matters to report.

B. Arrears and delinquencies

No matters to report.

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

E. Use of Proceeds

On September 23, 2016, we completed our initial public offering of common shares pursuant to a Registration Statement on Form F-1, as amended (Registration No. 333-211714) that was declared effective on September 22, 2016. Under the registration statement, we sold an aggregate of 6,900,000 common shares (which includes 900,000 common shares from the full exercise of the underwriters' over-allotment option to purchase additional shares). All of these common shares were sold at a price to the public of USD 11.00 per share, yielding net proceeds of USD 70.5 (CHF 69.4) million after underwriting discounts and commissions. Credit Suisse, Jefferies LLC and Leerink Partners LLC were joint book-running managers for the initial public offering. We paid the offering expenses in connection with the initial public offering, which were approximately USD 3.6 (CHF 3.5) million, and which included SEC registration fees, FINRA filing fees, Nasdaq listing fees and expenses, legal fees and expenses, printing expenses, transfer agent fees and expenses, accounting fees and expenses as well as other miscellaneous fees and expenses, but excluded the underwriting discounts and commissions. In addition, we received gross proceeds of approximately USD 13.5 (CHF 13.2) million from the Series E Private Placement Extension.

Between the effective date of the Registration Statement and December 31, 2018, we have used all of the net proceeds to fund research and development expenses for our Alzheimer's disease, Non-Alzheimer's disease including neuro-orphan diseases, Diagnostic and New discovery programs and general administrative expenses. None of the net proceeds were used to make payments (other than compensation paid to our executive officers, directors and an affiliate of one of our directors, each as described in this Annual Report), directly or indirectly, to (i) any of our directors, officers or their associates, (ii) any persons owning 10% or more of our common shares or (iii) any of our affiliates.

ITEM 15. CONTROLS AND PROCEDURES**A. Disclosure Controls and Procedures**

As of December 31, 2018, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we performed an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act). There are inherent limitations to the effectiveness of any disclosure controls and procedures system, including the possibility of human error and circumventing or overriding them. Even if effective, disclosure controls and procedures can provide only reasonable assurance of achieving their control objectives.

Based on such evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective in recording, processing, summarizing and reporting on a timely basis, information required to be included in periodic filings under the Exchange Act and that such information is accumulated and communicated to management, including our Chief Executive and Chief Financial Officers, as appropriate to allow timely decisions regarding required disclosure.

B. Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rule 13a-15(f) of the Exchange Act. Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based upon criteria established in *Internal Control – Integrated Framework* (2013) by the Committee of Sponsoring Organizations of the Treadway Commission. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our internal control over financial reporting was effective as of December 31, 2018.

C. Attestation Report of the Registered Public Accounting Firm

This Annual Report does not include an attestation report of our registered public accounting firm due to an exemption provided to emerging growth companies under the JOBS Act.

D. Changes in Internal Control over Financial Reporting

There have been no changes in the Company's internal control over financial reporting during the year ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 16. [RESERVED]**ITEM 16A. Audit committee financial experts**

Our board of directors has determined that Peter Bollmann, Thomas Graney, Werner Lanthaler and Martin Velasco are audit committee financial experts, as that term is defined by the SEC, and are independent for the purposes of SEC and Nasdaq rules.

ITEM 16B. Code of ethics**Code of business conduct and ethics**

We have adopted a Code of Business Conduct and Ethics which covers a broad range of matters including the handling of conflicts of interest, compliance issues and other corporate policies such as insider trading and equal opportunity and non-discrimination standards. Our Code of Business Conduct applies to all of our directors, executive officers and employees. We have published our Code of Business Conduct and Ethics on our website, www.acimmune.com. The information contained on our website is not a part of this Annual Report.

ITEM 16C. Principal accountant fees and services

	in CHF thousands	For the Years Ended December 31,	
		2018	2017
Audit Fees		390	392
Audit-related Fees		20	26
Total Fees		410	418

For the year ended December 31, 2018, PricewaterhouseCoopers SA (“PwC”) was the Company’s auditor for the IFRS and statutory accounts. At the ordinary annual general meeting on July 6, 2018, the shareholders appointed PwC as the Company’s auditor for a term of office of one year replacing the Company’s prior auditor Ernst & Young AG (“EY”). For the year ended December 31, 2017, EY was the Company’s auditor for the IFRS and statutory accounts.

Audit fees for services provided by PwC in 2018 include the standard audit work performed each fiscal year necessary to allow the auditor to issue an opinion on our Financial Statements and to issue an opinion on the local statutory financial statements. Audit fees also include services that can be provided only by the external auditor such as reviews of quarterly financial results and review of our shelf registration statements and prospectus offerings.

Audit-related fees consisted of fees billed for assurance and related services that were reasonably related to the performance of the audit or review of our financial statements or for services that were traditionally performed by the external auditor.

Pre-Approval Policies and Procedures

In accordance with the requirements of the U.S. Sarbanes-Oxley Act of 2002 and rules issued by the SEC, we review and pre-approve of any services performed by EY and PwC. The procedure requires that all proposed future engagements of PwC for audit and permitted non-audit services are submitted to the Audit and Finance Committee for approval prior to the beginning of any such services. In accordance with this policy, all services performed by and fees paid to EY and PwC in this Item 16C, were approved by the Audit and Finance Committee.

ITEM 16D. Exemptions from the listing standards for audit committees

Not applicable

ITEM 16E. Purchases of equity securities by the issuer and affiliated purchasers

In 2018, no purchases of our equity securities were made by or on behalf of AC Immune SA or any affiliated purchaser.

ITEM 16F. Change in registrant’s certifying accountant

Not applicable.

ITEM 16G. Corporate governance

Summary of Significant Corporate Governance Differences from Nasdaq Listing Standards

Our common shares are listed on the Nasdaq Global Market. We are therefore required to comply with certain of the Nasdaq’s corporate governance listing standards, or the Nasdaq Standards. As a foreign private issuer, we may follow our home country’s corporate governance practices in lieu of certain of the Nasdaq Standards. Our corporate governance practices differ in certain respects from those that U.S. companies must adopt in order to maintain a Nasdaq listing. A brief, general summary of those differences is provided as follows.

Independent Directors

Swiss law does not require that a majority of our board of directors consist of independent directors. Our board of directors therefore may include fewer independent directors than would be required if we were subject to Nasdaq Listing Rule 5605(b)(1). In addition, we are not subject to Nasdaq Listing Rule 5605(b)(2), which requires that independent directors must regularly have scheduled meetings at which only independent directors are present.

Compensation Committee

Although Swiss law also requires that we have a compensation committee, we will follow home country requirements with respect to such committee. As a result, our practice will vary from the requirements of Nasdaq Listing Rule 5605(d), which sets forth certain requirements as to the responsibilities, composition and independence of compensation committees.

Quorum requirements

In accordance with Swiss law and generally accepted business practices, our articles of association do not provide quorum requirements generally applicable to general meetings of shareholders. Our practice thus varies from the requirement of Nasdaq Listing Rule 5620(c), which requires an issuer to provide in its bylaws for a generally applicable quorum, and that such quorum may not be less than one-third of the outstanding voting stock.

Solicitation of proxies

Our articles of association provide for an independent proxy holder elected by our shareholders, who may represent our shareholders at a general meeting of shareholders, and we must provide shareholders with an agenda and other relevant documents for the general meeting of shareholders. However, Swiss law does not have a regulatory regime for the solicitation of proxies and company solicitation of proxies is prohibited for public companies in Switzerland. Thus, our practice will vary from the requirement of Nasdaq Listing Rule 5620(b), which sets forth certain requirements regarding the solicitation of proxies.

Shareholder approval

We have opted out of shareholder approval requirements for the issuance of securities in connection with certain events such as the acquisition of stock or assets of another company, the establishment of or amendments to equity-based compensation plans for employees, a change of control of us and certain private placements. To this extent, our practice varies from the requirements of Nasdaq Listing Rule 5635, which generally requires an issuer to obtain shareholder approval for the issuance of securities in connection with such events.

ITEM 16H. Mine safety disclosure

Not applicable.

PART III

ITEM 17. Financial statements

We have responded to Item 18 in lieu of this item.

ITEM 18. Financial statements

Financial Statements are filed as part of this Annual Report, see page F-1.

ITEM 19. Exhibits

(a) The following documents are filed as part of Annual Report on Form 20-F:

- 3.1 Articles of Association of AC Immune SA (incorporated herein by reference to Exhibit 99.4 to the Company's Report on Form 6-K, filed with the SEC on May 11, 2017)¹
- 2.1 Registration Rights Agreement (incorporated herein by reference to Exhibit 4.1 to the Company's Registration Statement on Form F-1 (File No. 333-211714) filed with the SEC on May 31, 2016)²
- 4.1 Research Collaboration and License Agreement between AC Immune SA Corporation and Genentech, Inc. dated November 6, 2006 (incorporated herein by reference to Exhibit 10.1 to the Company's Registration Statement on Form F-1 (File No. 333-211714) filed with the SEC on May 31, 2016)³
- 4.2 Amendment to the Research Collaboration and License Agreement between AC Immune SA Corporation and Genentech, Inc. dated May 7, 2015 (incorporated herein by reference to Exhibit 10.2 to the Company's Registration Statement on Form F-1 (File No. 333-211714) filed with the SEC on May 31, 2016)⁴
- 4.3 Research Collaboration and License Agreement between AC Immune SA Corporation and Genentech, Inc. dated June 15, 2012 (incorporated herein by reference to Exhibit 10.3 to the Company's Registration Statement on Form F-1 (File No. 333-211714) filed with the SEC on May 31, 2016)⁵
- 4.4 License and Collaboration Agreement between Piramal Imaging Ltd., Piramal Imaging SA and AC Immune SA, dated May 9, 2014 (incorporated herein by reference to Exhibit 10.4 to the Company's Registration Statement on Form F-1 (File No. 333-211714) filed with the SEC on May 31, 2016)⁶
- 4.5 License, Development and Commercialization Agreement between Janssen Pharmaceuticals, Inc. and AC Immune SA, dated December 24, 2014 (incorporated herein by reference to Exhibit 10.5 to the Company's Registration Statement on Form F-1 (File No. 333-211714) filed with the SEC on May 31, 2016)⁷
- 4.6 Form of Indemnity Agreement (incorporated herein by reference to Exhibit 10.6 to the Company's Registration Statement on Form F-1 (File No. 333-211714) filed with the SEC on May 31, 2016)⁸
- 4.7 AC Immune SA 2013 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.7 to the Company's Registration Statement on Form F-1 (File No. 333-211714) filed with the SEC on May 31, 2016)⁹
- 4.8 Subscription Agreement among Fidelity entities and AC Immune SA, dated October 16, 2015 (incorporated herein by reference to Exhibit 10.8 to the Company's Registration Statement on Form F-1 (File No. 333-211714) filed with the SEC on May 31, 2016)¹⁰
- 4.9 Subscription Agreement among Temasek entities and AC Immune SA, dated October 16, 2015 (incorporated herein by reference to Exhibit 10.9 to the Company's Registration Statement on Form F-1 (File No. 333-211714) filed with the SEC on May 31, 2016)¹¹
- 4.10 Stock Option Plan - AC Immune of December 31, 2004 (incorporated herein by reference to Exhibit 99.03 to the Company's Registration Statement on Form S-8, filed with the SEC on September 29, 2016)¹²
- 4.11 Employee Stock Option and Share Plan of AC Immune (2005 Plan) (incorporated herein by reference to Exhibit 99.02 to the Company's Registration Statement on Form S-8, filed with the SEC on September 29, 2016)¹³
- 4.12 AC Immune SA 2013 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.7 to the Company's Registration Statement on Form F-1, filed with the SEC on May 31, 2016)¹⁴
- 4.13 AC Immune SA 2016 Stock Option and Incentive Plan (incorporated herein by reference to Exhibit 99.08 to the Company's Report on Form 6-K, filed with the SEC on October 13, 2016)¹⁵
- 4.14*† [License Agreement between AC Immune SA and Eli Lilly and Company, dated December 11, 2018](#)
- 4.15* [Convertible Note Agreement between AC Immune SA and Eli Lilly and Company, dated December 11, 2018](#)
- 12.1* [Certification of Andrea Pfeifer pursuant to 17 CFR 240.13a-14\(a\)](#)
- 12.2* [Certification of Joerg Hornstein pursuant to 17 CFR 240.13a-14\(a\)](#)
- 13.1* [Certification of Andrea Pfeifer pursuant to 17 CFR 240.13a-14\(b\) and 18 U.S.C.1350](#)
- 13.2* [Certification of Joerg Hornstein pursuant to 17 CFR 240.13a-14\(b\) and 18 U.S.C.1350](#)
- 15.1* [Consent of Ernst & Young AG](#)
- 15.2* [Consent of PricewaterhouseCoopers SA](#)
- 101.INS XBRL Instance Document
- 101.SCH XBRL Taxonomy Extension Schema Document
- 101.CAL XBRL Taxonomy Extension Calculation Linkbase Document
- 101.DEF XBRL Taxonomy Extension Definition Linkbase Document
- 101.LAB XBRL Taxonomy Extension Label Linkbase Document
- 101.PRE XBRL Taxonomy Extension Presentation Linkbase Document

* Filed herewith

† Confidential treatment has been granted as to portions of the exhibit (indicated by asterisks). Confidential materials omitted and filed separately with the Securities and Exchange Commission.

¹ https://www.sec.gov/Archives/edgar/data/1651625/000095010317004487/dp76049_ex9904.htm

² <https://www.sec.gov/Archives/edgar/data/1651625/000119312516607922/d16439dex41.htm>

³ <https://www.sec.gov/Archives/edgar/data/1651625/000119312516607922/d16439dex101.htm>

⁴ <https://www.sec.gov/Archives/edgar/data/1651625/000119312516607922/d16439dex102.htm>

⁵ <https://www.sec.gov/Archives/edgar/data/1651625/000119312516607922/d16439dex103.htm>

⁶ <https://www.sec.gov/Archives/edgar/data/1651625/000119312516607922/d16439dex104.htm>

⁷ <https://www.sec.gov/Archives/edgar/data/1651625/000119312516607922/d16439dex105.htm>

⁸ <https://www.sec.gov/Archives/edgar/data/1651625/000119312516607922/d16439dex106.htm>

⁹ <https://www.sec.gov/Archives/edgar/data/1651625/000119312516607922/d16439dex107.htm>

¹⁰ <https://www.sec.gov/Archives/edgar/data/1651625/000119312516607922/d16439dex108.htm>

¹¹ <https://www.sec.gov/Archives/edgar/data/1651625/000119312516607922/d16439dex109.htm>

¹² https://www.sec.gov/Archives/edgar/data/1651625/000095010316016688/dp68999_ex9903.htm

¹³ https://www.sec.gov/Archives/edgar/data/1651625/000095010316016688/dp68999_ex9902.htm

¹⁴ <https://www.sec.gov/Archives/edgar/data/1651625/000119312516607922/d16439dex107.htm>

¹⁵ https://www.sec.gov/Archives/edgar/data/1651625/000095010316017052/dp69421_ex9908.htm

(b) Financial Statement Schedules

None.

Signatures

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this Annual Report on its behalf.

AC IMMUNE SA

Date: March 21, 2019

By: /s/ Andrea Pfeifer
Name: Andrea Pfeifer
Title: Chief Executive Officer

By: /s/ Joerg Hornstein
Name: Joerg Hornstein
Title: Chief Financial Officer

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Audited Financial Statements — AC IMMUNE SA

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of AC Immune SA

Opinion on the Financial Statements

We have audited the accompanying balance sheet of AC Immune SA (the “Company”) as of December 31, 2018, and the related statements of loss, of comprehensive loss, of changes in equity and of cash flows for the year then ended, including the related notes (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018, and the results of its operations and its cash flows for the year then ended in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

Basis for Opinion

These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s financial statements based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit of these financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audit we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion.

Our audit included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audit provides a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers SA

Lausanne, Switzerland
March 21, 2019

We have served as the Company’s auditor since 2018.

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of AC Immune SA

Opinion on the Financial Statements

We have audited the accompanying balance sheets of AC Immune SA (the Company) as of December 31, 2017 and 2016, and the related statements of income, comprehensive income, changes in equity and cash flows for each of the two years in the period ended December 31, 2017, and the related notes (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2017, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young AG

We served as the Company's auditor from 2009 to 2018.

Petit-Lancy, Switzerland

March 20, 2018

Financial Statements (IFRS)

**Balance Sheets
(in CHF thousands)**

	Note	As of December 31,	
		2018	2017
ASSETS			
Non-current assets			
Property, plant and equipment	4	3,324	2,353
Long-term financial assets	5	304	126
Total non-current assets		3,628	2,479
Current assets			
Prepaid expenses	6	2,364	1,440
Accrued income	6	3,667	2,799
Finance receivable	10	199	—
Other current receivables	7	236	918
Short-term financial assets	5	30,000	—
Cash and cash equivalents	5	156,462	124,377
Total current assets		192,928	129,534
Total assets		196,556	132,013
SHAREHOLDERS' EQUITY AND LIABILITIES			
Shareholders' equity			
Share capital	8	1,351	1,147
Share premium	8	298,149	188,299
Accumulated losses		(121,877)	(72,607)
Total shareholders' equity		177,623	116,839
Non-current liabilities			
Long-term debt obligation	10	186	494
Net employee defined benefit liabilities	15	5,665	4,926
Total non-current liabilities		5,851	5,420
Current liabilities			
Trade and other payables	9	1,979	1,092
Accrued expenses	9	10,420	8,307
Deferred income	9	351	355
Short-term debt obligation	10	332	—
Total current liabilities		13,082	9,754
Total liabilities		18,933	15,174
Total shareholders' equity and liabilities		196,556	132,013

The accompanying notes are an integral part of these financial statements.

Statements of Loss
(in CHF thousands except for share and per share data)

	Note	For the Years Ended December 31,		
		2018	2017	2016
Revenues				
Contract revenue	11	7,194	20,255	23,214
Total revenue		<u>7,194</u>	<u>20,255</u>	<u>23,214</u>
Operating expenses				
Research & development expenses	12	(44,277)	(32,663)	(25,774)
General & administrative expenses	12	(12,467)	(10,131)	(7,896)
Total operating expenses		<u>(56,744)</u>	<u>(42,794)</u>	<u>(33,670)</u>
Operating loss		(49,550)	(22,539)	(10,456)
Finance income / (expense), net	12	(1,132)	(4,055)	3,324
Interest income	12	29	330	43
Interest expense	12	(298)	(147)	(7)
Finance result, net		<u>(1,401)</u>	<u>(3,872)</u>	<u>3,360</u>
Loss before tax		(50,951)	(26,411)	(7,096)
Income tax expense	14	—	—	—
Loss for the period		<u>(50,951)</u>	<u>(26,411)</u>	<u>(7,096)</u>
Loss per share (EPS):				
Basic and diluted, loss for the period attributable to equity holders	18	(0.82)	(0.46)	(0.14)

Statements of Comprehensive Loss
(in CHF thousands)

		For the Years Ended December 31,		
		2018	2017	2016
Loss for the period		(50,951)	(26,411)	(7,096)
Other comprehensive loss not to be reclassified to income or loss in subsequent periods (net of tax)				
Re-measurement losses on defined benefit plans (net of tax of CHF 0 for all periods)	15	(302)	(780)	(761)
Total comprehensive loss, net of tax		<u>(51,253)</u>	<u>(27,191)</u>	<u>(7,857)</u>

The accompanying notes are an integral part of these financial statements.

