PRESS RELEASE

AC Immune's Anti-Abeta Vaccine Results from Phase 1b Study in Down Syndrome Published in JAMA Neurology

First study of an anti-Abeta vaccine in people living with Down syndrome (DS)

Immune response and Alzheimer's disease (AD) biomarkers showed positive impact of ACI-24 first generation vaccine

Optimized formulation of the ACI-24 vaccine to enter Phase 1b/2 testing this year

Lausanne, Switzerland, May 9, 2022 – AC Immune SA (NASDAQ: ACIU), a Swiss-based, clinical-stage biopharmaceutical company with a broad pipeline focused on neurodegenerative diseases, today announced the publication in *JAMA Neurology*[1] of data showing that AC Immune's ACI-24 anti-Abeta vaccine was found to be safe and elicited immune response in a Phase 1b clinical trial in adults with DS. This is the first anti-Abeta vaccine study conducted with people living with DS.

The landmark study was led by principal investigator Michael Rafii, MD, Ph,D., Professor of Neurology at Keck School of Medicine of the University of Southern California and Medical Director of the Alzheimer's Therapeutic Research Institute (ATRI). The phase 1b multicenter, placebo-controlled clinical trial was a collaboration between AC Immune, the Alzheimer's Disease Cooperative Study (ADCS), and clinical investigators at Massachusetts General Hospital, Barrow Neurological Institute and University of California San Diego, with financial support from the National Institute on Aging, part of the National Institutes of Health, and the LuMind IDSC Down Syndrome Foundation.

Dr. Michael Rafii commented: "The data published today in *JAMA Neurology* demonstrate that interventional clinical trials can be successfully conducted in individuals with Down syndrome. Importantly, the ACI-24 anti-Abeta vaccine was safe, well-tolerated and an anti-Abeta immune response was observed in ACI-24-treated but not placebo-treated participants. As individuals living with DS are at high risk for developing AD-related symptoms by about 55 years of age, a vaccine approach could be particularly relevant."

Dr. Marie Kosco-Vilbois, Ph.D., Chief Scientific Officer of AC Immune and one of the co-authors of the article, concluded: "The ACI-24 vaccine is derived from our SupraAntigen® platform and designed to generate a polyclonal antibody response targeting pathological forms of Abeta, which following the optimization of its formulation now also includes oligomeric and pyroGlutamate-Abeta. The ensemble of clinical results obtained with ACI-24, encourage us to push the program forward taking the optimized ACI-24 formulation into the next stage of clinical development in both AD and AD in DS in 2022."

As presented in the *JAMA Neurology* article, the ACI-24 vaccine demonstrated immunogenicity along with pharmacodynamic and target engagement evidence as measured by a greater increase in plasma Abeta40 and Abeta42 in treated groups compared to placebo. Importantly, anti-Abeta antibody titers were not associated with any adverse findings.

An optimized formulation of ACI-24 has demonstrated strong immunogenicity, inducing a polyclonal response in non-human primates against Abeta and, importantly, high titers of antibodies targeting pyroGlutamate-Abeta (as published in Brain Communications). This neurotoxic species of Abeta found

in amyloid plaques is a key driver of disease progression[2]. Additional data on the optimized formulation were presented at the AD/PD™ 2022, Alzheimer's & Parkinson's Diseases Conference held on March 15-20.

References

1. Rafii MS et al, Safety, Tolerability, and Immunogenicity of the ACI-24 Vaccine in Adults With Down Syndrome, A Phase 1b Randomized Clinical Trial, JAMA Neurology, 2022 May 9:79(5).
2. Jawhar S et al, Pyroglutamate Amyloid-β (Aβ): A Hatchet Man in Alzheimer Disease, J Biol Chem. 2011 Nov 11; 286(45).

About the Phase 1b anti-Abeta Vaccine Trial in people living with DS

This randomized, double-blind, placebo-controlled, dose-escalation, phase 1b multi-center study reported in *JAMA Neurology* included 16 adults, aged 25-41 years. Participants were treated for 48 weeks receiving seven subcutaneous injections of ACI-24 (300µg or 1000µg) or placebo (active/placebo ratio was 3:1) and monitored for an additional 48 weeks of post-treatment follow-up. Primary outcomes included assessment of safety, tolerability and antibody titers. Exploratory outcomes evaluated included levels of plasma and CSF amyloid-β42, amyloid-β40, total tau and phospho-tau (pTau) as well as hippocampal volume and cognitive functioning. In the trial, most adverse events were of mild intensity and unrelated or unlikely related to ACI-24. Treatment compliance was 100%. No cases of meningoencephalitis, death or other serious adverse events occurred as well as no withdrawals due to adverse events.

About AC Immune SA

AC Immune SA is a clinical-stage biopharmaceutical company that aims to become a global leader in precision medicine for neurodegenerative diseases, including Alzheimer's disease, Parkinson's disease, and NeuroOrphan indications driven by misfolded proteins. The Company's two clinically validated technology platforms, SupraAntigen® and Morphomer®, fuel its broad and diversified pipeline of first- and best-in-class assets, which currently features ten therapeutic and three diagnostic candidates, six of which are currently in clinical trials. AC Immune has a strong track record of securing strategic partnerships with leading global pharmaceutical companies including Genentech, a member of the Roche Group, Eli Lilly and Company, and Janssen Pharmaceuticals, Inc., resulting in substantial non-dilutive funding to advance its proprietary programs and >$3 billion in potential milestone payments.

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PRESS RELEASE

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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.