PRESS RELEASE

AC Immune Presents New Preclinical Data for Therapeutic and Diagnostic Candidates Addressing Novel Targets for Neurodegenerative Diseases

Four presentations at AD/PD™ 2021 feature latest findings from wholly owned therapeutic and diagnostic programs targeting pathological forms of alpha-synuclein and TDP-43

First biologically active small molecule inhibitors of intracellular alpha-synuclein aggregation advancing toward in vivo proof-of-concept studies

Anti-TDP-43 therapeutic antibody candidates demonstrate dual mechanism of action against pathological TDP-43 in vivo

Lausanne, Switzerland, March 9, 2021 – AC Immune SA (NASDAQ: ACIU), a Swiss-based, clinical-stage biopharmaceutical company with a broad pipeline focused on neurodegenerative diseases, today outlined new preclinical data that will be presented at the 15th International Conference on Alzheimer's & Parkinson's Diseases (AD/PD™), taking place virtually from March 9–14, 2021. Data from the Company's wholly owned, first-in-class therapeutic and diagnostic programs targeting pathological forms of alpha-synuclein and TAR DNA-binding protein 43 (TDP-43) are described during four oral and e-poster presentations. Together the presentations further illustrate the synergy between AC Immune's SupraAntigen™ and Morphomer™ technology platforms to deliver a precision medicine approach to treating neurodegenerative diseases (NDD).

Alpha-synuclein and TDP-43 are hallmarks of major NDD such as Parkinson's disease and limbic-predominant age-related TDP-43 encephalopathy (LATE), respectively, and are well-recognized co-pathologies in Alzheimer's disease linked to accelerated cognitive decline. AC Immune targets pathological forms of these proteins with highly specific antibody and small molecule therapeutics, as well as first-in-class positron emission tomography (PET) diagnostic candidates, which are amongst the most advanced in the field.

Prof. Andrea Pfeifer, CEO of AC Immune SA, commented: "We continue to expand our position as a global leader in precision medicine for neurodegenerative diseases by leveraging our Morphomer™ and SupraAntigen™ platforms to discover and advance first-in-class therapeutics in parallel with companion diagnostics. Our approach informs and enables targeting the right proteinopathies, in the right patient, at the right time, and provides a pathway toward tailored combination therapies in the future. In addition to our pipeline targeting amyloid-beta and Tau pathologies, the alpha-synuclein and TDP-43 programs highlighted in our AD/PD™ presentations are crucial components of such an approach, as these proteins have recently emerged as key targets across a multitude of neurodegenerative diseases."

Prof. Pfeifer continued: "*In vivo* characterization of our next-generation alpha-synuclein PET tracer candidate further illustrates its strong diagnostic profile, and we anticipate reporting the first clinical results from this potentially game-changing program in the third quarter of this year. Success in this exciting program could greatly accelerate the advancement of therapeutics for

Parkinson's disease and other alpha-synucleinopathies, including our first-in-class alpha-synuclein aggregation inhibitors, by enabling accurate diagnosis, patient selection and longitudinal drug efficacy measurement based on changes in alpha-synuclein pathology in the brain. This precision medicine approach is mirrored by our TDP-43 antibody and PET tracer programs, for which we've also demonstrated highly encouraging therapeutic and diagnostic potential."

Details of AC Immune's AD/PD™ 2021 presentations

Morphomer™ TDP-43 imaging

First-in-class TDP-43 PET tracers were characterized using a newly optimized radiobinding assay, which enabled the identification of several distinct chemical series of promising Morphomers™ that bind to recombinant and brain-derived TDP-43 aggregates. Selected compounds also demonstrate direct target engagement on patient-derived brain tissue, as assessed by a positive signal in a proprietary high-resolution autoradiography assay that co-localized with pathological TDP-43. Medicinal chemistry is ongoing to further optimize the properties of hit compounds, and investigational new drug (IND)-enabling studies are expected to begin in Q3 2021.