**Statements of Changes in Equity
(in CHF thousands)**

	Note	Share capital	Share premium	Accumulated losses	Total
Balance as of January 1, 2016		928	110,496	(40,381)	71,043
Net loss for the period		—	—	(7,096)	(7,096)
Other comprehensive loss		—	—	(761)	(761)
Total comprehensive loss		—	—	(7,857)	(7,857)
Share-based payments	16	—	—	1,317	1,317
Preferred Series E extension shares	8	28	13,177	—	13,205
Proceeds from IPO net of underwriting fees	8	138	69,250	—	69,388
Exercise of options		41	260	—	301
Transaction costs	8	—	(5,017)	—	(5,017)
Balance as of December 31, 2016		<u>1,135</u>	<u>188,166</u>	<u>(46,921)</u>	<u>142,380</u>

		Share capital	Share premium	Accumulated losses	Total
Balance as of January 1, 2017		1,135	188,166	(46,921)	142,380
Net loss for the period		—	—	(26,411)	(26,411)
Other comprehensive loss		—	—	(780)	(780)
Total comprehensive loss		—	—	(27,191)	(27,191)
Share-based payments	16	—	—	1,579	1,579
Issuance of shares:					
Restricted Share Awards		—	74	(74)	—
Exercise of options		12	59	—	71
Balance as of December 31, 2017		<u>1,147</u>	<u>188,299</u>	<u>(72,607)</u>	<u>116,839</u>

		Share capital	Share premium	Accumulated losses	Total
Balance as of January 1, 2018		1,147	188,299	(72,607)	116,839
Net loss for the period		—	—	(50,951)	(50,951)
Other comprehensive loss		—	—	(302)	(302)
Total comprehensive loss		—	—	(51,253)	(51,253)
Proceeds from public offerings, net of underwriting fees	8	200	111,329	—	111,529
Transaction offering costs	8	—	(2,015)	—	(2,015)
Share-based payments	16	—	—	2,518	2,518
Issuance of shares:					
Restricted Share Awards		1	535	(535)	1
Exercise of options		3	1	—	4
Balance as of December 31, 2018		<u>1,351</u>	<u>298,149</u>	<u>(121,877)</u>	<u>177,623</u>

The accompanying notes are an integral part of these financial statements.

Statements of Cash Flows
(in CHF thousands)

		For the Years Ended		
		December 31,		
	Note	2018	2017	2016
Operating activities				
Net loss for the period		(50,951)	(26,411)	(7,096)
Adjustments to reconcile net income for the period to net cash flows:				
Depreciation of property, plant and equipment	4	961	580	278
Finance result, net	12	1,401	3,872	(3,360)
Share-based compensation expense	16	2,518	1,579	1,317
Changes in net employee defined benefit liability	15	437	348	250
Accrued interest	10	50	99	—
Changes in working capital:				
Increase in prepaid expenses	6	(924)	(162)	(494)
Increase in accrued income	6	(868)	(1,910)	(842)
Decrease/(increase) in other current receivables	7	698	(401)	(248)
Increase in accrued expenses	9	2,113	2,940	1,564
Decrease/(increase) in deferred income	11	(18)	(156)	476
Increase/(decrease) in long-term debt obligation	10	(53)	204	—
Increase/(decrease) in trade and other payables	9	864	(2,853)	2,592
Cash used in operating activities		(43,772)	(22,271)	(5,563)
Interest income	12	29	330	43
Finance costs	12	(335)	(153)	(126)
Net cash flows used in operating activities		(44,078)	(22,094)	(5,646)
Investing activities				
Short-term financial assets	5	(30,000)	—	—
Purchases of property, plant and equipment	4	(1,858)	(1,802)	(899)
Rental deposits	5	(178)	(40)	—
Net cash flows used in investing activities		(32,036)	(1,842)	(899)
Financing activities				
Proceeds from issuance of preferred Series E		—	—	13,206
Proceeds from public offerings of common shares, net of underwriting fees	8	111,529	—	69,388
Transaction costs on public offerings of common shares	8	(2,015)	—	(4,105)
Proceeds from issuance of common shares	8	5	71	301
Proceeds from long-term debt obligation	10	198	200	—
Repayment of short-term debt obligation	10	(339)	—	—
Net cash flows provided by financing activities		109,378	271	78,790
Net increase/(decrease) in cash and cash equivalents		33,264	(23,665)	72,245
Cash and cash equivalents at January 1		124,377	152,210	76,522
Exchange gains on cash and cash equivalents		(1,179)	(4,168)	3,443
Cash and cash equivalents at December 31		156,462	124,377	152,210
Net increase/(decrease) in cash and cash equivalents		33,264	(23,665)	72,245

Supplementary non-cash activity include the following:

For the year the ended December 31, 2018, CHF 0.7 million was reclassified from long-term debt obligation to short-term debt obligation. CHF 0.2 million in finance receivables were recorded against long-term debt obligation. The acquisition of less than CHF 0.1 million of property, plant and equipment purchases was non-cash and recorded within trade and other payables and accrued expenses. Furthermore, the Company wrote off fixed assets with a net book value of nil.

The accompanying notes are an integral part of these financial statements.

Notes to the Financial Statements

1. General information

AC Immune SA (the “Company,” or “AC Immune,” “ACI,” “we,” “our,” “ours,” “us”) is a clinical stage biopharmaceutical company leveraging our two proprietary technology platforms to discover, design and develop novel, proprietary medicines for prevention, diagnosis and treatment of neurodegenerative diseases associated with protein misfolding. Misfolded proteins are generally recognized as the leading cause of neurodegenerative diseases, such as Alzheimer’s disease, or AD, and Parkinson’s disease, or PD, with common mechanisms and drug targets, such as Abeta, Tau and alpha-synuclein. Our corporate strategy is founded upon a three-pillar approach that targets Alzheimer’s disease, non-Alzheimer’s neurodegenerative diseases including neuro-orphan indications and diagnostics. We use our two unique proprietary platform technologies, SupraAntigen (conformation-specific biologics) and Morphomer (conformation-specific small molecules), to discover, design and develop medicines and diagnostics to target misfolded proteins.

The Company was initially incorporated as a limited liability company on February 13, 2003 in Basel and effective August 25, 2003 was transitioned into a stock company. The Company’s corporate headquarters are located at EPFL Innovation Park Building B, 1015 Lausanne, Switzerland.

2. Basis of preparation

Going concern

The financial statements have been prepared on the basis that the Company will continue as a going concern after considering the Company’s cash position of CHF 156.5 million and short-term financial assets of CHF 30.0 million as of December 31, 2018. This total derives from multiple capital raising efforts and revenues from collaboration agreements. In Q3 2018, the Company completed three offerings, raising USD 117.5 (CHF 116.3) million in gross proceeds before underwriting discounts and expenses.

To date, the Company has financed its cash requirements primarily from its public offerings, share issuances and revenues from collaboration agreements. The Company is a clinical stage company and is exposed to all the risks inherent to establishing a business. Inherent to the Company’s business are various risks and uncertainties, including the substantial uncertainty as to whether current projects will succeed. The Company’s success may depend in part upon its ability to (i) establish and maintain a strong patent position and protection, (ii) enter into collaborations with partners in the biotech and pharmaceutical industry, (iii) successfully move its product candidates through clinical development, (iv) attract and retain key personnel, and (v) acquire capital to support its operations.

Statement of compliance

The financial statements have been prepared in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (“IASB”). These financial statements have been approved for issue by the Board of Directors on March 19, 2019.

Basis of measurement

The financial statements have been prepared under the historical cost convention except for items that are required to be accounted for at fair value.

Functional currency

The financial statements of the Company are presented in Swiss Francs (CHF), which is also the functional currency of the Company. All financial information presented in Swiss Francs (except for share capital and earnings per share data) has been rounded to the nearest thousand CHF (CHF thousands), unless otherwise indicated.

3. Summary of significant accounting policies

The principal accounting policies adopted in the preparation of these financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

Current vs. non-current classification

The Company presents assets and liabilities in the balance sheet based on current/non-current classification. The Company classifies all amounts to be realized or settled within 12 months after the reporting period to be current and all other amounts to be non-current.

Foreign currency transactions

Foreign currency transactions are translated into the functional currency Swiss Francs (CHF) using prevailing exchange rates at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are translated into CHF at rates of exchange prevailing at reporting date. Any gains or losses from these translations are included in the statements of loss in the period in which they arise.

Revenue recognition

Effective January 1, 2018, the Company adopted IFRS 15 *Revenue from Contracts with Customers*, without though deeming any adjustments necessary in the transition to the new standard. This standard applies to all contracts with customers, except for contracts that are within the scope of other standards, such as leases, insurance, collaboration arrangements and financial instruments. Under IFRS 15, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that an entity determines are within the scope of IFRS 15, the entity performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. The Company only applies the five-step model to contracts when it is probable that the entity will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. At contract inception, once the contract is determined to be within the scope of IFRS 15, the Company assesses the goods or services promised within each contract and determines those that are performance obligations, and assesses whether each promised good or service is distinct. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied. For a complete discussion of accounting for contract revenue, see Note 11, "Revenues."

License of intellectual property

If the license to the Company's intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenues from non-refundable, up-front fees allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the license. For licenses that are sold in conjunction with a related service, the Company uses judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time. If the performance obligation is settled over time, the Company determines the appropriate method of measuring progress for purposes of recognizing revenue from non-refundable, up-front fees. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition.

Milestone payments

At the inception of each arrangement that includes development, regulatory and/or commercial milestone payments, the Company evaluates whether the milestones are considered highly probable of being reached and estimates the amount to be included in the transaction price using the most likely amount method. If it is highly probable that a significant revenue reversal would not occur in future periods, the associated milestone value is included in the transaction price. These amounts for the performance obligations under the contract are recognized

as they are satisfied. At the end of each subsequent reporting period, the Company re-evaluates the probability of achievement of such milestones and any related constraint, and if necessary, adjusts its estimate of the overall transaction price. Any such adjustments recorded would affect contract revenues and earnings in the period of adjustment.

Research and Development Services

The Company has certain arrangements with our collaboration partners that include contracting our full-time employees for research and development programs. The Company assesses if these services are considered distinct in the context of each contract and, if so, they are accounted for as separate performance obligations. These revenues are recorded in contract revenue as the services are performed.

Contract Balances

The Company receives payments and determines credit terms from its customers for its various performance obligations based on billing schedules established in each contract. The timing of revenue recognition, billings and cash collections results in billed other current receivables, accrued income (contract assets), and deferred income (contract liabilities) on the balance sheets. Amounts are recorded as other current receivables when the Company's right to consideration is unconditional. The Company does not assess whether a contract has a significant financing component if the expectation at contract inception is such that the period between payment by the licensees and the transfer of the promised goods or services to the licensees will be one year or less.

Research and development expenditure

Given the stage of development of the Company's products, all research expenditure is recognized as expense when incurred. Research and development expenditures include:

- the cost of acquiring, developing and manufacturing active pharmaceutical ingredients for product candidates that have not received regulatory approval, clinical trial materials and other research and development materials;
- fees and expenses incurred under agreements with contract research organizations, investigative sites, and other entities in connection with the conduct of clinical trials and preclinical studies and related services, such as administrative, data management, and laboratory services;
- fees and costs related to regulatory filings and activities;
- costs associated with pre-clinical and clinical activities; and
- employee-related expenses, including salaries and bonuses, benefits, travel and stock-based compensation expense

For external research contracts, expenses include those associated with contract research organizations, or CROs. The invoicing from CROs for services rendered do not always align with work performed. We accrue the cost of services rendered in connection with CRO activities based on our estimate of the "stage of completion" for such contracted services. We maintain regular communication with our CRO vendors to gauge the reasonableness of our estimates and accrue expenses as of the balance sheet date in the financial statement based on facts and circumstances known at the time.

Registration costs for patents are part of the expenditure for research and development projects. Therefore, registration costs for patents are expensed when incurred as long as the research and development project concerned does not meet the criteria for capitalization.

Property, plant and equipment

Equipment is shown at historical acquisition cost, less accumulated depreciation and any accumulated impairment losses. Historical costs include expenditures that are directly attributable to the acquisition of the property, plant and equipment. Depreciation is calculated using a straight-line method to write off the cost of each asset to its residual value over its estimated useful life as follows:

IT equipment	3 years
Laboratory equipment	5 years
Leasehold improvements / furniture	5 years

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at each balance sheet date. Where an asset's carrying amount is greater than its estimated recoverable amount, it is written down to its recoverable amount.

Gains and losses on disposals are determined by comparing the disposal proceeds with the carrying amount and are included in the statements of loss.

Fair value of financial assets and liabilities

The Company's financial assets and liabilities are comprised of receivables, cash and cash equivalents, trade payables and debt obligations. The fair value of these financial instruments approximate their respective carrying values due to the short term maturity of these instruments and are held at their amortized cost in accordance with IFRS 9.

Receivables

Receivables are non-derivative financial assets with fixed payments that are not quoted in an active market. They arise when the Company provides money, goods or services directly to a debtor with no intention of trading the receivable. They are included in current assets, except for those with maturities greater than 12 months after the balance sheet date, which are classified as long-term assets. Receivables are recognized at their billing value. An allowance for doubtful accounts is recorded for potential estimated losses when there is evidence of the debtor's inability to make required payments and the Company assesses on a forward looking basis the expected credit losses associated with these receivables held at amortized cost.

Short-term financial assets

Short-term financial assets are held with external financial institutions and comprise fixed-term deposits with maturities ranging from more than 3 until 12 months in duration.

Cash and cash equivalents

Cash and cash equivalents include deposits held with external financial institutions and cash on hand. All cash and cash equivalents are either in cash or in deposits with original duration of less than 3 months.

The Company assesses at each period whether there is objective evidence that financial assets are impaired.

Trade payables

Trade payables are amounts due to third parties in the ordinary course of business.

Debt obligations

The Company's debt obligations relate to its agreement with a third party and are measured as of the period end date based on the repayment terms when originated.

Share capital and public offerings

Ordinary (Common) Shares are classified as equity, as were all Preferred Shares previously outstanding prior to the IPO. Expenses directly attributable to the issuance of new shares are shown in equity as a deduction, net of tax, from the proceeds. See Note 8, "Share Capital."

Employee benefits

Post-employment benefits

The Company operates the mandatory pension schemes for its employees in Switzerland. The schemes are generally funded through payments to insurance companies. The Company has a pension plan designed to pay pensions based on accumulated contributions on individual savings accounts. However, this plan is classified as a defined benefit plan under IAS 19.

The net defined benefit liability is the present value of the defined benefit obligation at the balance sheet date minus the fair value of plan assets. Significant estimates are used in determining the assumptions incorporated in the calculation of the pension obligations, which is supported by input from independent actuaries. The defined benefit obligation is calculated annually with the assistance of an independent actuary using the projected unit credit method, which reflects services rendered by employees to the date of valuation, incorporates assumptions concerning employees' projected salaries, pension increases as well as discount rates of highly liquid corporate bonds which have terms to maturity approximating the terms of the related liability.

Remeasurements of the net defined benefit liability, which comprise actuarial gains and losses, the return on plan assets (excluding interest), are recognized immediately in Other Comprehensive Loss. Past service costs, including curtailment gains or losses, are recognized immediately as a split in research and development and general and administrative expenses within the operating results. Settlement gains or losses are recognized in either research and development and/or general and administrative expenses within the operating results. The Company determines the net interest expense (income) on the net defined benefit liability for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period or in case of any significant events between measurement dates to the then-net defined benefit liability, taking into account any changes in the net defined benefit liability during the period as a result of contributions and benefit payments. Net interest expense and other expenses related to defined benefit plans are recognized in the statement of income.

Share-based compensation

The Company operates an equity-settled, share-based compensation plan. The fair value of the employee services received in exchange for the grant of equity based awards is recognized as an expense. The total amount to be expensed over the vesting period is determined by reference to the fair value of the instruments granted, excluding the impact of any non-market vesting conditions. Non-market vesting conditions are included in assumptions about the number of instruments that are expected to become exercisable. At each balance sheet date, the Company revises its estimates of the number of instruments that are expected to become exercisable. It recognizes the impact of the revision of original estimates, if any, prospectively in the income statement, and a corresponding adjustment to equity over the remaining vesting period.

Stock options granted under the Company's stock option plans A, B, C and the 2016 Stock Option and Incentive Plan are valued using the Black-Scholes option pricing model (see Note 16). This valuation model as well as parameters used such as expected volatility and expected term of the stock options are partially based on management's estimates.

The proceeds received net of any directly attributable transaction costs are credited to share capital (nominal value) and share premium when the options are exercised.

We estimate the fair value of non-vested stock awards (restricted shares and restricted share units) using a reasonable estimate of market value of the common stock on the date of the award. We classify our share-based payments as equity-classified awards as they are settled in shares of our common stock. We measure equity-classified awards at their grant date fair value and do not subsequently remeasure them. Compensation costs related to equity-classified awards are equal to the fair value of the award at grant-date amortized over the vesting period of the award using the graded method. We reclassify that portion of vested awards to share premium as the awards vest.

Provisions

Provisions are recognized when the Company has a present legal or constructive obligation as a result of past events where it is more likely than not that an outflow of resources will be required to settle the obligation, and a reliable estimate of the amount can be made.

Taxation

Current income tax assets and liabilities for the period are measured at the amount expected to be recovered from or paid to the taxation authorities. The tax rates and tax laws used to compute the tax amounts are those that are enacted or substantively enacted, at the reporting date in accordance with the fiscal regulations of the respective country where the Company operates and generates taxable income. Deferred tax is provided using the liability method on temporary differences between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes at the reporting date.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date. If required, deferred taxation is provided in full using the liability method, on all temporary differences at the reporting dates. It is calculated at the tax rates that are expected to apply to the period when it is anticipated the liabilities will be settled, and it is based on tax rates (and laws) that have been enacted or substantively enacted at the reporting date.

Deferred income tax assets are recognized to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilized. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realized. Although the Company has substantial tax loss carryforwards, historically, due to the fact that the Company had limited certainty on the achievement of key milestones, it has not recognized any deferred tax assets as the probability for use is low.

Earnings per share

The Company presents basic earnings per share for each period in the financial statements. The earnings per share is calculated by dividing the earnings of the period by the weighted average number of shares (common and preferred) outstanding during the period. Diluted earnings per share reflect the potential dilution that could occur if dilutive securities such as share options were vested or exercised into common shares or resulted in the issuance of common shares that would participate in net income. Anti-dilutive shares are excluded from basic and diluted earnings per share calculation.

Preferred shares

Judgment was required in determining the classification of the Preferred Shares issued by the Company as either equity or liabilities. The Preferred shareholders received certain preference rights that represented a significant proportion of the net assets of the Company in the case of liquidation or certain exit events, the occurrence of which was outside the control of the Company. These Preferred Shares remained outstanding until the Company completed an IPO in September 2016 and at that time the Preferred Shares were converted from Preferred Shares to Common Shares on a one-for-one basis.

Critical judgments and accounting estimates

The preparation of financial statements in conformity with IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses.

The areas where AC Immune has had to make judgments, estimates and assumptions relate to (i) revenue recognition on collaboration and licensing agreements, (ii) clinical development accruals, (iii) net employee defined

benefit liability, (iv) income taxes and (v) share-based compensation. Actual results may differ from these estimates. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

Income taxes

As disclosed in Note 14, the Company has tax losses that can generally be carried forward for a period of 7 years from the period the loss was incurred. These tax losses represent potential value to the Company to the extent that the Company is able to create taxable profits before the expiry period of these tax losses. The Company has not recorded any deferred tax assets in relation to these tax losses.

Segment reporting

The Company has one segment. The Company currently focuses all of its resources on discovering and developing therapeutic and diagnostic products targeting misfolded proteins.

