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Pasithea Therapeutics publishes study in Proceedings of the National Academy of Sciences (PNAS) that shows an increase in α5 integrin expression in ALS human and mouse brain tissue, and further demonstrates targeting α5 integrin results in improved survival and motor function

-- PAS-003 is a monoclonal antibody targeting α5/β1 integrin for the treatment of amyotrophic lateral sclerosis ("ALS") --

-- Lead α5/β1 integrin drug candidate to be selected in H2 2023 --

PALO ALTO, Calif. and MIAMI, Aug. 01, 2023 (GLOBE NEWSWIRE) -- Pasithea Therapeutics Corp. (NASDAQ: KTTA) ("Pasithea" or the "Company"), a biotechnology company focused on the discovery, research, and development of innovative treatments for central nervous system (CNS) disorders, today announced a publication in the internationally renowned scientific peer-reviewed journal Proceedings of the National Academy of Sciences (PNAS), related to its PAS-003 drug discovery program, that describes an increased expression of α5/β1 (α5) integrin on motor neurons in ALS human and mouse tissue, as well as the blockade of this integrin as a potential new approach to treat ALS patients.

The study entitled "Elevated α5 integrin expression on myeloid cells in motor areas in amyotrophic lateral sclerosis is a therapeutic target in ALS" can be found here: https://www.pnas.org/doi/10.1073/pnas.2306731120

The paper presents new findings from an interdisciplinary collaboration of scientific teams at Pasithea, the Mayo Clinic, and Oregon Health & Science University, combining results from human post-mortem tissues from ALS patients and from tissue samples from the superoxide dismutase-1 G93A mouse model of ALS ($SOD1^{G93A}$).

Key findings from the publication show:

- an increased expression of α5 integrin in motor pathways of the central and peripheral nervous system in post-mortem tissues from ALS patients with various clinical ALS phenotypes and disease duration;
- specificity of α5 integrin in ALS compared to other integrins;
- presence of α5 integrin-positive microglia, particularly in the zone of active and prior

neuronophagia;

- an increased expression of α5 integrin in microglia and macrophages in the SOD1^{G93A} mouse model of ALS linked to disease progression;
- the administration of a monoclonal antibody against α5 integrin increased survival in the SOD1^{G93A} mouse model of ALS compared to an isotype control; and
- the administration of a monoclonal antibody against α5 integrin improved motor function on behavioral testing in the SOD1^{G93A} mouse model of ALS compared to an isotype control.

“This work began at Stanford University, where we have spent decades studying integrin related targets,” commented Pasithea's Chairman, Dr. Larry Steinman. “It was especially gratifying to see the α5 antibody survival and behavioral benefits replicated at an independent CRO. I especially enjoyed our collaboration with the Mayo Clinic, the world’s leading ALS medical center, where we saw overwhelming evidence that in ALS patients α5 expression is upregulated in motor neurons and not in sensory neurons.”

Pasithea's CEO, Dr. Tiago Reis Marques commented, “We are excited to share these results with the ALS community as we seek to identify a treatment for this devastating disease. These results provide novel data on the role and spatial distribution of α5 integrin in ALS and provide efficacy data of anti-α5 integrin treatment in the SOD1^{G93A} mouse model, the gold standard preclinical ALS model. We believe this treatment may be used as a monotherapy or in combination with existing standard of care in both sporadic and genetic type of ALS. We continue to characterize various α5 antibodies and we aim to select the most optimized antibody as our lead candidate later this year (H2 2023).”

About PNAS

PNAS is one of the world's most-cited and comprehensive multidisciplinary scientific journals. The Proceedings of the National Academy of Sciences (PNAS), a peer-reviewed journal of the National Academy of Sciences (NAS), is an authoritative source of high-impact, original research that broadly spans the biological, physical, and social sciences.

ABOUT PAS-003

PAS-003 is a monoclonal antibody targeting α5/β1 integrin for the treatment of Amyotrophic Lateral Sclerosis (ALS) and other neurological diseases.

About Pasithea Therapeutics Corp.

Pasithea Therapeutics is a biotechnology company primarily focused on the discovery, research and development of innovative treatments for central nervous system (CNS) disorders and RASopathies. With an experienced team of experts in the fields of neuroscience, translational medicine, and drug development, Pasithea is developing new molecular entities for the treatment of neurological disorders, including Neurofibromatosis type 1 (NF1), Amyotrophic Lateral Sclerosis (ALS) and Multiple Sclerosis (MS).

Forward Looking Statements

This press release contains statements that constitute “forward-looking statements.” Forward-looking statements are subject to numerous conditions, many of which are beyond

the control of the Company. While the Company believes these forward-looking statements are reasonable, undue reliance should not be placed on any such forward-looking statements, which are based on information available to the Company on the date of this release. These forward-looking statements are based upon current estimates and assumptions and are subject to various risks and uncertainties, including, without limitation, those set forth in the Company's filings with the U.S. Securities and Exchange Commission (SEC). Thus, actual results could be materially different. The Company undertakes no obligation to update these statements whether as a result of new information, future events or otherwise, after the date of this release, except as required by law.

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