Title: Discovery of PET tracers for TDP-43 proteinopathies
Date: Thursday, March 11, 2021 | 10:45 – 11:00 am CET
Presenter: Oral presentation by Tamara Seredenina

Anti-TDP-43 antibody

Data to be presented show that AC Immune's lead anti-TDP-43 antibody, the first with reported *in vivo* activity, significantly reduced levels of pathological (phosphorylated or insoluble) forms of TDP-43 in the brain in a murine neurodegenerative disease model. New data also demonstrate the antibody's dual mechanism of action, showing that it inhibits TDP-43 aggregation and promotes the uptake and clearance of pre-existing TDP-43 aggregates by microglia. The lead candidate is currently in IND-enabling studies and is expected to start preclinical toxicology studies by year end.

Title: TDP-43 antibody directed microglial clearance and inhibition of seeded aggregation mitigates neuropathology in models of TDP-43 proteinopathy
Date: Thursday, March 11, 2021 | 11:15 – 11:30 am CET
Presenter: Oral presentation by Tariq Afroz

Morphomer™ alpha-synuclein imaging

New preclinical data for ACI-12589, a next-generation alpha-synuclein PET tracer being developed as a first-in-class diagnostic imaging agent for Parkinson's disease and other alpha-synucleinopathies, confirm that the Morphomer™-derived candidate has a desirable brain-PET ligand pharmacokinetic profile in non-human primates. ACI-12589 has previously shown excellent target engagement and signal specificity on tissue samples from patients with alpha-synucleinopathies, including Parkinson's disease, multiple system atrophy (MSA) and dementia with Lewy bodies (DLB). ACI-12589 is currently being evaluated in a first-in-human study.

Title: [18F]ACI-12589, a novel alpha-synuclein radiotracer as a biomarker in patients with Parkinson's disease and other synucleinopathies
E-poster ID: P531 / #868
Presenter: E-poster presentation by Efthymia Vokali

Morphomer™ alpha-synuclein small molecule aggregation inhibitor

The first biologically active small molecule inhibitors targeting intracellular alpha-synuclein aggregates have been identified using the Morphomer™ platform. Data to be presented for the first time show that these initial compounds, from several distinct chemical series, significantly decrease alpha-synuclein aggregate formation in cellular assays by interfering with the fibrillation process. Iterative medicinal chemistry optimization led to the identification of compounds with favorable CNS-penetrant pharmacokinetic properties, which will be progressed into *in vivo* proof-of-concept studies in models of alpha-synucleinopathies, expected to begin in Q3 2021.

Title: Generating a first in class inhibitor to treat Parkinson's disease by targeting intracellular alpha-synuclein pathology
E-poster ID: P425 / #1195
Presenter: E-poster presentation by Nadine Aït-Bouziad

About AC Immune SA

AC Immune SA is a Nasdaq-listed clinical-stage biopharmaceutical company, which aims to become a global leader in precision medicine for neurodegenerative diseases. The Company utilizes two proprietary platforms, SupraAntigen™ and Morphomer™, to design, discover and develop small molecule and biological therapeutics as well as diagnostic products intended to diagnose, prevent and modify neurodegenerative diseases caused by misfolding proteins. The Company's pipeline features nine therapeutic and three diagnostic product candidates, with six currently in clinical trials. It has collaborations with major pharmaceutical companies including Genentech, a member of the Roche Group, Eli Lilly and Company and Janssen Pharmaceuticals.

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Forward looking statements

This press release contains statements that constitute "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements are statements other than historical fact and may include

statements that address future operating, financial or business performance or AC Immune's strategies or expectations. In some cases, you can identify these statements by forward-looking words such as "may," "might," "will," "should," "expects," "plans," "anticipates," "believes," "estimates," "predicts," "projects," "potential," "outlook" or "continue," and other comparable terminology. Forward-looking statements are based on management's current expectations and beliefs and involve significant risks and uncertainties that could cause actual results, developments and business decisions to differ materially from those contemplated by these statements. These risks and uncertainties include those described under the captions "Item 3. Key Information – Risk Factors" and "Item 5. Operating and Financial Review and Prospects" in AC Immune's Annual Report on Form 20-F and other filings with the Securities and Exchange Commission. These include: the impact of Covid-19 on our business, suppliers, patients and employees and any other impact of Covid-19. Forward-looking statements speak only as of the date they are made, and AC Immune does not undertake any obligation to update them in light of new information, future developments or otherwise, except as may be required under applicable law. All forward-looking statements are qualified in their entirety by this cautionary statement.