The Company is managed and operated as one business. A single management team that reports to the chief operating decision maker comprehensively manages the entire business. Accordingly, the Company views its business and manages its operations as one reportable segment. Non-current assets are located in and revenue is attributable to the Company's country of domicile, Switzerland.

Accounting pronouncements – not yet adopted

The following pronouncements from the IASB will become effective for future financial reporting periods and have not yet been adopted by AC Immune.

IFRS 16 *Leases* provides a new model for lessee accounting in which all leases, other than short-term and low-value leases, will be accounted for by the recognition on the balance sheet of a right-of-use asset and a lease liability, and the subsequent amortization of the right-of-use asset over the lease term. IFRS 16 will be effective for annual periods beginning on or after January 1, 2019 with early adoption permitted. AC Immune has completed its assessment of the impact of this standard on its financial statements and we estimate an increase of approximately CHF 2.2 million for the right-of-use assets and lease liabilities associated with our operating leases upon adoption. The Company will adopt this standard as of the effective date using the Modified Retrospective approach with there being no cumulative effect adjustment to the opening balance of accumulated losses. We believe the adoption of this standard will not have a significant impact on our statements of loss and comprehensive loss, changes in equity, and cash flows.

There are no other standards that are not yet effective and that would be expected to have a material impact on the entity in the current or future reporting periods and on foreseeable future transactions.

Accounting pronouncements – recently adopted

IFRS 15 Revenue from Contracts with Customers

In May 2014, the International Accounting Standards Board (IASB) issued IFRS 15 – *Revenue from Contracts with Customers* which amends the guidance for accounting for revenues from contracts with customers. This IFRS replaces all current revenue standards in IFRS including IAS 11 – *Construction Contracts*, IAS 18 – *Revenue* and various interpretations. The Company adopted this new standard on January 1, 2018, and would have recognized the cumulative effect of initially applying the new revenue standard as an adjustment to the opening balance of accumulated losses; however, the Company did not deem any adjustments required in the transition to the new standard. The comparative information has not been restated and continues to be reported under the accounting standards in effect for those periods.

IFRS 9 Financial Instruments

IFRS 9 *Financial Instruments* supersedes IAS 39 *Financial Instruments: Recognition and Measurement* and was adopted by the Company on January 1, 2018. IFRS 9 covers classification and measurement of financial assets and financial liabilities, impairment of financial assets and hedge accounting. The Company noted no impact to its financial statements upon adoption of this standard.

4. Property, plant and equipment

in CHF thousands	Furniture	Computers /IT	Lab Equipment	Leasehold Improvements	Total
Acquisition Cost:					
Balance at December 31, 2017	85	569	4,161	272	5,087
Acquisitions	41	456	1,357	78	1,932
Disposals	—	—	(151)	—	(151)
Balance at December 31, 2018	126	1,025	5,367	350	6,868
Accumulated depreciation:					
Balance at December 31, 2017	(59)	(259)	(2,311)	(105)	(2,734)
Depreciation expense	(18)	(196)	(697)	(50)	(961)
Disposals	—	—	151	—	151
Balance at December 31, 2018	(77)	(455)	(2,857)	(155)	(3,544)
Carrying Amount:					
December 31, 2017	26	310	1,850	167	2,353
December 31, 2018	49	570	2,510	195	3,324

in CHF thousands	Furniture	Computers /IT	Lab Equipment	Leasehold Improvements	Total
Acquisition Cost:					
Balance at December 31, 2016	81	298	2,792	103	3,274
Acquisitions	4	271	1,369	169	1,813
Balance at December 31, 2017	85	569	4,161	272	5,087
Accumulated depreciation:					
Balance at December 31, 2016	(45)	(172)	(1,858)	(79)	(2,154)
Depreciation expense	(14)	(87)	(453)	(26)	(580)
Balance at December 31, 2017	(59)	(259)	(2,311)	(105)	(2,734)
Carrying Amount:					
December 31, 2016	36	126	934	24	1,120
December 31, 2017	26	310	1,850	167	2,353

For the years ended December 31, 2018, 2017 and 2016, the Company incurred CHF 1.0 million, 0.6 million and CHF 0.3 million in depreciation expense, respectively.

5. Cash and cash equivalents and financial assets

The following tables summarize the Company's cash and cash equivalents and short-term financial assets as of December 31, 2018 and 2017:

in CHF thousands	As of December 31,	
	2018	2017
Cash and cash equivalents	156,462	124,377
Total	156,462	124,377

in CHF thousands	As of December 31,	
	2018	2017
Short-term financial assets due in one year or less	30,000	—
Total	30,000	—

The Company's cash and cash equivalents are maintained in the following respective currencies as of December 31, 2018 and 2017:

	in CHF thousands	As of December 31,	
		2018	2017
Cash and cash equivalents		156,462	124,377
Total		<u>156,462</u>	<u>124,377</u>
By currency			
CHF		126,218	103,272
EUR		11,471	3,658
USD		18,773	17,447
Total cash and cash equivalents		<u>156,462</u>	<u>124,377</u>

At the balance sheet dates, Company funds were held in CHF, EUR and USD currencies. As of December 31, 2018 and 2017, funds in EUR and USD were translated into CHF at a rate of 1.125 and 0.983 and 1.169 and 0.976, respectively for each currency and year.

The Company also has two deposits in escrow accounts totaling CHF 0.3 million and 0.1 million for the lease of the Company's premises as of December 31, 2018 and 2017, respectively.

6. Prepaid expenses and accrued income

	in CHF thousands	As of December 31,	
		2018	2017
Prepaid expenses		2,364	1,440
Accrued income		3,667	2,799
Total		<u>6,031</u>	<u>4,239</u>

The prepaid expenses relate mainly to research contracts with down-payments at contract signature and the related activities will start or continue into 2019.

Accrued income consists of CHF 1.2 million as of December 31, 2018 associated with our Biogen collaboration and CHF 2.1 million associated with our Janssen collaboration (see Note 11). This amount represents 33.5% and 56.8%, respectively of our total accrued income as of December 31, 2018.

7. Other current receivables

	in CHF thousands	As of December 31,	
		2018	2017
Other receivables		17	691
Swiss VAT		209	112
Withholding tax		10	115
Total		<u>236</u>	<u>918</u>

The maturity of these assets is less than three months. The Company considers the counterparty risk as low and the carrying amount of these receivables is considered to approximate their fair value.

8. Share capital

As of December 31, 2018 and 2017, the issued share capital amounted to CHF 1,351,364 and CHF 1,147,104 respectively and comprised of Common Shares of 67,562,333 and 57,355,188, respectively.

The table below summarizes the Company's capital structure:

	Common Shares	in CHF thousands	
	Number	Share Capital	Share Premium
December 31, 2016	56,773,392	1,135	188,166
Issuance of Shares – Incentive Plans	581,796	12	133
December 31, 2017	57,355,188	1,147	188,299
Issuance of Shares – Incentive Plans	207,145	4	537
Issuance of Shares – Public Offering (net of transaction costs)	10,000,000	200	109,313
December 31, 2018	67,562,333	1,351	298,149

The Common Shares nominal values of CHF 0.02 per share are fully paid in.

Preferred Shares

AC Immune had five classes (Class A, B, C, D and E) of Preferred Shares outstanding as of December 31, 2015. These Preferred Shares remained outstanding until the Company completed an IPO in September 2016 and at that time the Preferred Shares were converted to Common Shares on a one-for-one basis. The Preferred Shares were a class of shares that AC Immune SA issued in connection with five separate capital increases and conveyed voting rights and certain other rights to their holders.

The holders of Preferred Shares owned 80.1% of the total amount of shares outstanding (assuming conversion of the Preferred Shares into Common Shares on a one-for-one basis) as of December 31, 2015 and the Company's Board of Directors were predominantly the holders of Preferred Shares. The Preferred Shares had been the primary source of equity financing for the Company for more than 13 years until the Company completed an IPO in September 2016, at which point all Preferred Shares were converted to Common Shares. The Preferred Shares did not have mandatory redemption features; however, the Shareholders' Agreement provided for conversion of Preferred Shares into Common Shares as a result of an IPO. The redemption of the Preferred Shares was authorized by the Company's Board of Directors.

The voting rights associated with Preferred Shares were the same as for Common Shares. Each Preferred Share entitled the holder to one vote. No dividends were paid on the Preferred Shares and the holders of Preferred Shares were not entitled to any dividends unless dividends are paid on the Common Shares.

The Preferred Shares had a liquidation preference wherein, in the event of a change of control or a liquidation of the Company, the holders of Preferred Shares were entitled to receive, prior and in preference to the holders of Common Shares, the amount corresponding to the price paid for each Preferred Share. Thereafter, all holders of Preferred Shares participated with the holders of Common Shares on an as-if-converted basis in any remaining proceeds.

On April 15, 2016, AC Immune completed a private placement of Series E preferred shares, each with a nominal value of CHF 0.02 per share (the "Series E Private Placement Extension"). An aggregate 1,401,792 Series E preferred shares were issued at a price of USD 9.64 (CHF 9.42) per preferred share to certain strategic investors, individuals and existing shareholder in the Series E Private Placement Extension for an aggregate subscription amount of approximately USD 13.5 (CHF 13.2) million. The Series E preferred shares had substantially the same terms as the Series A, B, C and D preferred shares and were accounted for as equity on AC Immune's balance sheet and subsequently converted to Common Shares as a result of the IPO.

Initial Public Offering (IPO)

On September 22, 2016, AC Immune successfully priced a 6.0 million common share IPO at USD 11.00 per share. On the same day, the underwriters exercised the over-allotment option which resulted in a further 900,000 common shares being placed in the market and took the total number of shares offered to investors to 6.9 million common shares. The gross proceeds received were USD 75.9 (CHF 74.5) million while the proceeds net of underwriting fees amounted to USD 70.6 (CHF 69.3) million.

The IPO resulted in an increase of CHF 64.2 million in the share premium of AC Immune excluding the effect of transaction costs associated with the IPO related to the issuance of new shares. Transaction costs associated with the IPO and related to the issuance of new shares were charged directly against the share premium account thereby reducing the total equity reported.

Follow-On Offerings

On July 24, 2018, the Company announced that it had closed the first subscription rights offering and underwritten primary offering of its common shares, and that the underwriters had exercised in full their option to purchase an additional 1,108,695 shares at a price per share of USD 11.75. The underwriters' exercise of the option to purchase additional shares brought the total number of common shares sold by the Company to 8,500,000 shares, resulting in total gross proceeds raised in these offerings, before underwriting discounts and estimated expenses of the offering, to approximately USD 99.9 (CHF 98.9) million. On July 20, 2018, the Company commenced a second subscription rights offering of up to 1,500,000 shares. At closing of the second subscription rights offering on July 31, 2018, the Company issued 1,500,000 additional common shares, resulting in gross proceeds of approximately USD 17.6 (CHF 17.4) million.

At the conclusion of these three offerings, the Company raised gross proceeds of USD 117.5 (CHF 116.3) million. Net underwriting fees and transaction costs totaled CHF 6.8 million for a net total of CHF 109.5 million. Transaction costs associated with these offerings and related to the issuance of new shares were charged directly against the share premium account thereby reducing the total equity reported.

Shelf Registration Statement

On May 4, 2018, the Company filed a shelf registration statement on Form F-3 (Reg. No. 333-2246694) (the "Shelf Registration Statement") with the SEC. The Shelf Registration Statement was declared effective by the SEC on June 8, 2018.

The Shelf Registration Statement allows the Company to offer and sell, from time to time, up to USD 350,000,000 of common stock, debt securities, warrants, purchase contracts, units, subscription rights or any combination of the foregoing in one or more future public offerings. The terms of any future offering would be determined at the time of the offering and would be subject to market conditions and approval by the Company's Board of Directors. Any offering of securities covered by the Shelf Registration Statement will be made only by means of a written prospectus and prospectus supplement authorized and filed by the Company.

Since the Company raised USD 117,500,000 in its three offerings completed in July 2018, the Company may execute one or more future offering of securities covered by the Shelf Registration Statement up to USD 232,500,000.

9. Trade payables, accrued liabilities and deferred income

	in CHF thousands	As of	
		December 31, 2018	December 31, 2017
Trade and other payables		1,979	1,092
Accrued research and development costs		6,803	5,430
Accrued payroll expenses		2,482	2,420
Other accrued expenses		1,135	457
Deferred income		351	355
Total		12,750	9,754

An accrual of CHF 1.8 million and CHF 1.1 million was recognized for performance-related remuneration within Accrued payroll expenses for 2018 and 2017, respectively.

For the year ended December 31, 2018 and 2017, the Company has recorded CHF 0.4 million in deferred income in relation to research funding commitments from Biogen.

10. Debt obligation

On January 4, 2016, September 13, 2016 and January 26, 2018 for fiscal years 2016, 2017 and 2018, respectively, AC Immune obtained separate funding commitment notices from the LuMind Research Down Syndrome Foundation (“LuMind”) totaling USD 200 thousand in each instance. Per the Research Grant Agreement, AC Immune has an obligation to reimburse LuMind for an amount equal to 125% of the then funding commitment made by LuMind to AC Immune.

On October 31, 2018, LuMind and the Company modified the repayment terms in an effort to fund a Down Syndrome Clinical Trials Network. The repayment terms were modified such that the Company will repay the outstanding balance in three installments in 2018, 2019 and 2020, with the total repayment to equal the total the Company is to receive in funding with the additional 25% interest.

The Company accounted for this modification as an extinguishment within IFRS 9 and recorded a CHF 0.1 million extinguishment gain with Finance result, net in the statements of loss. The Company reclassified a certain portion of Long-term debt obligation from non-current to current liabilities in the balance sheets to reflect the amended repayment terms. Additionally, per this modified payment term, the Company and LuMind memorialized the receipt of one final USD 200 (CHF 199) thousand payment due from LuMind in 2019. The Company has recorded this as a finance receivable and an increase to the obligation accordingly.

AC Immune has recorded in current liabilities a Short-term debt obligation for the total USD 334 (CHF 332) thousand committed. As of December 31, 2018 and 2017, the Company recorded a Long-term debt obligation for the total USD 187 (CHF 186) thousand and USD 500 (CHF 494) thousand, respectively.

11. Revenues

The Company enters into licensing agreements which are within the scope of IFRS 15, under which it licenses certain rights to its product candidates and IP to third parties. The terms of these arrangements typically include payment to the Company of one or more of the following: non-refundable, up-front license fees; development, regulatory and/or commercial milestone payments; payments for research and clinical services the Company provides through either its full-time employees or third-party vendors; and royalties on net sales of licensed products commercialized from the Company’s IP. Each of these payments results in license, collaboration and other revenues, which are classified as contract revenue on the statements of loss, except for revenues from royalties on net sales of products commercialized from the Company’s IP, which are classified as royalty revenues.

Licenses of intellectual property: If the license to the Company’s intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenues from non-refundable, up-front fees allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the license. For licenses that are sold in conjunction with a related service, the Company uses judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time. If the performance obligation is settled over time, the Company determines the appropriate method of measuring progress for purposes of recognizing revenue from non-refundable, up-front fees. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition.

Milestone payments: At the inception of each arrangement that includes development, regulatory and/or commercial milestone payments, the Company evaluates whether the milestones are considered highly probable of being reached and estimates the amount to be included in the transaction price using the most likely amount method. If it is highly probable that a significant revenue reversal would not occur in future periods, the associated milestone value is included in the transaction price. These amounts for the performance obligations under the contract are recognized as they are satisfied. At the end of each subsequent reporting period, the Company re-evaluates the probability of achievement of such milestones and any related constraint, and if necessary, adjusts its estimate of the overall transaction price. Any such adjustments recorded would affect contract revenues and earnings in the period of adjustment.

Research and development services: The Company has certain arrangements with our collaboration partners that include contracting our full-time employees for research and development programs. The Company assesses if these services are considered distinct in the context of each contract and, if so, they are accounted for as separate performance obligations. These revenues are recorded in contract revenue as the services are performed.

Sublicense revenues: The Company has certain arrangements with our collaboration partners that include provisions for sublicensing. The Company recognizes any sublicense revenues at the point in time it is highly probable to obtain and not subject to reversal in the future.

Royalties: For arrangements that include sales-based royalties, including milestone payments based on the level of sales, and the license is deemed to be the predominant item to which the royalties relate, the Company recognizes revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied). To date, the Company has not recognized any royalty revenue resulting from any of its licensing and collaboration agreements.

Contract balances: The Company receives payments and determines credit terms from its licensees for its various performance obligations based on billing schedules established in each contract. The timing of revenue recognition, billings and cash collections results in billed other current receivables, accrued income (contract assets), and deferred income (contract liabilities) on the Balance Sheet. Amounts are recorded as other current receivables when the Company's right to consideration is unconditional. The Company does not assess whether a contract has a significant financing component if the expectation at contract inception is such that the period between payment by the licensees and the transfer of the promised goods or services to the licensees will be one year or less.

The following table presents changes in the Company's contract assets and liabilities during the years ended December 31, 2018 and 2017 (in CHF thousands):

	Balance at the beginning of the reporting period	Additions	Deductions	Balance at the end of the reporting period
Twelve months ended December 31, 2018:				
Accrued Income	2,799	5,846	(4,978)	3,667
Deferred Income	355	1,533	(1,537)	351
Twelve months ended December 31, 2017:				
Accrued Income	889	3,813	(1,903)	2,799
Deferred Income	521	1,250	(1,416)	355

During the years ended December 31, 2018 and 2017, the Company recognized the following revenues as a result of changes in the contract asset and the contract liability balances in the respective periods (in CHF thousands):

	For the Years Ended December 31,	
	2018	2017
Revenues recognized in the period from:		
Amounts included in the contract liability at the beginning of the period	1,551	1,401

The following tables provide contract revenue amounts by year indicated included in the Company's accompanying financial statements attributable to transactions arising from its licensing arrangements.

in CHF thousands, by partner	For the Years Ended December 31,		
	2018	2017	2016
Genentech	—	14,000	14,001
Janssen	2,157	1,239	6,628
Life Molecular Imaging	—	1,080	7
Biogen	4,024	3,930	2,100
Other	1,013	6	478
Total contract revenue	7,194	20,255	23,214

Biogen and Janssen accounted for 56% and 30% of our contract revenues in 2018, respectively. Genentech and Biogen accounted for 69% and 19% of our contract revenues in 2017, respectively. Genentech and Janssen accounted for 60% and 29% of our contract revenues in 2016, respectively.

Anti-Abeta antibody in AD – 2006 agreement with Genentech

In November 2006, AC Immune signed an exclusive, worldwide licensing agreement for crenezumab, our humanized monoclonal antibody targeting misfolded Abeta. The value of this partnership is potentially greater than USD 340 (CHF 339) million.

The term of the Agreement commenced on the Effective Date and, unless sooner terminated by mutual agreement or pursuant to any other provision of the Agreement, terminates on the date on which all obligations between the Parties with respect to the payment of milestones or royalties with respect to Licensed Products have passed or expired. Either party may terminate the Agreement for any material breach by the other Party, provided a cure period of 90 days from the date notice is given.

Genentech commenced a first Phase 3 clinical study in March 2016 for crenezumab. In March 2017, Genentech started a second Phase 3 clinical trial. If crenezumab receives regulatory approval, we will be entitled to receive royalties that are tied to annual sales volumes with different royalty rates applicable in the U.S. and Europe. To date, we have received total milestone payments of USD 65 million (CHF 70.1 million) comprised of a USD 25 (CHF 31.6) million up-front payment and USD 40 (CHF 38.2) million for clinical development milestones achieved all in prior to January 1, 2017. Genentech may terminate the agreement at any time by providing three months' notice to us. In such event all costs incurred are still refundable.

