PRESS RELEASE

AC Immune Announces Publication of Ground-breaking Scientific Publication on anti-Abeta Vaccine in Preclinical Model of Down Syndrome

- **Vaccine demonstrates efficacy in established model for Down syndrome**
- **Paper published in PLOS ONE, highly respected peer review journal**
- **Start of patient recruitment in clinical trial with vaccine for Alzheimer's characteristics in people with Down syndrome**

Lausanne, Switzerland, – April 5, 2016 – AC Immune today announced the publication of a ground-breaking scientific publication on an anti-Abeta vaccine potentially signaling a way to treat cognitive deficits in people with Down syndrome (DS), a disease affecting one in about 700 newborns. In addition to cognitive dysfunction from childhood onwards, people with DS are predisposed to Alzheimer's disease-like characteristics. The manuscript, *An anti-Abeta-Amyloid Vaccine for Treating Cognitive Deficits in a Mouse Model of Down Syndrome,* was published in PLOS ONE, (March 29, 2016) a respected peer reviewed journal recognized for its high ethical standards and rigorous scientific approach.

The company also announced the start of patient recruitment for the first clinical trial for this anti-Abeta vaccine (ACI-24) targeting Alzheimer's disease-like characteristics in those with Down syndrome. Announced earlier this year and being conducted in collaboration with the University of California San Diego (UC San Diego) Down Syndrome Research and Treatment Center, the phase 1b trial is expected to include 24 patients with a 12 month treatment period followed by a 12 month follow up.

Prof. Andrea Pfeifer, CEO of AC Immune, said: "This pioneering publication shows encouraging data on brain Abeta reduction and memory enhancement of our anti-Abeta vaccine in a pre-clinical model for Down syndrome. This research is the scientific basis for the first-ever clinical trial of an anti-Abeta vaccine in Down syndrome. People with Down syndrome are a genetically predisposed population showing early onset Alzheimer's disease-like characteristics. Another such population is the extended family in Colombia, in which the antibody crenezumab is being evaluated in the world's first preventive clinical trial for Alzheimer's."

Dr. Andreas Muhs, Chief Scientific Officer of AC Immune and corresponding author of the paper, observed: "Our anti-Abeta vaccine is a liposomal therapeutic vaccine that was discovered from our SupraAntigen™ technology platform. The vaccine stimulates the immune system to produce a non-inflammatory antibody response highly specific to misfolded Abeta. In this publication we prove it is potent, safe and effective in

an established mouse model of Down syndrome. The promising data suggest the significant potential of the vaccine and are the basis for why we are running this novel clinical study in this specific patient population."

Dr. William Mobley, Executive Director of the UC San Diego Down Syndrome Research and Treatment Center, and co-author of the paper, commented: "We see this work as both groundbreaking and as the next step in testing the idea that it will be possible to treat and eventually prevent Alzheimer's disease in people with Down syndrome. The findings from the publication suggest vaccination is a good strategy to combat the effects of the elevated Abeta level in adults with Down syndrome. We are delighted to participate in a public-private partnership with AC Immune, the Lumind LuMind Research Down Syndrome Foundation and the NIH to test the effect of an anti-Abeta vaccination."

About the pre-clinical study

The scientific publication describes the use of an established pre-clinical model for Down syndrome in which there is an extra copy of the gene for the Amyloid Precursor Protein (APP) and, therefore, increased levels of Abeta. The breakthrough is the application of this model to test the impact of an anti-Abeta vaccine. Results show that there was a clear immune response, neuroprotection, improvement in behavior and memory enhancement in those mice administered with the ACI-24 vaccine compared to those in the control group.
The pre-clinical study involved scientists from AC Immune, Lausanne, CH; the Department of Neurosciences, School of Medicine, University of California San Diego, La Jolla, CA; and the Department of Neurology and Neurological Sciences, Stanford Medical School, Stanford, CA. The full publication is available at PLOS ONE.

About Alzheimer's disease like characteristics in people with DS

Individuals with Down syndrome (DS) have an extra copy of chromosome 21 which carries the gene for APP encoding the precursor protein of Abeta, one of the hallmarks of Alzheimer's disease (AD). An important consequence is that individuals with DS develop AD-like characteristics at a rate three to five times greater than that of the general population and at a much younger age. Further, AD-like characteristics develop in more than 98% of people with DS over age 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 400,000 in the United States.

