ZyVersa Therapeutics Highlights Published Study Reinforcing That Microglia-driven Inflammation Is Pivotal in Development of Parkinson's and Alzheimer's Diseases

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- Study results corroborate our recently published data demonstrating the critical role of microglial-driven inflammation in promoting accumulation and spread of toxic phosphorylated alpha-synuclein leading to neurodegeneration in Parkinson's Disease (PD).
- Our data showed that microglial inflammation was driven by activation of NLRP1 inflammasomes triggered by ASC specks and alpha-synuclein aggregates. Inflammasome ASC Inhibitor IC 100 inhibited NLRP1 inflammasome activation, thereby reducing the levels and spread of toxic phosphorylated alpha-synuclein.
- Our study was funded by a grant from the Michael J. Fox Foundation and conducted by leading neurologists and inflammasome experts at the University of Miami School of Medicine.

WESTON, Fla., May 20, 2025 (GLOBE NEWSWIRE) -- ZyVersa Therapeutics, Inc. (Nasdaq: ZVSA, or "ZyVersa"), a clinical stage specialty biopharmaceutical company developing first-in-class drugs for treatment of inflammatory and renal diseases, highlights newly published data further substantiating the potential of Inflammasome ASC Inhibitor IC 100 as a disease-modifying treatment for PD. There is a tremendous unmet medical need for therapeutic options that slow the progression of PD, which affects over 10 million people globally. Current therapies, which address symptoms, but not the underlying disease pathology, generated $6.6 billion globally in 2024, and are projected to generate $13.3 billion by 2034 (Precedence Research).

Published in Experimental and Molecular Medicine, a peer-reviewed journal from Nature, this study demonstrated that microglial-driven inflammation led to propagation of phosphorylated α-synuclein and tau proteins that leads to neurodegeneration and development and progression of Parkinson's and Alzheimer's diseases, respectively.

"We are thrilled to see a second study substantiating the critical need to control microglial inflammation to attenuate development and progression of Parkinson's disease," said Stephen C. Glover, ZyVersa's Co-founder, Chairman, CEO and President. "Our recent data demonstrated that IC 100 reduced microglial inflammation by inhibiting NLRP1 inflammasome activation and it improved clearance of toxic phosphorylated alpha synuclein. Unlike NLRP3 inhibitors, IC 100 blocks ASC, ASC specks, and multiple types of inflammasomes. Together, results from the two studies strengthen the evidence that IC 100 has potential to become a disease-modifying therapy for PD. We are preparing to initiate proof-of-concept studies in PD animal models later this year."

Study Highlights

- Microglial cells stimulated by alpha-synuclein or tau from neuronal cells shifted from homeostatic to an activated inflammatory state.
- Transplanting the inflammatory microglia into the striatum of naive mice resulted in abnormal accumulation of alpha-synuclein or tau, severe gliosis (scarring), and neuroinflammation.
- There was progressive spreading of the above-mentioned pathological changes beyond the injection site.
- The mice experienced progressive motor and cognitive deficits.

The authors concluded, "These findings conclusively demonstrate that microglia-driven inflammation alone can trigger the full range of pathological features observed in neurodegenerative diseases."

About Inflammasome ASC Inhibitor IC 100

IC 100 is a novel humanized IgG4 monoclonal antibody that inhibits the inflammasome adaptor protein ASC. IC 100 was designed to attenuate both initiation and perpetuation of the inflammatory response. It does so by binding to a specific region of the ASC component of multiple types of inflammasomes, including NLRP1, NLRP2, NLRP3, NLRC4, AIM2, and Pyrin. Intracellularly, IC 100 binds to ASC monomers, inhibiting inflammasome formation, thereby blocking activation of IL-1β early in the inflammatory cascade. IC 100 also binds to ASC in ASC Specks, both intracellularly and extracellularly, further blocking activation of IL-1β and the perpetuation of the inflammatory response that is pathogenic in inflammatory diseases. Because active cytokines amplify adaptive immunity through various mechanisms, IC 100, by attenuating cytokine activation, also attenuates the adaptive immune response. The lead indication for IC 100 is obesity with certain metabolic complications. To review a white paper summarizing the mechanism of action and preclinical data for IC 100, Click Here.

About ZyVersa Therapeutics, Inc.

ZyVersa (Nasdaq: ZVSA) is a clinical stage specialty biopharmaceutical company leveraging advanced proprietary technologies to develop first-in-class drugs for patients with inflammatory or kidney diseases with high unmet medical needs. We are well positioned in the rapidly emerging inflammasome space with a highly differentiated monoclonal antibody, Inflammasome ASC Inhibitor IC 100, and in kidney disease with phase 2

Cholesterol Efflux Mediator™ VAR 200. The lead indication for IC 100 is obesity and its associated metabolic complications, and for VAR 200, focal segmental glomerulosclerosis (FSGS). Each therapeutic area offers a “pipeline within a product,” with potential for numerous indications. The total accessible market is over $100 billion. For more information, please visit www.zyversa.com.

Cautionary Statement Regarding Forward-Looking Statements

Certain statements contained in this press release regarding matters that are not historical facts, are forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, and the Private Securities Litigation Reform Act of 1995. These include statements regarding management’s intentions, plans, beliefs, expectations, or forecasts for the future, and, therefore, you are cautioned not to place undue reliance on them. No forward-looking statement can be guaranteed, and actual results may differ materially from those projected. ZyVersa Therapeutics, Inc (“ZyVersa”) uses words such as “anticipates,” “believes,” “plans,” “expects,” “projects,” “future,” “intends,” “may,” “will,” “should,” “could,” “estimates,” “predicts,” “potential,” “continue,” “guidance,” and similar expressions to identify these forward-looking statements that are intended to be covered by the safe-harbor provisions. Such forward-looking statements are based on ZyVersa’s expectations and involve risks and uncertainties; consequently, actual results may differ materially from those expressed or implied in the statements due to a number of factors, including ZyVersa’s plans to develop and commercialize its product candidates, the timing of initiation of ZyVersa’s planned preclinical and clinical trials; the timing of the availability of data from ZyVersa’s preclinical and clinical trials; the timing of any planned investigational new drug application or new drug application; ZyVersa’s plans to research, develop, and commercialize its current and future product candidates; the clinical utility, potential benefits and market acceptance of ZyVersa’s product candidates; ZyVersa’s commercialization, marketing and manufacturing capabilities and strategy; ZyVersa’s ability to protect its intellectual property position; and ZyVersa’s estimates regarding future revenue, expenses, capital requirements and need for additional financing.

New factors emerge from time-to-time, and it is not possible for ZyVersa to predict all such factors, nor can ZyVersa assess the impact of each such factor on the business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. Forward-looking statements included in this press release are based on information available to ZyVersa as of the date of this press release. ZyVersa disclaims any obligation to update such forward-looking statements to reflect events or circumstances after the date of this press release, except as required by applicable law.

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