AC Immune assessed this arrangement in accordance with IFRS 15 and concluded that Genentech is a customer. The Company identified the following performance obligations under the contract: (i) a right-to-use license and (ii) conduct of research under a research plan. The Company considered the research and development capabilities of Genentech and Genentech's right to sublicense to conclude that the license has stand-alone functionality and is distinct. The Company's obligation to perform research does not significantly impact or modify the licenses' granted functionality.

At execution of the agreement, the transaction price included the USD 25 (CHF 31.6) million up-front consideration received. At inception, none of the clinical or regulatory milestones had been included in the transaction price, as all milestone amounts were fully constrained. The Company has received three milestone payments since inception totaling USD 40 (CHF 38.2) million. The Company could receive greater than USD 275 (CHF 274) million or more for further regulatory milestones for this exclusive, worldwide alliance. In assessing that future regulatory milestones are fully constrained, the Company considered numerous factors, including that receipt of the milestones is outside the control of the Company and contingent upon success in future clinical trials and the licensee's efforts. Any consideration related to royalties will be recognized when the related sales occur as they were determined to relate predominantly to the license granted to Genentech and therefore have also been excluded from the transaction price. The Company will re-evaluate the transaction price in each reporting period and as uncertain events are resolved or other changes in circumstances occur.

For the years ended December 31, 2018, 2017 and 2016, we have recognized no revenues from this arrangement.

Anti-Tau antibody in AD – 2012 agreement with Genentech

In June 2012, we entered into a second agreement with Genentech to commercialize anti-Tau antibodies for use as immunotherapeutics. The value of this exclusive, worldwide alliance is potentially greater than CHF 400 million and includes upfront and clinical, regulatory and commercial milestone payments. In addition to milestones, we will be eligible to receive royalties on sales at a percentage rate ranging from the mid-single digits to the high-single digits. The agreement also provides for collaboration on two additional indications built on the same anti-Tau antibody program as well as potential anti-Tau diagnostic products.

The term of the Agreement commenced on the Effective Date and, unless sooner terminated by mutual agreement or pursuant to any other provision of the Agreement, terminates on the date on which all obligations between the Parties with respect to the payment of milestones or royalties with respect to Licensed Products have passed or expired. Either party may terminate the Agreement for any material breach by the other Party, provided a cure period of 90 days from the date notice is given.

To date, we have received payments totaling CHF 59 million, including a CHF 14 million milestone payment received and recognized in the fourth quarter of 2017 associated with the first patient dosing in a Phase 2 clinical trial for Alzheimer's disease with an anti-Tau monoclonal body known as RG6100, a CHF 14 million milestone payment recognized in the second quarter of 2016 and received in July 2016, associated with the announcement of the commencement of the Phase 1 clinical study of the lead anti-Tau antibody candidate and a CHF 14 million milestone payment received in 2015 in connection with the ED-GO decision. As we met all performance obligations on reaching these milestones, we have recognized revenue in the respective periods.

AC Immune assessed this arrangement in accordance with IFRS 15 and concluded that Genentech is a customer. The Company identified the following performance obligations under the contract: (i) a right-to-use license and (ii) conduct research under a research plan. The Company considered the research and development capabilities of Genentech and Genentech's right to sublicense to conclude that the license has stand-alone functionality and is distinct. The Company's obligation to perform research does not significantly impact or modify the licenses' granted functionality.

At execution of the agreement, the transaction price included CHF 17 million up-front consideration received. At inception, none of the clinical or regulatory milestones had been included in the transaction price, as all milestone amounts were fully constrained. The Company has received three milestones since inception totaling CHF 42 million. The Company could also receive up to an additional CHF 368.5 million in clinical, regulatory and commercial milestones. In assessing that future clinical, regulatory or commercial milestones are fully constrained, the Company considered numerous factors, including that receipt of the milestones is outside the control of the Company and contingent upon success in future clinical trials. Any consideration related to sales-based milestones (including royalties) will be recognized when the related sales occur as they were determined to relate predominantly to the license granted to Genentech and therefore have also been excluded from the transaction price. The Company will re-evaluate the transaction price in each reporting period and as uncertain events are resolved or other changes in circumstances occur.

For the years ended December 31, 2018, 2017 and 2016, we have recognized nil, CHF 14 million and CHF 14 million from this arrangement, respectively.

Tau Vaccine in AD – 2014 agreement with Janssen Pharmaceuticals

In December 2014, we entered into an agreement with Janssen Pharmaceuticals, Inc., one of the Janssen Pharmaceutical Companies of Johnson & Johnson, to develop and commercialize therapeutic anti-Tau vaccines for the treatment of AD and potentially other Tauopathies. The value of this partnership is potentially up to CHF 500 million and includes upfront and clinical, regulatory and commercial milestones. We and Janssen will co-develop the two second generation lead therapeutic vaccines, ACI-35.030 and JACI-35.054, through Phase 1b/2a completion. From Phase 2b and onwards, Janssen will assume responsibility for the clinical development,

manufacturing and commercialization of one selected second generation vaccine. ACI-35.030 and JACI-35.054 are active therapeutic vaccines stimulating the patient's immune system to produce a polyclonal antibody response against phosphorylated Tau protein. In July 2017, AC Immune and Janssen entered into a Second Amendment to the December 2014 License, Development and Commercialization Agreement. The Amendment allows for the alignment of certain payment provisions with the new Development Plan and Research Plan activities. AC Immune and Janssen will jointly share R&D costs until the completion of the first Phase 2b.

Under the terms of the agreement, Janssen may terminate the agreement at any time after completion of the first Phase 1b clinical study by providing 90 days' notice to us. If not otherwise terminated, the Agreement shall continue until the expiration of all royalty obligations as outlined in the contract.

The agreement also allows for the expansion to a second indication based on the same anti-Tau vaccine program and based on intellectual property related to this program.

The Company received a CHF 25.9 million up-front, non-refundable license fee which we recognized as revenue in 2014. In May 2016, we received a CHF 4.9 million payment for reaching a clinical milestone in the Phase 1b study. As we met all performance obligations on reaching the milestone, we have recognized this income as revenue.

AC Immune assessed this arrangement in accordance with IFRS 15 and concluded that Janssen is a customer. The Company identified the following performance obligations under the contract: (i) a right-to-use license and (ii) research and development services including a Development and CMC work plan. The Company considered the research and development capabilities of Janssen, Janssen's right to sublicense, and the fact that the research and development services are not proprietary and can be provided by other vendors, to conclude that the license has stand-alone functionality and is distinct. The Company's obligation to perform research and development services does not significantly impact or modify the licenses' granted functionality. Based on these assessments, the Company identified the license and the research and development services as the performance obligations at the inception the arrangement, which were deemed to be distinct in the context of the contract.

At execution of the agreement, the transaction price included only the CHF 25.9 million up-front consideration received. At inception, none of the clinical, regulatory or commercial milestones has been included in the transaction price, as all milestone amounts were fully constrained. The Company did receive a CHF 4.9 million payment for reaching a clinical milestone in the first Phase 1b study in May 2016. The Company could also receive up to more than CHF 458 million in clinical, regulatory and commercial milestones as well as tiered, high-single digit to mid-double digit royalties on aggregate net sales of products. In assessing that future clinical, regulatory or commercial milestones are fully constrained, the Company considered numerous factors to determine that these milestones are not highly probable to obtain, including that receipt of the milestones is outside the control of the Company and contingent upon success in future clinical trials and the licensee's efforts. Any consideration related to sales-based milestones (including royalties) will be recognized when the related sales occur as they were determined to relate predominantly to the license granted to Janssen and therefore have also been excluded from the transaction price. The Company will re-evaluate the transaction price in each reporting period and as uncertain events are resolved or other changes in circumstances occur.

For the years ended December 31, 2018, 2017 and 2016, we have recognized revenues totaling CHF 2.2 million, CHF 1.2 million and CHF 6.6 million, respectively.

Tau-PET imaging agent in AD –2014 agreement with Life Molecular Imaging (formerly Piramal Imaging SA)

In May 2014, AC Immune SA entered into an agreement, our first diagnostic partnership with Life Molecular Imaging ("Life Molecular"), the former Piramal Imaging SA. The partnership with Life Molecular is an exclusive, worldwide licensing agreement for the research, development and commercialization of the Company's Tau protein positron emission tomography (PET) tracers supporting the diagnosis and clinical management of AD and potential Tau-related disorders and includes upfront and sales milestone payments totaling up to EUR 157 (CHF 179) million, plus royalties on sales at a percentage rate ranging from mid-single digits to low double digits.

Life Molecular may terminate this Agreement at any time after the first 18 months from the Effective Date of this Agreement upon 3 months prior written notice. If not otherwise terminated, the Agreement shall continue until the date of expiration of the last to expire Royalty Term.

In connection with this agreement, AC Immune received a EUR 500 (CHF 664) thousand payment which was fully recognized in 2015. In March 2017, we invoiced Life Molecular for a EUR 1.0 (CHF 1.1) million milestone related to the initiation of “Part B” of the first-in-man Phase 1 clinical trial for PSP (Progressive Supranuclear Palsy). As we met all performance obligations on reaching the milestone, we have recognized this milestone as revenue in the first quarter of fiscal 2017. The Company is eligible to receive variable consideration related to the achievement of certain clinical milestones totaling EUR 6 (CHF 7) million should the compound make it through to Phase 3 clinical studies. We are also eligible to receive potential regulatory and sales based milestones totaling EUR 150 (CHF 171) million. The Company is also eligible for royalties from the mid-single digits to low-double digits.

AC Immune assessed this arrangement in accordance with IFRS 15 and concluded that Life Molecular is a customer. The Company has identified that the right-to-use license as the only performance obligation. The Company determined that transaction price based on the defined terms allocated to each performance obligation specified in the contract.

The upfront payment constitutes the amount of consideration to be included in the transaction price and has been allocated to the license. None of the clinical, regulatory and commercial milestones have been included in the transaction price as these variable consideration elements are considered fully constrained. As part of its evaluation of the constraint, the Company considered numerous factors, including that receipt of the milestones is outside the control of the Company and contingent upon success in future clinical trials and the licensee’s efforts. Any consideration related to sales-based milestones (including royalties) will be recognized when the related sales occur as these amounts have been determined to relate predominantly to the license granted to Life Molecular and therefore are recognized at the later of when the performance obligation is satisfied or the related sales occur. The Company considered Life Molecular’s right to sublicense and develop the Tau Protein PET tracers, and the fact that Life Molecular could perform the research and development work themselves within the license term without AC Immune, to conclude that the license has stand-alone functionality and is distinct. The Company believes that the contracted amount represents the fair value. The Company will re-evaluate the transaction price in each reporting period and as uncertain events are resolved or other changes in circumstances occur.

In June 2018, Alliance Medical Group purchased Piramal Imaging SA. The Company was rebranded as Life Molecular Imaging. The Company’s Agreement will continue under the same terms and conditions with the new counterparty.

For the years ended December 31, 2018, 2017 and 2016, the Company has recognized nil, CHF 1.1 million and CHF 0.7 million, respectively.

Alpha-synuclein and TDP-43 PET tracers in AD – 2016 agreement with Biogen

On April 13, 2016, AC Immune entered into a non-exclusive research collaboration agreement with Biogen International GmbH, or Biogen. Under the agreement, we and Biogen have agreed to collaborate in the research and early clinical development of our alpha-synuclein PET tracer program for Parkinson’s disease and other synucleinopathies, and a second program for the identification, research and development of novel PET ligands against TDP-43, a protein recently linked to neurodegeneration in diseases such as amyotrophic lateral sclerosis. In addition, we have agreed to share the costs of the collaboration, with Biogen primarily funding the majority of research costs, subject to a cap, which includes an upfront technology access fee and funding towards research and development personnel. We will own all intellectual property rights to any invention relating to alpha-synuclein or TDP-43 PET tracers. The collaboration shall expire in April 2019.

AC Immune assessed this arrangement in accordance with IFRS 15 and concluded that Biogen is a customer. The Company has identified two performance obligations in our Biogen collaboration: (i) technology access fee and (ii) research and development services. The Company determined the transaction price based on the defined terms allocated to each performance obligation specified in the contract. In instances where the Company is reimbursed for research and development contributions procured from third parties such as negotiated terms with clinical research organizations, AC Immune records revenues for such services as it is acting as a principal in procuring the goods or

services. The Company has the primary responsibility for fulfilling the promise to provide the specified good or service, it has inventory risk before transfer to the customer and it has discretion in negotiating the price with third parties. For other research and development services, revenues are recognized as work is performed, which correspond with, and best depict the transfer of control to the customer in line with the terms outlined in the contract.

We began a first-in-human study of our alpha-synuclein PET tracer in Q3 2018 and completed the second year and commenced the third year of our collaboration in April 2018. As of December 31, 2018, the Company has fully recognized revenues associated with the technology access fee. For the years ended December 31, 2018, 2017 and 2016, the Company has recognized CHF 4.0 million, CHF 3.9 million and CHF 2.1 million, respectively.

Recombinant protein therapeutic candidate –2017 agreement with Essex Bio-Technology Limited

On May 19, 2017, we entered into a Research Project Agreement with Essex Bio-Technology Limited, or Essex, to develop a recombinant protein therapeutic candidate acting on a unique neuroprotective mechanism for treatment of neurological diseases, such as Alzheimer’s disease and frontotemporal dementia. Essex will provide joint research commitment as well as financial support to AC Immune for the pre-IND development of the biological agent.

Subject to the terms of this Agreement, Essex Bio and the Company have the right to terminate by providing 60 days’ notice to the other Party. Otherwise, the Agreement shall remain in force until the later of the (i) completion of the Research and Development program or (ii) five years from the Effective date.

As part of this agreement, the parties have agreed to an initial two-year Research Plan, which intends to develop a basic Fibroblast Growth Factor (“bFGF”) as a therapeutic for the treatment of neurodegenerative diseases and to generate novel antibody therapeutics.

AC Immune assessed this arrangement in accordance with IFRS 15 and concluded that Essex Bio-Technology is a customer. AC Immune has identified that its performance obligation is for Full Time Employees to provide research support.

The transaction price consists of the contractual amounts to recognize for the full-time employee charges. For the full-time employee charges, we recorded revenues throughout the period based on the contractual rates over the service period as this best depicts the transfer of control to Essex. For the years ended December 31, 2018, 2017 and 2016, the Company has recognized CHF 0.7 million, less than CHF 0.1 million and nil, respectively. The length of the initial contract is five years through May 2022. Subject to the progress of the project, the Company may expect to recognize approximately CHF 0.8 million annually through the end of the contract.

Continuation of 2015 Grant from the Michael J. Fox Foundation

On September 16, 2017, AC Immune formally signed a grant continuation with the Michael J. Fox Foundation for Parkinson’s disease research (“MJFF”). This grant provides funds for the development of Positron Emission Tomography (PET) tracers for the alpha-synuclein protein, to support the early diagnosis and clinical management of Parkinson’s disease.

As part of this agreement, the MJFF expects that AC Immune will complete tasks according to the agreed timeline. AC Immune’s funding is variable depending on the satisfactory achievement of specific tasks. The Company identified four milestones to achieve but these are outputs of the Company’s services to perform and develop its PET tracer over a 12 month period. The services themselves over time are considered the performance obligation and not each a distinct performance obligation. Therefore, AC Immune has determined it has one performance obligation in the arrangement: the research services in support of the development of the alpha-synuclein PET tracer.

The transaction price consists of the contractual amount of CHF 380 thousand which is allocated to the services performed. However, the consideration is variable dependent upon AC Immune’s completion of key milestones. Using the most likely amount method, AC Immune assessed the project funding and likelihood of milestone obtainment. Management estimated a 100% likelihood of completing all milestones under the terms of the grant and no discount of the transaction price is taken. The Company therefore recognizes the revenues associated with this grant as services are performed. Quarterly, the Company estimates its progress and whether to constrain further revenue recognition.

For the years ended December 31, 2018, 2017 and 2016, the Company has recognized 0.3 million, CHF 0.1 million and nil, respectively. The Company has recorded all revenues from this grant through December 31, 2018.

Following the successful completion of this grant extension in 2018, we received an additional grant in November 2018 to conduct a first-in-human (FIH) study in H1 2019. No revenues were recorded as of December 31, 2018.

12. Expenses by Category

Research and Development

in CHF thousands	For the Years Ended December 31,		
	2018	2017	2016
Operating expenses	32,921	23,822	18,767
Payroll expenses	10,662	8,552	6,450
Share-based compensation	694	289	557
Total research and development expenses	44,277	32,663	25,774

General and Administrative

in CHF thousands	For the Years Ended December 31,		
	2018	2017	2016
Operating expenses	4,903	3,857	3,168
Payroll expenses	5,740	4,984	3,969
Share-based compensation	1,824	1,290	759
Total general and administrative expenses	12,467	10,131	7,896

Financial Result, net

in CHF thousands	For the Years Ended December 31,		
	2018	2017	2016
Interest income/ (expense)	(269)	184	36
Foreign currency remeasurement gain/(loss), net	(1,194)	(4,049)	3,443
Other finance income/(expense)	62	(7)	(119)
Finance result, net	(1,401)	(3,872)	3,360

13. Related-party transactions

Key management, including the Board of Directors (seven individuals excluding the CEO) and the Executive Management (four individuals including the CEO), compensation was:

in CHF thousands	For the Years Ended December 31,		
	2018	2017	2016
Short-term employee benefits	2,681	2,463	2,251
Post-employment benefits	160	166	154
Share-based compensation	1,683	1,267	832
Total	4,524	3,896	3,237

Short-term employee benefits comprise of salaries, bonuses, social security and expense allowances. On December 6, 2018, our former CSO Dr. Andreas Muhs passed away. His salary, bonus, social security and expense allowance for his time as a member of our Executive Management team have been included in the reconciliation above within short-term employee benefits and post-employment benefits.

On July 31, 2018, as part of the Company's previously announced second subscription rights offering, a major shareholder and members of the Board and Executive Management purchased an aggregate of 614,147 of the Company's common shares on the same basis and otherwise on the same terms as the other participants in such rights offering.

14. Income taxes

The Company recognized no income tax expense or deferred tax asset or liability positions for the years ended December 31, 2018, 2017, and 2016.

The income tax expense for each year can be reconciled to loss before tax as follows:

in CHF thousands	For the Years Ended December 31,		
	2018	2017	2016
Loss before income tax	(50,951)	(26,411)	(7,096)
Tax benefit calculated at the statutory rate of 20.6% (20.5% for 2017 and 21% for 2016)	(10,507)	(5,420)	(1,504)
Permanent differences	334	40	(166)
Effect of unrecognized carry forward tax loss	—	—	—
Effect of unused tax losses and tax offsets not recognized as deferred tax assets	10,173	5,380	1,670
Effective income tax rate benefit / (expense)	—	—	—

The tax rate used for the 2018 reconciliations above is the corporate tax rate of 20.6% (20.5%: 2017 and 21%: 2016) payable by corporate entities in the Canton of Vaud, Switzerland on taxable profits under tax law in that jurisdiction.

in CHF thousands	As of December 31,		
	2018	2017	2016
Unrecognized deductible temporary differences, unused tax losses and unused tax credits			
Deductible temporary differences, unused tax losses and unused tax credits for which no deferred tax assets have been recognized are attributable to the following:			
- Tax losses	109,294	62,575	36,707
- Deductible temporary differences related to the retirement benefit plan	5,665	4,926	3,798
Total	114,959	67,501	40,505

Deductible temporary differences related to the retirement benefit plan do not expire. Tax losses expiry dates are shown in the table below:

in CHF thousands	As of		
	2018	December 31, 2017	2016
Tax losses split by expiry date			
December 31, 2018		2,175	2,175
December 31, 2019	16,566	16,566	16,566
December 31, 2020	10,338	10,338	10,338
December 31, 2021	—	—	—
December 31, 2022	—	—	—
December 31, 2023	7,628	7,628	7,628
December 31, 2024	25,868	25,868	—
December 31, 2025	48,894	—	—
Total	109,294	62,575	36,707

The tax losses available for future offset against taxable profits have increased by CHF 48.9 million from 2017, representing the amount of tax losses that are additionally available as an offset reduced by expiring tax losses in 2018, subject to expiration as disclosed in the table above, against future taxable income.