About ACI-24

ACI-24 is a liposomal therapeutic anti-Abeta vaccine candidate, which is owned by AC Immune and was discovered utilizing the Company's proprietary SupraAntigen™ technology platform. The vaccine is designed to stimulate a patient's immune system to produce antibodies that specifically target the oligomeric and fibrillary Abeta proteins to prevent beta amyloid plaque accumulation and to enhance plaque clearance. Preclinical data demonstrated a significant activity in plaque reduction and memory restoration as well as a favorable safety profile characterized by a lack of local inflammation and a mode of action independent of inflammatory T-cells. The vaccine is currently also being studied in a phase

1/2a clinical trial in patients with mild to moderate AD, in which no significant safety issues have been detected to date.

About Down syndrome

Down syndrome, or trisomy 21, is the most common genetic cause of intellectual disability and developmental delay, and affects one in 700 newborns. This condition results when an individual has three, rather than two, copies of the 21st chromosome. This additional genetic material causes impairment of cognitive ability and physical growth, and is associated with other medical issues ranging from neurological and cardiac defects to hearing and vision problems as well as earlier development of Alzheimer's disease. The average life expectancy for people with DS has increased from 25 years in the 1980's to approximately 60 years today.

About Alzheimer's disease

It is becoming increasingly clear that Alzheimer's disease develops because of a complex series of events that take place in the brain over a long period of time. Two proteins - Tau and beta-amyloid (Abeta) - are recognized as major hallmarks of neurodegeneration: tangles and other abnormal forms of Tau protein accumulate inside the brain cells and spread between cells, while plaques and oligomers formed by beta-amyloid occur outside the brain cells of people with AD.

AD is one of the biggest burdens of society with a dramatic and growing worldwide incidence rate of one new case every three seconds, or 9.9 million new cases of dementia each year. Since the incidence and prevalence of AD increase with age, the number of patients will grow significantly as society ages. Worldwide in 2015 there are 46.8 million people living with dementia and by 2050 it is expected that global patient numbers will triple to 131.5 million. It is estimated that the annual societal and economic cost of dementia has risen from US$ 604 billion in 2010 to US$ 818 billion in 2015. In the US, AD is now the 6th leading cause of death across all ages and is the fifth leading cause of death for those aged 65 and older.

About AC Immune

AC Immune is a leading Swiss-based biopharmaceutical company focused on neurodegenerative diseases with three products in clinical trials. The Company designs, discovers and develops therapeutic and diagnostic products to prevent and modify diseases caused by misfolding proteins. AC Immune's two proprietary technology platforms create antibodies, small molecules and vaccines to address large markets across a broad spectrum of neurodegenerative indications. Alzheimer's disease (AD) is the largest indication addressed by its products but the company's innovative, highly differentiated and disease-modifying therapies are designed to shift the paradigm in the treatment of other neurodegenerative diseases such as Parkinson's, Down syndrome, and glaucoma. The Company has a large, diversified and promising pipeline featuring seven therapeutic and three diagnostic products. The most advanced of these is crenezumab, an anti-Abeta antibody in phase 3 that is licensed to Genentech. Crenezumab was chosen by the US National Institute of Health for use in the first-ever AD prevention trial. The company has partnered three programs targeting Tau: ACI-35 with Janssen (therapeutic vaccine, phase 1b), Tau-PET imaging agent with Piramal (Alzheimer's diagnostic agent) and anti-Tau-

antibodies with Genentech (preclinical). The anti-Abeta vaccine ACI-24 phase 1/2a in AD and phase 1b in DS trials are run in house.

About UC San Diego Down Syndrome Research and Treatment Center

Established in 2009, the Center's efforts focus on defining the genes and mechanisms responsible for the cognitive challenges faced by people with Down syndrome. Studies are carried out in both mouse models and in mouse and human cellular models. The insights derived support translation of basic science findings into new treatments, using either existing drugs or through drug discovery. The Center's work has resulted in conceptual innovations and several novel treatment targets and has inspired existing trials as well as the clinical study announced in this press release (supported by an NIH grant under award number R01AG047922). The Center is supported by the NIH and private foundations, including the LuMind Research Down Syndrome Foundation, the Alzheimer's Association, the Tau Consortium and the Cure Alzheimer Fund.

About PLOS ONE

The world's first multidisciplinary Open Access journal, PLOS ONE accepts scientifically rigorous research, regardless of novelty. PLOS ONE's broad scope provides a platform to publish primary research including interdisciplinary and replication studies as well as negative results. The journal's publication criteria are based on high ethical standards and the rigor of the methodology and conclusions reported.

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