Consistent with prior years, the Company has not recorded any deferred tax assets in relation to the past tax losses available for offset against future profits as the recognition criteria have not been met at the balance sheet date.

15. Retirement benefit plan

The Company participates in a collective foundation covering all of its employees including its executive officers. In addition to retirement benefits, the plan provides death or long-term disability benefits.

Contributions paid to the plan are computed as a percentage of salary, adjusted for the age of the employee and shared approximately 47% and 53% by employee and employer, respectively.

This plan is governed by the Swiss Law on Occupational Retirement, Survivors and Disability Pension Plans (BVG), which requires contributions to be made to a separately administered fund. The fund has the legal form of a foundation and it is governed by the board of trustees, which consists of an equal number of employer's and employee's representatives. The board of trustees is responsible for the administration of the plan assets and for the definition of the investment strategy.

The collective foundation is governed by a foundation board. The board is made up of an equal number of employee and employer representatives of the different affiliated companies. The Company has no direct influence on the investment strategy of the foundation board.

The assets are invested by the pension plan, to which many companies contribute, in a diversified portfolio that respects the requirements of the Swiss BVG. Therefore disaggregation of the pension assets and presentation of plan assets in classes that distinguish the nature and risks of those assets is not possible. Under the Plan, both the Company and the employee share the costs equally. The structure of the plan and the legal provisions of the BVG mean that the employer is exposed to actuarial risks. The main risks are investment risk, interest risk, disability risk and the life expectancy of pensioners. Through our affiliation with the pension plan, the Company has minimized these risks, since they are shared between a much greater number of participants. On leaving the Company, a departing employee's retirement savings are transferred to the pension institution of the new employer or to a vested benefits institution. This transfer mechanism may result in pension payments varying considerably from year to year.

The pension plan is exposed to Swiss inflation, interest rate risks and changes in the life expectancy for pensioners. For accounting purposes under IFRS, the plan is treated as a defined benefit plan.

The following table sets forth the status of the defined benefit pension plan and the amount that should be recognized in the balance sheet:

	in CHF thousands	As of December 31,		
		2018	2017	2016
Defined benefit obligation		(17,942)	(14,278)	(11,596)
Fair value of plan assets		12,277	9,352	7,798
Total liability		(5,665)	(4,926)	(3,798)

The following amounts have been recorded as net pension cost in the statement of income:

	in CHF thousands	For the Years Ended December 31,		
		2018	2017	2016
Service cost		1,095	912	742
Interest cost		100	81	75
Interest income		(65)	(55)	(56)
Net pension cost		1,130	938	761

The changes in defined benefit obligation, fair value of plan assets and unrecognized (gains) / losses are as follows:

A. Change in defined benefit obligation

	in CHF thousands	For the Years Ended December 31,		
		2018	2017	2016
Defined benefit obligation as of January 1		(14,278)	(11,596)	(9,439)
Service cost		(1,095)	(912)	(742)
Interest cost		(100)	(81)	(75)
Change in demographic assumptions		—	—	(389)
Change in financial assumptions		750	—	(26)
Change in experience assumptions		(888)	(735)	(378)
Benefit payments		(1,710)	(426)	(111)
Employees' contributions		(621)	(528)	(436)
Defined benefit obligation as of December 31		(17,942)	(14,278)	(11,596)

B. Change in fair value of plan assets

	in CHF thousands	For the Years Ended December 31,		
		2018	2017	2016
Fair value of plan assets as of January 1		9,352	7,798	6,652
Interest income		65	55	56
Employees' contributions		621	528	436
Employer's contributions		693	590	511
Benefits payments		1,710	426	111
Plan assets gains/(losses)		(164)	(45)	32
Fair value of plan assets as of December 31		12,277	9,352	7,798

Expected contributions by the employer to be paid to the post-employment benefit plans during the annual period beginning after the end of the reporting period amount to approximately CHF 788 thousand.

C. Change in net defined benefit liability

in CHF thousands	For the Years Ended December 31,		
	2018	2017	2016
Net defined benefit liabilities as of January 1	4,926	3,798	2,787
Net pension cost through statement of income	1,130	938	761
Re-measurement through other comprehensive loss	302	780	761
Employer's contribution	(693)	(590)	(511)
Net defined benefit liabilities as of December 31	5,665	4,926	3,798

D. Change in other comprehensive loss

in CHF thousands	For the Years Ended December 31,		
	2018	2017	2016
Other comprehensive loss as of January 1	(3,981)	(3,201)	(2,440)
Effect of changes in demographic assumptions	—	—	(389)
Effect of changes in financial assumptions	750	—	(26)
Effect of changes in experience assumptions	(888)	(735)	(378)
Plan assets gains/(losses)	(164)	(45)	32
Other comprehensive loss as of December 31	(4,283)	(3,981)	(3,201)

The fair value of the plan assets is the cash surrender value of the insurance with AXA. The investment strategy defined by the board of trustees follows a conservative profile.

The plan assets are primarily held within instruments with quoted market prices in an active market, with the exception of real estate and mortgages.

The weighted average duration of the defined benefit obligation is 20.5 years as of December 31, 2018 and 2017 respectively.

The actuarial assumptions used for the calculation of the pension cost and the defined benefit obligation of the defined benefit pension plan for the year 2018, 2017 and 2016 are as follows:

	For the Years Ended December 31,		
	2018	2017	2016
Discount rate	0.90%	0.70%	0.70%
Rate of future increase in compensations	1.50%	1.50%	1.50%
Rate of future increase in current pensions	0.50%	0.50%	0.50%
Mortality and disability rates	BVG 2015G	BVG 2015G	BVG 2015G

In defining the benefits, the minimum requirements of the Swiss Law on Occupational Retirement, Survivors and Disability Pension Plans (BVG) and its implementing provisions must be observed. The BVG defines the minimum pensionable salary and the minimum retirement credits.

A quantitative sensitivity analysis for significant assumption as of December 31, 2018 is as shown below:

Assumptions	Discount rate		Future salary increase		Future pension cost	
	+0.5% increase	-0.5% decrease	+0.5% increase	-0.5% decrease	+0.5% increase	-0.5% decrease
	in CHF thousands					
Defined benefit obligation	16,250	19,906	18,475	17,441	18,826	17,346
Impact on the net defined benefit obligation	1,692	(1,964)	(533)	501	(884)	596

The sensitivity analyses above is subject to limitations and has been determined based on a method that extrapolates the impact on net defined benefit obligation as a result of reasonable changes in key assumptions occurring at the end of the reporting period.

16. Share-based compensation

Share based option awards

Through the year ended December 31, 2018, there are equity-based instruments outstanding that the Company has granted under four different plans.

The Company’s 2016 Share Option and Incentive Plan (“Plan”) was approved by the shareholders at the Ordinary Shareholder’s meeting in November 2016. The 2016 Plan authorizes the grant of incentive and non-qualified share options, share appreciation rights, restricted share awards, restricted share units, unrestricted share awards, performance share awards, performance-based awards to covered employees and dividend equivalent rights. The Company only grants equity-based instruments from this Plan as of December 31, 2018.

The following table summarizes equity settled share option grants since inception under each plan:

PLAN	Number of options awarded (since inception)	Vesting conditions	Contractual life of options
Share option plan A	362,750	At grant	15.5 years
Share option plan B	819,000	At grant	10.5 years
Share option plan C1	6,775,250	4 years’ service from grant date	10 years
2016 Share Option and Incentive Plan:			
Executives and Directors	538,764	4 years’ service from the date of grant, quarterly	10 years
Employees	222,405	4 years’ service from the date of grant, annually	10 years

The number and weighted average exercise prices (in CHF) of options under the share option programs for Plans A, B, C1 and 2016 share option and incentive plan are as follows:

	Number of Options	Weighted Average Exercise Price (CHF)	Weighted Average Remaining Term (Years)
Outstanding at January 1, 2016	3,597,000	0.15	3.6
Forfeited during the year	(106,000)	0.15	—
Cancelled during the year	(19,250)	0.15	—
Exercised during the year	(2,069,100)	0.15	—
Granted during the year	285,250	0.15	—
Outstanding at December 31, 2016	1,687,900	0.15	5.6
Exercisable at December 31, 2016	1,284,525	0.15	6.5
Outstanding at January 1, 2017	1,687,900	0.15	5.6
Forfeited during the year	(1,750)	0.15	—
Cancelled during the year	(31,250)	0.15	—
Exercised during the year	(571,775)	0.15	—
Granted during the year	276,766	9.70	—
Outstanding at December 31, 2017	1,359,891	2.09	5.8
Exercisable at December 31, 2017	900,474	0.39	4.3
Outstanding at January 1, 2018	1,359,891	2.09	5.8
Forfeited during the year	(73,624)	9.16	—
Exercised during the year	(151,814)	0.15	—
Granted during the year	484,403	9.79	—
Outstanding at December 31, 2018	1,618,856	4.25	6.3
Exercisable at December 31, 2018	932,175	1.25	4.4

The outstanding stock options as of December 31, 2018 have the following range of exercise prices. In fiscal year 2018, we began to grant awards solely with USD denominated exercise prices and discontinued granting awards with a CHF denominated exercise price.

Range of Exercise Prices	Total Options	Range of Expiration Dates
CHF 0.15	924,166	2020-2026
CHF 9.53	234,355	2027
USD 8.33 to USD 12.30	460,335	2028
Total outstanding options	1,618,856	

We deemed 18,850 USD-denominated awards granted in 2017 despite the formal grant notice dated January 1, 2018. These awards are included as granted in 2017 and were translated from USD 12.30 to CHF 12.00 in 2017 for disclosure.

The weighted average exercise price for options granted in 2018, 2017 and 2016 is USD 9.97 (CHF 9.79), CHF 9.70 and CHF 0.15, respectively. The range of exercise prices for outstanding options was CHF 0.15 to CHF 9.53 for awards previously granted in CHF and USD 8.33 to USD 12.30 for awards granted in USD as of December 31, 2018.

Prior to the IPO, the exercise price was set by the Board of Directors. The volatility is based on the historical trend of an appropriate sample of companies operating in the biotech and pharmaceutical industry. The risk-free interest rate is based on the CHF swap rate for the expected life of the option. The weighted average share price of common share options exercised in 2018 is USD 9.92.

The weighted average grant date fair values of the options granted in 2018, 2017 and 2016 are USD 6.66 (CHF 6.54), CHF 7.29, and CHF 5.85, respectively. The following table illustrates the weighted-average assumptions for the Black-Scholes option-pricing model used in determining the fair value of these awards:

	For the Years Ended December 31,		
	2018	2017	2016
Exercise price	USD 8.33-12.30	CHF 9.53-12.00	CHF 0.15
Share Price (weighted average)	9.87	8.77	5.96
Risk-free interest rate	0%	0%	0%
Expected volatility	80%	80%	80%
Expected term	6 years	6 years	6 years
Dividend yield	—	—	—

The expense charged against the income statement was CHF 2,518 thousand, CHF 1,579 thousand and CHF 1,317 thousand for the years ended December 31, 2018, 2017 and 2016, respectively. The expense is revised by the Company based on the number of instruments that are expected to become exercisable. The 2016 expense also reflects a share based option award that was modified in 2016 to amend the option grant's contractual life and the issuance of a replacement award. An incremental fair value of CHF 238 thousand was immediately recognized in 2016 as a result of the modification of the share options contractual life. Additionally, in connection with former CFO departure in the fourth quarter of 2016, the former Chief Financial Officer forfeited his initial 2016 grant (included in the aggregate 2016 total of 98,500), and in its place was awarded 49,250 options, which has been accounted for as a new award granted on the date of forfeiture of the original award. The fourth quarter 2016 grant date fair value of the replacement award was CHF 674 thousand. The fair value of the modified award was measured using the Black-Scholes option pricing model with similar assumptions to the 2016 option, except for a currently quoted common share price as of the date of the modification.

Restricted share awards

A summary of non-vested share awards (restricted share and restricted share units) activity as of December 31, 2018 and changes during the year then ended is presented below:

Grantee Type	Number of non-vested share awards granted	Vesting conditions	Contractual life of non-vested share awards
Restricted Share Units			
Directors	83,864	1 year service from date of grant, annually	10 years
Executives	110,839	4 years' service from the date of grant, quarterly	10 years
Restricted Share Awards	4,023	2.75 years' service from date of grant, quarterly	10 years

	Number of non-vested shares	Weighted average grant date fair value
Non-vested at December 31, 2017	122,014	9.59
Forfeited during the year	(25,673)	9.48
Granted during the year	69,371	9.43
Vested during the year	(56,671)	9.60
Non-vested at December 31, 2018	109,041	9.51
Vested and expected to vest at December 31, 2018	64,012	9.65

The weighted average grant date fair value of the restricted share awards granted (restricted shares and restricted share units) was CHF 9.43 and CHF 9.62 for the years ended December 31, 2018 and 2017 respectively. The weighted average grant date fair values of the non-vested share awards as of the respective year end (restricted shares and restricted share units) was CHF 9.51 and CHF 9.59 for the years ended December 31, 2018 and 2017, respectively. These fair values of non-vested share awards granted have been determined using a reasonable estimate of market value of the common stock on the date of the award.

17. Commitments and contingencies

In the normal course of business, we conduct product research and development programs through collaborative programs that include, among others, arrangements with universities, contract research organizations and clinical research sites. We have contractual arrangements with these organizations. As of December 31, 2018, external research projects included in the schedule below for 2019 total CHF 18.8 million that have been committed.

We lease our corporate, laboratory and other facilities under multiple operating leases at the EPFL Innovation Park in Ecublens, near Lausanne, Canton of Vaud, Switzerland. Our lease agreements have no termination clauses longer than a 12-month contractual notice period. Rental expense for the years ended December 31, 2018, 2017 and 2016 was CHF 0.8 million, 0.5 million and CHF 0.4 million, respectively. As of December 31, 2018, rental contracts for CHF 0.8 million were committed for 2019.

	As of December 31,	
	2018	2017
in CHF thousands		
Within one year	19,880	9,686
Between one and three years	6,995	2,546
Between three and five years	5,009	140
More than five years	1,190	—
Total	33,074	12,372

18. Earnings per share

	For the Years Ended December 31,		
	2018	2017	2016
in CHF thousands except for share and per share data			
Net income / (loss) attributable to owners of the Company	(50,951)	(26,411)	(7,096)
Earnings per share (EPS):			
Basic and diluted, income / (loss) for the period attributable to equity holders	(0.82)	(0.46)	(0.14)
Weighted-average number of shares used to compute EPS basic and diluted	61,838,228	57,084,295	50,096,859

Since we have a loss for all periods presented, basic net loss per share is the same as diluted net loss per share. We have excluded from our calculation of diluted loss per share all potentially dilutive in-the-money (i) share options and (ii) restricted share awards as the inclusion of these awards would have been anti-dilutive. Potentially dilutive securities that were not included in the diluted per share calculations because they would be anti-dilutive were as follows:

	As of December 31,		
	2018	2017	2016
Share options issued and outstanding (in-the-money)	1,472,589	1,341,042	1,687,900
Restricted share awards subject to future vesting	109,041	122,014	—
Total	1,581,630	1,463,056	1,687,900

19. Financial instruments and risk management

The Company's activities expose it to the following financial risks: market risk (foreign exchange and interest rate risk), credit risk and liquidity risk. The Company's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the Company's financial performance.

The following table shows the carrying amounts of financial assets and financial liabilities:

	in CHF thousands	As of	
		December 31, 2018	December 31, 2017
Financial assets			
Long-term financial assets		304	126
Other current receivables		236	918
Short-term financial assets		30,000	—
Cash and cash equivalents		156,462	124,377
Total financial assets		187,002	125,421

	in CHF thousands	As of	
		December 31, 2018	December 31, 2017
Financial liabilities			
Short-term debt obligation		332	—
Long-term debt obligation		186	494
Trade and other payables		1,979	1,092
Accrued expenses		10,420	8,307
Total financial liabilities		12,917	9,893

Foreign exchange risk

The Company is exposed to foreign exchange risk arising from currency exposures, primarily with respect to the EUR, USD and to a lesser extent to GBP, DKK and SEK. The currency exposure is not hedged. However, the Company has a policy of matching its cash holdings to the currency structure of its expenses, which means that the Company holds predominately CHF, EUR and USD (see also Note 5). In the Company's income statements for the years ended December 31, 2018, 2017 and 2016 a loss of CHF 1.2 million, a loss of CHF 4.2 million and a gain of CHF 3.4 million respectively, is recognized in the financial statement line item "Finance result, net."

As of December 31, 2018, if the CHF had strengthened/weakened by 10% against the EUR and the USD with all other variables held constant, the net loss for the period would have been lower/higher by CHF 3.0 million (2017: CHF 2.1 million), mainly as a result of foreign exchange gains/losses on predominantly EUR/USD denominated cash and cash equivalents and short-term financial assets.

Interest rates

The Company's CHF cash holdings (inclusive of those held in short-term financial assets) are subject to negative interest rates at certain counterparty thresholds. As of December 31, 2018, if the interest rates charged by the counterparties had increased/decreased by 10%, the net loss for the period would have been higher/lower by less than CHF 0.1 million. Interest income and interest expense are recorded within Finance results, net in our statements of loss.

Credit risk

The Company maintains a formal treasury risk and investment management policy to limit counterparty credit risk. As of December 31, 2018, the Company's cash and cash equivalents and short-term financial assets are held with three financial institutions each with a high credit-rating assigned by international credit-rating agencies. The maximum amount of credit risk is the carrying amount of the financial assets. Trade and other receivables are fully performing, not past due and not impaired (see Notes 5 and 7).

Liquidity risk

Inherent in the Company's business are various risks and uncertainties, including its limited operating history and the high uncertainty that new therapeutic concepts will succeed. AC Immune's success may depend in part upon its ability to (i) establish and maintain a strong patent position and protection, (ii) enter into collaborations with partners in the biotech and pharmaceutical industry, (iii) acquire and keep key personnel employed, and (iv) acquire additional capital to support its operations.

The Company's approach of managing liquidity is to ensure sufficient cash to meet its liabilities when due. Therefore, management closely monitors the cash position on rolling forecasts based on expected cash flow to enable the Company to finance its operations for at least 18 months. The Company has a debt obligation due to LuMind and projects CHF 332 thousand to be paid within 12 months and CHF 186 thousand to be paid within 12-24 months from the reporting date. See Note 10 "Debt obligation" for further details.

20. Capital risk management

The Company's objectives when managing capital are to safeguard the Company's ability to continue as a going concern and to preserve the capital on the required statutory level in order to succeed in developing a cure against Alzheimer's disease.

21. Quarterly Financial Results (Unaudited)

The following tables set forth certain unaudited condensed quarterly financial data for each of the four quarters in the periods ended December 31, 2018 and 2017, respectively. The Company believes that the following information reflects all normal recurring adjustments necessary for a fair statement of the information for the periods presented. The operating results for any quarter are not necessarily indicative of results for any future period.

	For the Three Months Ended			
	Dec. 31, 2018	Sep. 30, 2018	Jun. 30, 2018	Mar. 31, 2018
	(in CHF thousands, except per share data) (unaudited)			
Revenue				
Contract revenue	1,403	2,305	2,028	1,458
Total revenue	1,403	2,305	2,028	1,458
Operating expenses				
Research and development expenses	(12,129)	(11,546)	(10,533)	(10,069)
General and administrative expenses	(3,761)	(2,930)	(3,065)	(2,711)
Total operating expenses	(15,890)	(14,476)	(13,598)	(12,780)
Operating income/(loss)	(14,487)	(12,171)	(11,570)	(11,322)
Finance result, net	(191)	(1,345)	427	(292)
Income/(loss) before tax	(14,678)	(13,516)	(11,143)	(11,614)
Income tax expense	-	-	-	-
Income/(loss) for the period	(14,678)	(13,516)	(11,143)	(11,614)
Net income/(loss) per share (EPS):				
Basic and diluted	(0.22)	(0.21)	(0.19)	(0.20)
Weighted-average number of shares used to compute EPS:				
Basic and diluted	67,553,262	64,862,822	57,423,650	57,368,015

	For the Three Months Ended			
	Dec. 31, 2017	Sep. 30, 2017	Jun. 30, 2017	Mar. 31, 2017
(in CHF thousands, except per share data) (unaudited)				
Revenue				
Contract revenue	16,422	1,074	753	2,006
Total revenue	16,422	1,074	753	2,006
Operating expenses				
Research and development expenses	(10,176)	(8,195)	(6,838)	(7,454)
General and administrative expenses	(3,058)	(2,519)	(2,168)	(2,386)
Total operating expenses	(13,234)	(10,714)	(9,006)	(9,840)
Operating income/(loss)	3,188	(9,640)	(8,253)	(7,834)
Finance result, net	976	847	(4,074)	(1,621)
Income/(loss) before tax	4,164	(8,793)	(12,327)	(9,455)
Income tax expense	-	-	-	-
Income/(loss) for the period	4,164	(8,793)	(12,327)	(9,455)
Net income/(loss) per share (EPS):				
Basic	0.07	(0.15)	(0.22)	(0.17)
Diluted	0.07	(0.15)	(0.22)	(0.17)
Weighted-average number of shares used to compute EPS:				
Basic	57,266,088	57,164,145	57,048,187	56,855,987
Diluted	58,396,586	57,164,145	57,048,187	56,855,987

22. Post balance sheet events

On January 23, 2019, the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, expired with regard to our license agreement with Eli Lilly and Company (“Lilly”), which we signed in December 2018. Under the terms of the license agreement, the Company will conduct initial Phase 1 development of Tau Morphomer small molecules. Lilly will fund and lead further clinical development and will receive global commercialization rights for all indications, including Alzheimer’s disease and other neurodegenerative diseases. The Company will retain certain development rights in orphan indications and co-development and co-promotion options in certain indications outside Alzheimer’s disease.

The agreement also allows for potential development of indications in Progressive Supranuclear Palsy and an exclusive license to Lilly of certain intellectual property related to this program.

The Company received CHF 80 million as an upfront payment in February 2019. The agreement also includes various conditional clinical, regulatory and commercialization milestone payments. In addition, the Company will receive royalties on sales of licensed products.

The agreement will terminate on the date on which all obligations between the parties with respect to the last payment of royalties for licensed products have passed or expired. Subject to the terms in the agreement, Lilly may terminate the agreement with three months’ written notice to the Company.

We and Lilly also entered into a convertible note agreement in December 2018, which also became effective on January 23, 2019. As the convertible note was not effective as of December 31, 2018, there is no corresponding recognition in our financial statements. The Company received total consideration of USD 50.0 (CHF 50.3) million in January 2019. The convertible note is a senior unsecured obligation of the Company that bears interest at a rate of 0.75% per annum, which may be paid in cash or result in the accretion of the principal amount thereof, at our election. Subject to the terms and conditions set forth in the convertible note agreement, the convertible note will automatically convert into the Company’s common shares on the 90th day after the effective date of the license agreement, at a conversion price equal to USD 13.83 per share, which would convert into approximately 3.6 million of our common shares.

On January 30, 2019, we announced that Roche, the parent of our collaboration partner, Genentech, is discontinuing the CREAD 1 and CREAD 2 (BN29552 and BN29553) Phase III studies of crenezumab in people with prodromal to mild sporadic AD. The decision came after an interim analysis conducted by the IDMC indicated that crenezumab was unlikely to meet its primary endpoint of change from baseline in Clinical Dementia Rating-Sum of Boxes (CDR-SB) Score. This decision was not related to safety of the investigational product. No safety signals for crenezumab were observed in this analysis and the overall safety profile was similar to that seen in previous trials.

Crenezumab continues to be studied in a preventive trial of cognitively healthy individuals in Colombia with an autosomal dominant mutation who are at risk of developing familial AD (fAD), under the Alzheimer's Prevention Initiative (API), which began in 2013. This study will determine if treating people carrying this mutation with crenezumab prior to the onset of AD symptoms will slow or prevent the decline of cognitive and functional abilities. This study is in collaboration with the Banner Institute and is funded by the National Institute on Aging.

In March 2019, the Company and Biogen decided not to extend their collaboration agreement into a fourth year per the contract and conclude in April 2019 within the original three-year term of the agreement.

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AC Immune SA
EPFL Innovation Park
1015 Lausanne / Ecublens
Switzerland

Report of the statutory auditor ***to the General Meeting of AC Immune SA*** ***Ecublens***

Report on the audit of the financial statements

Opinion

We have audited the financial statements of AC Immune SA, which comprise the balance sheet as at 31 December 2018, income statement and notes for the year then ended, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements as at 31 December 2018 comply with Swiss law and the company's articles of incorporation.

Basis for opinion

We conducted our audit in accordance with Swiss law and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the "Auditor's responsibilities for the audit of the financial statements" section of our report.

We are independent of the entity in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our audit approach

Overview



Overall materiality: CHF 547'800

We tailored the scope of our audit in order to perform sufficient work to enable us to provide an opinion on the financial statements as a whole, taking into account the structure of the entity, the accounting processes and controls, and the industry in which the entity operates.

As key audit matter the following area of focus has been identified:

Research and development agreements - revenue recognition

PricewaterhouseCoopers SA, avenue C.-F. Ramuz 45, case postale, CH-1001 Lausanne, Switzerland
Téléphone: +41 58 792 81 00, Téléfax: +41 58 792 81 10, www.pwc.ch

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Context of our audit 2018

This was our first year audit of the financial statements of the Company. Initial audit engagements involve a number of considerations not associated with recurring audits, including obtaining evidence about whether the Company's opening balances contain misstatements that can materially affect the current period's financial statements and that the accounting policies are appropriately reflected in the opening balances and have been consistently applied in the current period's financial statements.

Materiality

The scope of our audit was influenced by our application of materiality. Our audit opinion aims to provide reasonable assurance that the financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

Based on our professional judgement, we determined certain quantitative thresholds for materiality, including the overall materiality for the financial statements as a whole as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements, both individually and in aggregate, on the financial statements as a whole.

<i>Overall materiality</i>	CHF 547'800
<i>How we determined it</i>	1% of total operating expenses
<i>Rationale for the materiality benchmark applied</i>	Profit before tax is not considered an appropriate benchmark as the entity is a start-up still in a developmental phase, and has no recurring revenues. Based on the nature of the entity we determined total expenses as the most appropriate benchmark for the materiality considerations applied during our audit.

We agreed with the Audit Committee that we would report to them misstatements above CHF 54'700 identified during our audit as well as any misstatements below that amount which, in our view, warranted reporting for qualitative reasons.

Audit scope

As this was a first year audit, our approach included a comprehensive transition plan that outlined the steps required to gain an initial understanding of the Company and its business, including its control environment, accounting policies and information systems. Our transition plan included, but was not limited to the following:

- We assessed and evaluated our compliance with independence requirements prior to our acceptance of the audit by performing an extensive review and confirmation process of any services provided to the Company and any other relationships between the Company and PwC offices in all the territories where the Company and its Related Parties are domiciled;
- We met key management to gain an understanding of the Company's activities, any complex and significant business arrangements and areas of significant judgement (e.g. collaboration agreements, and valuations) identified in the prior year financial reporting. These meetings also covered the sole item considered as 'Key audit matter' and described in the section below;
- We reviewed management's documentation regarding internal controls over financial reporting to assist in developing an understanding of the Company's financial reporting, business processes and relevant internal controls;



- We met with the predecessor auditors in Switzerland and reviewed their working papers in order to familiarise ourselves with the audit work performed, the Company’s internal controls over financial reporting, the evidence relied upon by the predecessor auditor when issuing the prior year opinion and the audit documentation regarding key areas of management judgement; and
- Through our 2018 audit procedures, we obtained evidence regarding the Company’s opening balances and the consistent application of appropriate accounting policies in the current period.

We designed our audit by determining materiality and assessing the risks of material misstatement in the financial statements. In particular, we considered where subjective judgements were made; for example, in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain. As in all of our audits, we also addressed the risk of management override of internal controls, including among other matters consideration of whether there was evidence of bias that represented a risk of material misstatement due to fraud.

Report on key audit matters based on the circular 1/2015 of the Federal Audit Oversight Authority

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Research and development agreements - revenue recognition

<i>Key audit matter</i>	<i>How our audit addressed the key audit matter</i>
<p>AC Immune SA has entered into a number of material revenue-generating research and development agreements with various collaboration partners. Each agreement contains contract specific arrangements which may relate to upfront fees related to the grant of right of use over licences payments based on achievement of various clinical milestones and the delivery of ongoing research and development services.</p> <p>Given the complex nature of the research and development agreements, judgements involved in identifying performance obligations, allocating the transaction price and in determining the pattern of revenue recognition, we consider this area to be a key audit matter for our audit.</p> <p>Refer to Note 2 and Note 12 in the Financial Statements for AC Immune's accounting policy and a discussion of the various agreements applicable during FY18.</p>	<p>We assessed the application of the accounting policy for research and development agreements in accordance with Swiss law. For each material transaction, we read the respective contracts, and reviewed Management’s assessment of the performance obligation(s), the determination, and allocation of the transaction price to the respective performance obligation(s), and Management’s conclusion as to whether revenues were recognized when the performance obligations were satisfied.</p> <p>On the basis of the work performed, we agree with Management’s key judgements.</p>



Other matter

The financial statements of AC Immune SA for the year ended 31 December 2017 were audited by another firm of auditors whose report, dated 20 March 2018, expressed an unmodified opinion on those statements.

Responsibilities of the Board of Directors for the financial statements

The Board of Directors is responsible for the preparation of the financial statements in accordance with the provisions of Swiss law and the company's articles of incorporation, and for such internal control as the Board of Directors determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors is responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Swiss law and Swiss Auditing Standards, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made.
- Conclude on the appropriateness of the Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the entity to cease to continue as a going concern.

We communicate with the Board of Directors or its relevant committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Board of Directors or its relevant committee with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all



relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Board of Directors or its relevant committee, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Report on other legal and regulatory requirements

In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of financial statements according to the instructions of the Board of Directors.

We recommend that the financial statements submitted to you be approved.

PricewaterhouseCoopers SA

/s/ Michael Foley
Michael Foley
Audit expert
Auditor in charge

/s/ Filippos Mintiloglitis
Filippos Mintiloglitis
Audit expert

Lausanne, 21 March 2019

Balance Sheet

in CHF thousands	Notes	As at 31 December,	
		2018	2017
Assets			
Current assets			
Cash and cash equivalents	5	156,774	124,631
Short-term financial assets	5	30,000	-
Other current receivables			
- Third parties	6	236	918
- Short-term financial receivables	6	219	20
Prepaid expenses	7	2,381	1,457
Accrued income	8	3,667	2,799
Total current assets		193,277	129,825
Non-current assets			
Long-term financial assets	4	304	126
Property, plant and equipment	3	3,324	2,353
Prepaid expenses	7	-	17
Total non-current assets		3,628	2,496
Total assets		196,905	132,321
Liabilities and shareholders' equity			
Current liabilities			
Trade payables			
- To third parties	9	1,979	1,092
Accrued expenses and deferred income	9	10,771	8,662
Short-term debt obligation	10	332	-
Total current liabilities		13,082	9,754
Non-current liabilities			
Long-term debt obligation	10	186	494
Total non-current liabilities		186	494
Shareholders' equity			
Share capital	11	1,350	1,147
Reserves from capital contributions		289,607	179,352
Accumulated losses brought forward		(58,426)	(32,558)
Loss for the year		(48,894)	(25,868)
Total shareholders' equity		183,637	122,073
Total liabilities and shareholders' equity		196,905	132,321

Income Statement

in CHF thousands	Notes	For the Years Ended 31 December,	
		2018	2017
Contract revenue	12	7,234	20,255
Operating expenses			
Salaries and related costs	13	(16,029)	(13,206)
Operating expenses	13	(37,796)	(27,098)
Depreciation of fixed assets	13	(960)	(580)
Total operating expenses		(54,785)	(40,884)
Operating loss		(47,551)	(20,629)
Financial income	14	127	450
Financial expenses	14	(1,470)	(5,689)
Total net financial expenses		(1,343)	(5,239)
Loss for the period		(48,894)	(25,868)
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Notes to the financial statements

1. General information

AC Immune SA (the “Company,” or “AC Immune,” “ACI,” “we,” “our,” “ours,” “us”) is a clinical stage biopharmaceutical company leveraging our two proprietary technology platforms to discover, design and develop novel, proprietary medicines for prevention, diagnosis and treatment of neurodegenerative diseases associated with protein misfolding. Misfolded proteins are generally recognized as the leading cause of neurodegenerative diseases, such as Alzheimer’s disease, or AD, and Parkinson’s disease, or PD, with common mechanisms and drug targets, such as Abeta, Tau and alpha-synuclein. Our corporate strategy is founded upon a three-pillar approach that targets Alzheimer’s disease, non-Alzheimer’s neurodegenerative diseases including neuro-orphan indications and diagnostics. We use our two unique proprietary platform technologies, SupraAntigen (conformation-specific biologics) and Morphomer (conformation-specific small molecules), to discover, design and develop medicines and diagnostics to target misfolded proteins.

The Company was initially incorporated as a limited liability company on 13 February 2003 in Basel and effective 25 August 2003 was transitioned into a stock company. The Company’s corporate headquarters are located at EPFL Innovation Park Building B, Ecublens/Lausanne, Vaud, Switzerland.

The statutory financial statements of AC Immune SA for the period ended 31 December 2018 were authorized for issue in accordance with a resolution of the Board of Directors on 19 March 2019 and will be submitted to the next Ordinary General Assembly.

During 2018 and 2017, AC Immune had an annual average of more than 50 but less than 250 full time equivalent positions.

2. Summary of significant accounting principles

The present annual accounts have been prepared in accordance with the provisions of the Swiss law on accounting and financial reporting (32nd Title of the Swiss Code of Obligations). The principal accounting policies are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

Current vs. non-current classification

The Company presents assets and liabilities in the balance sheet based on current/non-current classification. The Company classifies all amounts to be realized or settled within 12 months after the reporting period to be current and all other amounts to be non-current.

Foreign currency transactions

The financial statements are presented in Swiss Francs (CHF). Foreign currency transactions are translated into the functional currency (CHF) using prevailing exchange rates at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are translated into CHF at rates of exchange prevailing at reporting date. Any gains or losses from these translations are included in the income statement in the period in which they arise.

Non-monetary assets and liabilities at historical costs are converted at the foreign exchange rate at the time of the transaction. Any foreign exchange profits are deferred in the balance sheet as not having an effect on net income. Foreign exchange losses, on the other hand, are recorded in the profit and loss account.

Revenue recognition

Revenue includes upfront fees, milestone payments as well as revenue from research and development agreements associated with collaborations with third parties and grants from public institutions and foundations.

License of intellectual property

Revenue from non-refundable, upfront license payments and performance milestones where the Company has continuing involvement

is recognized over the estimated performance or agreement period, depending on the terms of the agreement. The recognition of revenue is prospectively changed for subsequent changes in the development or agreement period.

For collaboration agreements on product candidates (i) that are in clinical development, (ii) where the upfront payment reflects a payment for past investments the Company has made in the development of the product candidate, access to the product candidate, the associated intellectual property and our knowledge, and, (iii) where there is no further performance commitment, the Company recognizes the fair value of the upfront payment at the time of entering into the collaboration agreement. For collaboration agreements (i) in clinical development but where conditions (ii) and (iii) are not met, the Company recognizes revenue from upfront payments under our collaboration agreements pro-rata over the term of the estimated period of performance under each agreement.

For collaboration agreements, in addition to receiving upfront payments, the Company is also entitled to milestone and other contingent payments upon achieving pre-defined objectives.

Milestone payments

Revenue from milestones, if they are non-refundable and deemed substantive, is recognized upon successful accomplishment of the milestones. To the extent that non-substantive milestones are achieved and the Company has remaining performance obligations, milestones are deferred and recognized as revenue over the estimated remaining period of performance.

Research and Development Services

The Company has certain arrangements with our collaboration partners that include contracting our full-time employees for research and development programs. These revenues are recorded in license and collaboration revenues as the services are performed.

Research and development expenditures

Given the stage of development of the Company's products, all research expenditure is recognized as expense when incurred. Research and development expenditures include:

- the cost of acquiring, developing and manufacturing active pharmaceutical ingredients for product candidates that have not received regulatory approval, clinical trial materials and other research and development materials;
- fees and expenses incurred under agreements with contract research organizations, investigative sites, and other entities in connection with the conduct of clinical trials and preclinical studies and related services, such as administrative, data management, and laboratory services;
- fees and costs related to regulatory filings and activities;
- costs associated with pre-clinical and clinical activities; and
- employee-related expenses, including salaries and bonuses, benefits, travel and stock-based compensation expense

For external research contracts, expenses include those associated with contract research organizations, or CROs. The invoicing from CROs for services rendered do not always align with work performed. We accrue the cost of services rendered in connection with CRO activities based on our estimate of the "stage of completion" for such contracted services. We maintain regular communication with our CRO vendors to gauge the reasonableness of our estimates and accrue expenses as of the balance sheet date in the financial statement based on facts and circumstances known at the time.

Registration costs for patents are part of the expenditure for research and development projects. Therefore, registration costs for patents are expensed when incurred as long as the research and development project concerned does not meet the criteria for capitalization.

Total research and development related costs, inclusive of operating expenses, payroll related expenses, and depreciation were CHF 43.3M in 2018 and CHF 32.1M in 2017. R&D expenses in Alzheimer's disease increased by CHF 3.6 million in 2018 and were driven by a CHF 3.0 million increase for investments related to the completion of the Phase 1b study for ACI-35 and advancement of the vaccine through the development plan. Additionally, for ACI-24 AD, the Company spent an incremental CHF 1.4 million in set-up fees such as site selection, administration and related manufacturing costs associated with the Phase 2 study. The Company also

incurred costs for the next stages of clinical development for each of these respective candidates. In Non-Alzheimer's diseases, the Company invested an incremental CHF 0.6 million for its ACI-24 for Down syndrome's Phase 1b clinical study. Diagnostic investments entail predominantly increases in spending related to our alpha-synuclein and TDP-43 PET tracer programs.

New discovery programs increase CHF 3.9 million was driven by CHF 1.5 million related to continued proof-of-concept and manufacturing activities for studies related to our lead compounds in the Anti-Tau Morphomers and investments in new therapeutic and preventive vaccine technology. We also spent an additional CHF 0.5 million increase related to manufacturing activities in our vaccine technology program and a CHF 0.8 million for our anti-a-Synuclein antibody. Finally, the Company increased its investment by CHF 0.7 million for mor-inflammation for costs related to medicinal chemistry and preclinical evaluation of the compounds.

Property, plant and equipment

Equipment is shown at historical acquisition cost, less accumulated depreciation and any accumulated impairment losses. Historical costs include expenditures that are directly attributable to the acquisition of the property, plant and equipment. Depreciation is calculated using a straight-line method to write off the cost of each asset to its residual value over its estimated useful life as follows:

IT equipment	3 years
Laboratory equipment	5 years
Leasehold improvements / furniture	5 years

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at each balance sheet date. Where an asset's carrying amount is greater than its estimated recoverable amount, it is written down to its recoverable amount.

Profits and losses on disposals are determined by comparing the disposal proceeds with the carrying amount and are included in the income statement.

Financial assets & liabilities

The Company's financial assets and liabilities are comprised of receivables, cash and cash equivalents, trade payables and debt obligations.

Receivables

Receivables are non-derivative financial assets with fixed payments that are not quoted in an active market. They arise when the Company provides money, goods or services directly to a debtor with no intention of trading the receivable. They are included in current assets, except for those with maturities greater than 12 months after the balance sheet date, which are classified as long-term assets. Receivables are recognized at their billing value. An allowance for doubtful accounts is recorded for potential estimated losses when there is evidence of the debtor's inability to make required payments and the Company assesses on a forward looking basis the expected credit losses associated with these receivables held at amortized cost.

Short-term financial assets

Short-term financial assets are held with external financial institutions and comprise fixed-term deposits with maturities ranging from more than 3 until 12 months in duration.

Cash and cash equivalents

Cash and cash equivalents include deposits held with external financial institutions and cash on hand. All cash and cash equivalents are either in cash or in deposits with original duration of less than 3 months.

The Company assesses at each period whether there is objective evidence that financial assets are impaired.

Trade payables

Trade payables are recognized initially at nominal amount, which represents cost incurred.

Debt obligations

The Company's debt obligations relate to its agreement with a third party and are measured as of the period end date based on the repayment terms when originated.

Significant Shareholders

Principal shareholders who own more than 5 percent of the voting rights as at 31 December:

	Shares Owned 2018		Shares Owned 2017	
	Number	Percent	Number	Percent
Principal Shareholders				
5% Shareholders				
dievini Hopp BioTech holding GmbH & Co KG ⁽¹⁾	18,041,000	26.7%	18,041,000	31.5%
Varuma AG ⁽²⁾	11,999,999	17.8%	11,410,700	19.9%
FMR LLC ⁽³⁾	5,612,758	8.3%	5,466,882	9.5%

(1) Represents 18,041,000 shares held by dievini Hopp BioTech holding GmbH & Co KG. Dietmar Hopp controls the voting and investment decisions of the ultimate parent company of dievini Hopp BioTech holding GmbH & Co KG. The shares registered in the name of dievini Hopp BioTech holding GmbH & Co KG may also be deemed to be beneficially owned by Friedrich von Bohlen und Halbach, who is a managing director of dievini Hopp BioTech holding GmbH & Co KG. The address for dievini Hopp BioTech holding GmbH & Co KG, Friedrich von Bohlen und Halbach is Johann-Jakob-Astor Str. 57, 69190 Walldorf, Germany.

(2) The address for Varuma AG is Aeschenvorstadt 55, CH-4051 Basel, Switzerland. Rudolf Maag controls the voting and investment decisions of Varuma AG.

(3) Based on information set forth in a Schedule 13G/A filed with the SEC by FMR LLC "(FMR)" on February 13, 2018, these shares consist of 5,612,758 shares held of record by FMR. The address of FMR LLC is 245 Summer Street, Boston, MA 02210, USA.

Operating lease liabilities

We have been a tenant at our current location in the EPFL Innovation Park in Ecublens/Lausanne since shortly after our inception in 2003. We lease our corporate, laboratory and other facilities under multiple operating leases that are month to month with no termination clause longer than a 12-month contractual notice period. Our lease agreements are structured such that we can exit these lease agreements without penalty provided we give the owner of our premises sufficient notice. As of 31 December 2018, total minimum liability for the remaining term was CHF 776 thousand.

Provisions

Provisions are recognized when the Company has a present legal or constructive obligation as a result of past events where it is more likely than not that an outflow of resources will be required to settle the obligation, and a reliable estimate of the amount can be made.

Critical judgments and accounting estimates

The preparation of financial statements in conformity with Swiss Code of Obligations requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses.

The areas where AC Immune has had to make judgments, estimates and assumptions relate to (i) revenue recognition on collaboration and licensing agreements and (ii) clinical development accruals. Actual results may differ from these estimates. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

Information relating to items on Balance Sheet and Income Statement

3. Property, plant and equipment

in CHF thousands	As at 31 December,	
	2018	2017
Furniture	126	85
IT equipment	1,025	569
Lab equipment	5,367	4,163
Leasehold improvements	350	271
Total property, plant and equipment	6,868	5,088
Accumulated depreciation	(3,544)	(2,735)
Total	3,324	2,353

4. Long-term financial assets

in CHF thousands	As at 31 December,	
	2018	2017
Rental deposit (restricted cash)	301	123
Security deposit	3	3
Total	304	126

5. Cash and cash equivalents and short-term financial assets

in CHF thousands	As at 31 December,	
	2018	2017
Cash and cash equivalents	156,774	124,631
Short-term financial assets due in one year or less	30,000	-
Total	186,774	124,631

Cash and cash equivalents by currency		
CHF	126,218	103,272
EUR	11,584	3,694
USD	18,972	17,665
Total	156,774	124,631

6. Other current receivables

in CHF thousands	As at 31 December,	
	2018	2017
Other current receivables		
- from third parties	236	918
- short-term financial receivables	219	20
Total	455	938

7. Prepaid expenses

in CHF thousands	As at 31 December,	
	2018	2017
Prepaid expenses (current)	2,381	1,457
Prepaid expenses (non-current)	-	17
Total	2,381	1,474

8. Accrued income

in CHF thousands	As at 31 December,	
	2018	2017
Accrued income	3,667	2,799
Total	3,667	2,799

9. Trade payables and accrued liabilities

in CHF thousands	As at 31 December,	
	2018	2017
Trade payables	1,979	1,092
Accrued payroll expenses	2,482	2,420
Accrued R&D costs	6,803	5,429
Other accrued expenses	1,135	458
Current portion of deferred income	351	355
Total accrued expenses and deferred income	10,771	8,662
Total payables and accrued liabilities	12,750	9,754

10. Debt obligations

in CHF thousands	As at 31 December,	
	2018	2017
Short-term debt obligation	332	-
Long-term debt obligation	186	494
Total	518	494

11. Share capital

As at 31 December 2018 and 2017, the issued share capital amounted to CHF 1,350,138 and CHF 1,146,984 comprising of 67,506,879 common shares and 57,349,190 common shares, respectively, at a par value of CHF 0.02 per common share. The Company completed three follow-on offerings in 2018 raising gross proceeds of USD 117.5 (CHF 116.3) million and issuing 10,000,000 common shares.

12. Revenues

in CHF thousands	For the Years Ended 31 December,	
	2018	2017
Contract revenue	7,234	20,255
Total	7,234	20,255

13. Operating expenses

in CHF thousands	For the Years Ended 31 December,	
	2018	2017
Salaries and related costs		
- related to research and development	10,342	8,294
- related to general administrative	5,687	4,912
Total salaries and related cost	16,029	13,206
Research and development expenses		
- related to research and development expense	32,008	23,242
Total research and development expenses	32,008	23,242
General and administrative expenses		
- related to regular general and administrative	4,896	3,856
- related to offering costs	892	-
Total general and administrative expenses	5,788	3,856
Depreciation of fixed assets	960	580
Total operating expenses	54,785	40,884

14. Financial income and expenses

in CHF thousands	For the Years Ended 31 December,	
	2018	2017
Financial income		
- interest income	29	330
- foreign exchange gains	-	120
- gain on debt extinguishment	98	-
Total financial income	<u>127</u>	<u>450</u>
Financial expenses		
- foreign exchange (losses)	(1,136)	(5,536)
- bank fees	(36)	(7)
- interest expense	(298)	(146)
Total financial expenses	<u>(1,470)</u>	<u>(5,689)</u>

15. Shareholders rights and equity awards

The following table presents information on the allocation of shares and equity awards to executive officers, directors and employees in accordance with Article 959c, paragraph 2, number 11 Swiss Code of Obligations (CO) as at 31 December 2018:

in CHF thousands	Shares		Equity Awards	
	Number	KCHF	Number	KCHF
Issued to executive officers and directors	3,943,305	37,067	813,775	4,718
Issued to employees	374,599	3,521	580,653	2,347
Total	<u>4,317,904</u>	<u>40,588</u>	<u>1,394,428</u>	<u>7,065</u>

Share values are based on the Company's share price of \$9.45 (CHF 9.40). Equity awards are comprised of options and non-vested stock (restricted shares and restricted share units) awards. The fair value of our options is determined using the Black-Scholes Morten Model and our non-vested stock awards are valued using a reasonable estimate of market value of the common stock on the date of the award. Total shares are derived from our transfer agent's records as at 31 December 2018.

The table below presents beneficial ownership of executive officers and directors, including affiliated entities, if applicable, in accordance with Article 663c CO as at 31 December 2018:

Beneficial ownership of executive officers and directors	Number of Shares 2018	Number of Equity Awards 2018
Andrea Pfeifer, Ph.D., Chief Executive Officer and Director	2,382,809	471,427
Jörg Hornstein, Chief Financial Officer	-	228,706
Jean-Fabien Monin, Chief Administrative Officer	327,500	25,403
Martin Velasco, Chairman and Director	444,250	22,078
Detlev Riesner, Ph.D., Director	778,848	11,828
Friedrich von Bohlen und Halbach, Ph.D., Director	-	11,828
Peter Bollmann, Ph.D., Director	5,875	5,953
Thomas Graney, Director	4,023	11,828
Werner Lanthaler, Ph.D., Director	-	11,906
Douglass, Williams, Ph.D., Director	-	12,818

16. Post balance sheet events

On January 23, 2019, the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, expired with regard to our license agreement with Eli Lilly and Company (“Lilly”), which we signed in December 2018. Under the terms of the license agreement, the Company will conduct initial Phase 1 development of Tau Morphomer small molecules. Lilly will fund and lead further clinical development and will receive global commercialization rights for all indications, including Alzheimer’s disease and other neurodegenerative diseases. The Company will retain certain development rights in orphan indications and co-development and co-promotion options in certain indications outside Alzheimer’s disease.

The agreement also allows for potential development of indications in Progressive Supranuclear Palsy and an exclusive license to Lilly of certain intellectual property related to this program.

The Company received CHF 80 million as an upfront payment in February 2019. The agreement also includes various conditional clinical, regulatory and commercialization milestone payments. In addition, the Company will receive royalties on sales of licensed products.

The agreement will terminate on the date on which all obligations between the parties with respect to the last payment of royalties for licensed products have passed or expired. Subject to the terms in the agreement, Lilly may terminate the agreement with three months’ written notice to the Company

We and Lilly also entered into a convertible note agreement in December 2018, which also became effective on January 23, 2019. As the convertible note was not effective as of December 31, 2018, there is no corresponding recognition in our financial statements. The Company received total consideration of USD 50.0 (CHF 50.3) million in January 2019. The convertible note is a senior unsecured obligation of the Company that bears interest at a rate of 0.75% per annum, which may be paid in cash or result in the accretion of the principal amount thereof, at our election.

Subject to the terms and conditions set forth in the convertible note agreement, the convertible note will automatically convert into the Company’s common shares on the 90th day after the effective date of the license agreement, at a conversion price equal to USD 13.83 per share, which would convert into approximately 3.6 million of our common shares.

On January 30, 2019, we announced that Roche, the parent of our collaboration partner Genentech, is discontinuing the CREAD 1 and CREAD 2 (BN29552 and BN29553) Phase III studies of crenezumab in people with prodromal to mild sporadic AD. The decision came after an interim analysis conducted by the IDMC indicated that crenezumab was unlikely to meet its primary endpoint of change from baseline in Clinical Dementia Rating-Sum of Boxes (CDR-SB) Score. This decision was not related to safety of the investigational product. No safety signals for crenezumab were observed in this analysis and the overall safety profile was similar to that seen in previous trials.

Crenezumab continues to be studied in a preventive trial of cognitively healthy individuals in Colombia with an autosomal dominant mutation who are at risk of developing familial AD (fAD), under the Alzheimer’s Prevention Initiative (API), which began in 2013. This study will determine if treating people carrying this mutation with crenezumab prior to the onset of AD symptoms will slow or prevent the decline of cognitive and functional abilities. This study is in collaboration with the Banner Institute and is funded by the National Institute on Aging.

In March 2019, the Company and Biogen decided not to extend their collaboration agreement into a fourth year per the contract and conclude in April 2019 within the original three-year term of the agreement.

Proposal of the Board of Directors to the annual Shareholders' Meeting:

Proposal of the Board for the accumulated losses to be carried forward, subject to the approval of the Annual Shareholders' Meeting

in CHF thousands	As at 31 December,	
	2018	2017
Accumulated losses carried forward	(58,426)	(32,558)
Loss for the year	(48,894)	(25,868)
Total accumulated losses	<u>(107,320)</u>	<u>(58,426)</u>



Report of the Statutory Auditor on the Compensation Report in Accordance with the Ordinance against Excessive Compensation in Stock Exchange Listed Companies (Ordinance)

Contents

- Report of the Statutory Auditor
- Compensation of the Board of Directors
- Compensation of the Members of the Executive Management
- Equity Incentive Plans of the Board of Directors and the Members of the Executive Team

Annex

- Compensation Philosophy, Principles and Governance
-



Report of the statutory auditor on the remuneration report to the General Meeting of AC Immune SA

Ecublens

We have audited the accompanying remuneration report of AC Immune SA for the year ended 31 December 2018. The audit was limited to the information according to articles 14–16 of the Ordinance against Excessive Compensation in Stock Exchange Listed Companies (Ordinance) contained in the tables 1.c., 2.c. and 3., and the information in sections 1.b. and 3. of the remuneration report.

Board of Directors' responsibility

The Board of Directors is responsible for the preparation and overall fair presentation of the remuneration report in accordance with Swiss law and the Ordinance against Excessive Compensation in Stock Exchange Listed Companies (Ordinance). The Board of Directors is also responsible for designing the remuneration system and defining individual remuneration packages.

Auditor's responsibility

Our responsibility is to express an opinion on the accompanying remuneration report. We conducted our audit in accordance with Swiss Auditing Standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the remuneration report complies with Swiss law and articles 14–16 of the Ordinance.

An audit involves performing procedures to obtain audit evidence on the disclosures made in the remuneration report with regard to compensation, loans and credits in accordance with articles 14–16 of the Ordinance. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatements in the remuneration report, whether due to fraud or error. This audit also includes evaluating the reasonableness of the methods applied to value components of remuneration, as well as assessing the overall presentation of the remuneration report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Opinion

In our opinion, the remuneration report of AC Immune SA for the year ended 31 December 2018 complies with Swiss law and articles 14–16 of the Ordinance.

Other matter

The remuneration report of AC Immune SA for the year ended 31 December 2017 was audited by another firm of auditors whose report, dated 20 March 2018, expressed an unmodified opinion on that report.

PricewaterhouseCoopers SA

/s/ Michael Foley
Michael Foley
Audit expert
Auditor in charge

/s/ Filippos Mintiloglitis
Filippos Mintiloglitis
Audit expert

Lausanne, 21 March 2019

*PricewaterhouseCoopers SA, avenue C.-F. Ramuz 45, case postale, CH-1001 Lausanne, Switzerland
Téléphone: +41 58 792 81 00, Téléfax: +41 58 792 81 10, www.pwc.ch 2*

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This compensation report of AC Immune SA (the “Company”) has been prepared in accordance with the Federal Ordinance Against Excessive Compensation in Stock Exchange Listed Companies (“Ordinance”), effective January 1, 2014.

1. Compensation of the Board of Directors

a. Board Composition in 2018 and 2017

Name	Appointment	Board	Audit Committee	Compensation and Nomination Committee
Martin Velasco	2003	Chairman	Member	Member
Peter Bollmann, PhD	2015	Director	Chairman	
Thomas Graney	2016	Director	Member	Member
Detlev Riesner, PhD	2004	Director		Chairman (2)
Friedrich von Bohlen und Halbach, PhD	2015	Director		
Andrea Pfeifer, PhD	2016	Director – CEO		
Douglas Williams, PhD	2018	Director (1)		Chairman (3)
Werner Lanthaler, PhD	2018	Director (4)	Member	

(1) – Elected April 27, 2018

(2) – Chairman for 2017 and through July 6, 2018

(3) – Appointed July 6, 2018

(4) – Elected July 6, 2018

Our Board of Directors is composed of seven directors, not including our Chief Executive Officer (CEO). Each director is elected for a one-year term. The current members of our board of directors were appointed at a shareholders’ meeting held on July 6, 2018 to serve until the 2019 shareholders’ meeting planned for June 2019.

Pursuant to NASDAQ Marketplace Rule 5615(a)(3), the Company follows Swiss rules in lieu of the NASDAQ exchange listing rules for rules regarding nominations committee, independent director oversight of executive officer compensation, majority independent board representation and the establishment of or amendments to equity-based compensation plans for employees. Swiss law does not require that a majority of our board of directors consist of independent directors. Taking into account any applicable committee independence standards, Martin Velasco, Detlev Riesner, Friedrich von Bohlen und Halbach, Peter Bollmann Thomas Graney, Douglas Williams and Werner Lanthaler are “independent directors”. In making such determination, our board of directors considered the relationships that each non-employee director has with us and all other facts and circumstances our board of directors deemed relevant in determining the director’s independence, including the number of ordinary shares beneficially owned by the director and his or her affiliated entities, if any.

b. Compensation Structure

Board members are paid a fixed fee dependent on the function exercised. Such fees have been established in light of market practice. In addition to the fixed fee, Board members are awarded equity instruments under the Company’s equity incentive plans as described more fully in the annex to this report.

Commencing in July 2018, annual fixed fees were paid semi-annually in Swiss Francs (CHF) as follows:

- KCHF 87 (net of social charges) for the Chairman of the Board
- KCHF 54 (net of social charges) for other members of the Board
- KCHF 12 (net of social charges) for the Audit Chairman
- KCHF 6 (net of social charges) for members of the Audit Committee

- KCHF 15 (net of social charges) for the Compensation and Nomination Committee chairman
- KCHF 10 (net of social charges) for members of the Compensation and Nomination Committee

For 2017, annual fixed fees were paid semi-annually in Swiss Francs as follows:

- KCHF 79 (net of social charges) for the Chairman of the Board
- KCHF 49 (net of social charges) for other members of the Board
- KCHF 15 (net of social charges) for the Audit Chairman
- KCHF 7.5 (net of social charges) for members of the Audit Committee
- KCHF 8.5 (net of social charges) for the Compensation and Nomination Committee chairman
- KCHF 5 (net of social charges) for members of the Compensation and Nomination Committee

c. 2018 and 2017 Board Compensation

In 2018 and 2017, the total compensation of the members of the Board of Directors consists of Board fees, social charges and compensation paid in the form of equity instruments and is outlined below:

All amounts are in thousands of CHF

Year	Name	Gross Cash Compensation	Social Contribution	FMV of Equity instruments granted (2) (3)	Total Annual Compensation
2018	Martin Velasco	104	7	56	167
2017	<i>Martin Velasco</i>	98	6	56	160
2018	Peter Bollmann, PhD	70	7	56	133
2017	<i>Peter Bollmann, PhD (4)</i>	84	5	56	145
2018	Thomas Graney	66	-	56	122
2017	<i>Thomas Graney</i>	62	-	106	168
2018	Detlev Riesner, PhD	58	2	56	116
2017	<i>Detlev Riesner, PhD</i>	60	4	56	120
2018	Friedrich von Bohlen und Halbach, PhD	52	-	56	108
2017	<i>Friedrich von Bohlen und Halbach, PhD</i>	49	-	56	105
2018	Andrea Pfeifer, PhD (1)	-	-	-	-
2017	<i>Andrea Pfeifer, PhD (1)</i>	-	-	-	-
2018	Douglas Williams, PhD	47	3	122	172
2017	<i>Douglas Williams, PhD</i>	-	-	-	-
2018	Werner Lanthaler, PhD	32	2	112	146
2017	<i>Werner Lanthaler, PhD</i>	-	-	-	-
	Total 2018	429	21	514	964
	<i>Total 2017</i>	353	15	330	698

(1) – Compensation for Andrea Pfeifer is included in section 2 c below

(2) – Restricted Share Units were granted in 2018 and 2017 and are further described in Section 3 below. We estimate the fair value of Restricted Share Units using a reasonable estimate of market value of the common stock on the date of the award. Stock options granted are valued using the Black-Scholes model

(3) – Fair market value (FMV) excludes Swiss social security contributions

(4) – Includes CHF 16K gross cash compensation for fees in 2016

d. Loans to Board Members, payments to former members of the Board of Directors and payments to Related Parties of Members of the Board of Directors

For the years ended December 31, 2018 and 2017, the Company granted no loans to members or former members of the Board of Directors. Additionally, as of December 31, 2018 and 2017, no such loans or credit payments existed to present or former members of the Board of Directors, or to related parties of present or former members of the Board of Directors.

For the years ended December 31, 2018 and 2017, no compensation was paid to related parties or former members of the Board of Directors.

2. Compensation for Members of Executive Management

a. Executive Management Composition

The Executive Management during 2018 and 2017 was comprised of:

Name	Function	Appointment
Andrea Pfeifer, PhD	Chief Executive Officer	2003
Andreas Muhs, PhD (2)	Chief Scientific Officer	2005
Jörg Hornstein (1)	Chief Financial Officer	2017
Jean-Fabien Monin	Chief Administrative Officer	2009

(1) – Mr. Jörg Hornstein was appointed Chief Financial Officer in November 2016 effective April 1, 2017

(2) – Dr. Andreas Muhs passed away on December 6, 2018, and is defined as a member of the current Executive Management for the purpose of this Report.

b. Executive Compensation Principles

Each member of the Executive Management receives remuneration consisting of a base salary, incentive plan, social benefits and an equity incentive plan as described more fully in the annex to this report.

c. 2018 and 2017 Executive Compensation

The total compensation of the Executive Management and the highest individual compensation of the members of the Executive Management for the years ended December 31, 2018 and 2017, respectively, are outlined below:

All amounts are in thousands of CHF

Year	Name	Cash Compensation	Other Compensation	Pension (employer)	Employer's Social Contribution (1)	Cash Bonus	Total	Equity FMV excluding Social Contributions (2) (3)
2018	Andrea Pfeifer, PhD	455	28	67	51	445	1,046	700
2017	Andrea Pfeifer, PhD	404	28	60	43	408	943	1,393
2018	Total Executive Management Compensation (4)	1,306	75	160	117	733	2,391	1,758
2017	Total Executive Management Compensation	1,206	70	166	106	680	2,228	2,271

(1) – Amounts exclude social charges related to the exercise of options in the amount of CHF 24K and CHF 25K in the aggregate for Executive Management in 2018 and 2017 respectively.

(2) – Restricted Share Units were granted in 2018 and 2017 and are further described in Section 3 below. We estimate the fair value of Restricted Share Units using a reasonable estimate of market value of the common stock on the date of the award. Stock options granted are valued using the Black-Scholes model.

(3) – Fair market value (FMV) excludes Swiss social security contributions.

(4) – The Executive Management Compensation includes Dr. Andreas Muhs' compensation for the period from January 1 through December 6, 2018, including death benefits, a portion of which will be paid to his estate in the first quarter of 2019, and reduced by payments by insurance.

d. Loans, Severance or other Compensation Paid to Members or Former Members of the Executive Management

For the years end December 31, 2018 and 2017 the Company granted no loans to members or former members of the Executive Management. Additionally, as of December 31, 2018 and 2017, no such loans or credit payments existed to present or former members of the Executive Management, or to related parties of present or former members of the Executive Management.

For the years ended December 31, 2018 and 2017 no compensation was paid to related parties of present or former members of the Executive Management.

3. Equity Incentive Plans of the Board of Directors and the Executive Management

Board of Directors and Executive Management Equity Incentive Plan Summary

The Members of the Board of Directors and Executive Management held the following equity instruments as of December 31, 2018 and 2017:

Investments held by members of the Board of Directors ⁽¹⁾

Year	Name	Function	Number of Shares	Number of Options	Number of Restricted Share Units (4)
2018	Martin Velasco	Chairman	444,250	10,250	11,828
2017	<i>Martin Velasco (2)(3)</i>	<i>Chairman</i>	<i>469,250</i>	<i>10,250</i>	<i>5,875</i>
2018	Peter Bollmann, PhD	Director	5,875	-	5,953
2017	<i>Peter Bollmann, PhD</i>	<i>Director</i>	-	-	<i>5,875</i>
2018	Thomas Graney	Director	4,023	-	11,828
2017	<i>Thomas Graney</i>	<i>Director</i>	<i>4,023</i>	-	<i>5,875</i>
2018	Detlev Riesner, PhD (2)(3)	Director	778,848	-	11,828
2017	<i>Detlev Riesner, PhD (2)(3)</i>	<i>Director</i>	<i>759,000</i>	<i>0</i>	<i>5,875</i>
2018	Friedrich von Bohlen und Halbach, PhD	Director	-	-	11,828
2017	<i>Friedrich von Bohlen und Halbach, PhD</i>	<i>Director</i>	<i>78,750</i>	-	<i>5,875</i>
2018	Douglas Williams, PhD	Director	-	-	12,818
2017	<i>Douglas Williams, PhD</i>	<i>Director</i>	-	-	-
2018	Werner Lanthaler, PhD	Director	-	-	11,906
2017	<i>Werner Lanthaler, PhD</i>	<i>Director</i>	-	-	-
	Total 2018		1,232,996	10,250	77,989
	<i>Total 2017</i>		<i>1,311,023</i>	<i>10,250</i>	<i>29,375</i>

(1) – Excluding Andrea Pfeifer, CEO, whose holdings are listed under Executive Management

(2) – Includes shares held directly and indirectly through vehicles controlled by the Director

(3) – A portion of the shares correspond to preferred shares acquired directly by the member through the Company's successive financial rounds (Series A, B, C and D) and cannot be assimilated to compensation in equity

(4) – These unvested Restricted Share Units were awarded in 2018 and 2017 and fully vest in 2019 and 2018, respectively

Investments held by members of the Executive Management

Year	Name	Function	Number of Shares	Options – Vested	Options - Unvested	Restricted Stock Units – Vested	Restricted Stock Units – Unvested
2018	Andrea Pfeifer, PhD (1)	Chief Executive Officer	2,382,809	200,128	202,758	21,419	47,122
2017	<i>Andrea Pfeifer, PhD (1)</i>	<i>Chief Executive Officer</i>	<i>2,596,809</i>	<i>174,426</i>	<i>96,385</i>	<i>4,284</i>	<i>64,257</i>
2018	Jörg Hornstein	Chief Financial Officer	-	57,084	171,622	-	-
2017	<i>Jörg Hornstein</i>	<i>Chief Financial Officer</i>	-	<i>14,248</i>	<i>99,733</i>	-	-
2018	Andreas Muhs, PhD	Chief Scientific Officer	439,550	309,479	-	7,804	-
2017	<i>Andreas Muhs, PhD</i>	<i>Chief Scientific Officer</i>	<i>475,050</i>	<i>318,892</i>	<i>32,128</i>	<i>1,428</i>	<i>21,419</i>
2018	Jean-Fabien Monin	Chief Administrative Officer	327,500	2,750	13,832	1,694	7,127
2017	<i>Jean-Fabien Monin</i>	<i>Chief Administrative Officer</i>	<i>275,000</i>	<i>52,928</i>	<i>6,426</i>	<i>286</i>	<i>4,283</i>
	Total 2018		3,149,859	569,441	388,212	30,917	54,249
	<i>Total 2017</i>		<i>3,346,859</i>	<i>560,494</i>	<i>234,672</i>	<i>5,998</i>	<i>89,959</i>

(1) – A portion of the shares correspond to preferred shares acquired directly by the member through the Company's successive financial rounds (Series A, B, C and D) and cannot be assimilated to compensation in equity.

Compensation of Current and Former Members of the Board and Executive Management

In connection with RSUs settled and options exercised in 2018 and 2017 by current and former members of the Board and Executive Management, AC Immune paid social contributions, in accordance with applicable laws, on the gain resulting from the difference in exercise price and fair value of the shares at the time of the exercise. With regard to the former Board and Executive Management members, AC Immune paid a total of nil and CHF 63K in 2018 and 2017, respectively. With regard to the current Board and Executive Management members, AC Immune paid a total of CHF 37K and CHF 11K in 2018 and 2017, respectively.

Annex to the Report

Compensation Philosophy, Principles and Governance

AC Immune's values as "A leader in AD Drug Development" are driven by passion to win, innovation, entrepreneurship, team spirit, modesty, communication and leadership. The Company aims to attract "world class" professionals and strives for growth, achievement and success. The Company's values are an essential component of its strategy and key drivers of the Company's performance.

AC Immune's compensation policy is designed to attract, motivate and retain talent in order to support the achievement of the Company's financial and strategic objectives. The policy further aims at ensuring a fair and competitive compensation package. The Board believes that by combining short- and long-term incentive elements, the compensation system helps to align the interests of the Board members and management with the interests of the Company and its shareholders. In addition, compensation elements are focused on rewarding the delivery of outstanding and sustainable results without inappropriate risk-taking.

In each of the years from 2016 - 2018, the Company engaged a reputable compensation and performance expert firm to benchmark the compensation level and structure for the members of the Board and Executive Management. The analysis included compensation data of the comparable Pharma/Biopharma companies, including several U.S.-based companies. The Board came to the conclusion that adjustments to the compensation were required in order for AC Immune to remain a competitive employer.

Method of Determining Compensation

The Role and Powers of the Compensation, Nomination and Corporate Governance Committee "CNC"

The CNC consists of three (3) members, who are appointed by the Annual Shareholders' Meeting and the committee enacts its own charter.

Compensation Guidelines:

The CNC recommends guidelines for the compensation of the members of the Board of Directors, the CEO and the Executive Management, and submits these recommendations to the Board of Directors for approval.

The CNC provides an overall package for near- and long-term compensation, including variable compensation, that (1) is designed to attract, motivate and retain persons with the necessary skills and character, (2) is consistent with market conditions, and in the case of variable compensation, consistent with the Company's and individual's performance, and (3) aligns the interests of the members of the Board of Directors and the Executive Management with the interests of the Company. The CNC also periodically reviews the Company's compensation policies for its employees who are not members of the Executive Management.

The CNC meets at least four times a year and informs the Board of Directors of its recommendation and resolutions after each meeting.

Approval of Compensation by the Annual Shareholders' Meeting

Swiss law requires a binding approval of the maximum compensation for the Board and the Executive Management. Each year, the Annual Shareholders' Meeting separately approves the total maximum amounts proposed by the Board of Directors pursuant to Articles 32 and 33 of the Articles of Association for:

- a) the non-performance-related compensation of the Board of Directors for the next term of office;
 - b) a possible additional compensation of the Board of Directors for the preceding business year;
 - c) the non-performance-related compensation of the Executive Management for the 12-month period starting on 1 July following the Ordinary Annual Shareholders' Meeting;
 - d) the variable compensation for the Executive Management for the current year, and;
 - e) the grant of options, shares or other equity instruments in the Company to the Board of Directors and the Executive Management.
-

The respective total compensation amounts include social security and occupational pension contributions for the benefit of the members of the Board of Directors, the Executive Management and the Company.

If the Annual Shareholders' Meeting refuses to approve a respective motion by the Board of Directors, the Board of Directors may either submit a new motion at the same meeting or determine a maximum total remuneration or several maximum partial remunerations, subject to the relevant principles of the compensation, or submit a new motion to the next Annual Shareholders' Meeting for approval. The Company may pay remunerations within the framework of the maximum total or partial remuneration and subject to the approval by the Annual Shareholders' Meeting.

Compensation of the Board of Directors

The CNC reviews and proposes to the Board of Directors the resolution to be submitted to the Ordinary Annual Shareholders' Meeting for the maximum total compensation of the Board of Directors. The CNC will also request approval by the Board of Directors of the individual compensation packages to be paid to members of the Board of Directors.

The compensation for members of the Board typically consists of:

- Annual cash compensation
- Annual grant of equity

Both components do not depend on the achievement of corporate goals or the individual performance of a Board member. Additionally, the Company pays the employer's social security contributions due on these amounts. Board members do not receive any variable compensation.

Compensation of the Executive Management

The CNC evaluates annually the performance of the CEO and the Executive Management and submits such evaluation for review and discussion by the Board of Directors, in each case in executive session without the presence of the CEO or the Executive Management.

Subject to and within the bounds of the maximum compensation approved by the Ordinary Annual Shareholders' Meeting, the CNC reviews and recommends for approval by the Board of Directors the annual base salary, incentive compensation (bonus) and equity compensation of the CEO, and in consultation with the CEO, of the Executive Management, and the overall compensation of the CEO and the Executive Management. The CNC also requests approval by the Board of Directors regarding the determination of the compensation-related targets for the Executive Management and requests approval by the Board of Directors of the individual compensation packages to be paid to members of the Executive Management.

Elements of Compensation for 2018 and 2017

Base Salary

Base salaries are highly competitive in order to attract, motivate, and retain persons with the necessary skills and character. The salary level is based on the scope of the position and market conditions and the individual's profile in terms of experience and skills. The fixed compensation for the Executive Management members includes base salary, social security contributions and payments to the pension fund by the Company. Base salaries are reviewed annually by the CNC, taking into account individual performance and the results of the external benchmarking.

Incentive Plan (Bonus)

The CNC proposes to the Board of Directors an incentive compensation plan providing for variable compensation of the members of the Executive Management based on the achievement of the Company's corporate goals and in relation to the Executive Management based on the individuals' performance, and

approve any changes to such plan as may be proposed by the CEO from time to time. The CNC reviews and approves any employment contracts, severance contracts, or other agreements that the Company proposes to enter into with any present, future or former members of the Executive Management; provided that the key terms of such contracts shall be submitted for approval by the Board of Directors and shall be within the bounds of the maximum compensation approved by the Ordinary Annual Shareholders' Meeting.

The annual cash bonus for 2018 and 2017 was based on the achievement of Company and individual goals. The target bonus, i.e. cash bonus to be paid if 100% of corporate and individual objectives are met, is determined individually for each member of the executive management as a fixed amount, ranging from approximately 25% (20% in 2017) to 65% (90% in 2017) of the base salary. According to the external benchmarking, the target bonuses continued to be in the lower range of the peer group. The 2018 corporate goals included (i) completion of a follow-on financing of at least USD 75M, (ii) formation of a strategic partnership clinical program, and (iii) fulfillment of various R&D project milestones. The 2017 corporate goals included (i) fulfillment of various R&D project milestones, and (ii) meeting the standards of a NASDAQ listed company with particular emphasis on the financial organization. The weightings of the corporate and individual goals are defined for each executive management member and vary depending on the position. In general, the higher the position of an employee, the more weight is put on the achievement of corporate goals rather than on individual goals. The Board determined that the actual target achievement of the 2018 and 2017 corporate goals was 120% and 102%, respectively.

Pension Plan and Social Charges

Pension Plan

The Company participates in a collective foundation covering all of its employees including its executive officers. In addition to retirement benefits, the plan provides death or long-term disability benefits. Contributions paid to the plan are computed as a percentage of salary, adjusted for the age of the employee and shared approximately 47% (47% in 2017) and 53% (53% in 2017) by employee and employer, respectively. This plan is governed by the Swiss Law on Occupational Retirement, Survivors and Disability Pension Plans (BVG), which requires contributions to be made to a separately administered fund. The fund has the legal form of a foundation and it is governed by the Board of Trustees, which consists of an equal number of employer's and employee's representatives. The Board of Trustees is responsible for the administration of the plan assets and for the definition of the investment strategy.

Social Charges

The Company pays old age and survivors' insurance (AHV), Disability insurance (IV), and Income replacement scheme (EO) as required by Federal Swiss law.

Equity Incentive Plans

Current Plan

The 2016 Option and Incentive Plan as amended and restated as of May 19, 2017 (the "2016 Plan") was established for the officers, employees, non-employee directors and consultants of AC Immune SA. The 2016 Plan provides for a variety of award types, including stock options, restricted share awards, restricted share units, unrestricted share awards, and performance based awards. Vesting and performance based conditions vary by grant and are determined by the plan administrator, which is the Compensation Committee of the Board of Directors, (or in its absence the Board of Directors) or the Chief Executive Officer under specified delegation limitations granted by the Board of Directors. However, option awards with an "Exercise Price" shall be determined at the time of grant by the plan administrator, but shall not be less than 100 percent of fair market value on the date of grant. Further, awards with an "Option Term" may not exceed 10 years. In 2018 and 2017, awards were granted to members of the Executive Management and Board of Directors and

are disclosed in Section 3 of this report. According to the external benchmarking, the equity awards continued to be in the lower range of the peer group.

Prior Plans

Since our inception in 2003, we have had four separate Prior Plans: Plan A, which was established in 2004 and amended in June 2015 and June 2017; Plan B, which was established in 2005; Plan C1, which was established in 2006; and Plan C2, which was also established in 2006 and was intended specifically for members of our board of directors to purchase our common shares. Options granted under the C1 Plan prior to 2013 were taxed at grant and options granted from 2013 and thereafter were taxed upon exercise instead of at grant due to a change in taxation rules. The options granted under Plan A vested immediately but were subject to a four-year lockup period. The options granted under Plan B and Plan C1 vested over a four year period with 25% of these options vesting each year. Under Plan C2, options were immediately exercisable.

Our Board of Directors has the authority to amend each of the Prior Plans.

2016 Option and Incentive Plans

“Directors and Executive Consideration”

For the fiscal years ended December 31, 2018 and 2017, we have granted our directors and executive management, in the aggregate, options for the right to acquire 280,848 and 257,916 shares, respectively at an exercise price ranging from US\$ 8.51 to US\$ 9.50 per share in 2018 and CHF 9.53 per share in 2017, that vest over a four year period with vesting to occur quarterly. In addition to the stock options granted, for the fiscal years ended December 31, 2018 and 2017, the Company also granted 69,371 and 125,332 restricted share units, respectively to its directors and executive officers. The restricted share units granted to directors total 54,489 and 29,375 in 2018 and 2017, respectively and vest at the end of a one-year period. The remaining 14,882 and 95,957 restricted share units were granted to executives and have a four year vesting life to be vested quarterly. Upon the death of our CSO, non-vested options and non-vested-restricted share units were cancelled; such amounts aggregated 22,800 options of the 2018 grant (23,561 in 2017) and 9,966 restricted share units of the 2018 grant (15,707 in 2017).

Other

Employment Contracts

The Executive Management of the Company is employed under employment contracts of unlimited duration with a notice period of six months for the Chief Executive Officer, twelve months for the Chief Financial Officer, and three months for the Chief Scientific Officer and the Chief Administrative Officer. Executive members are not contractually entitled to termination payments other than the vested portions of the stock options.
