Alterity Therapeutics Announces Publication of Data Demonstrating ATH434 is Neuroprotective and Improves Motor Function

MELBOURNE, AUSTRALIA AND SAN FRANCISCO, USA – 15 July 2021: Alterity Therapeutics (ASX: ATH, NASDAQ: ATHE) ("Alterity" or "the Company"), a biotechnology company dedicated to developing disease modifying treatments for neurodegenerative conditions, today announced that *Movement Disorders,* the official journal of the International Parkinson and Movement Disorder Society, has published results from a study demonstrating that ATH434 reduces α-synuclein related neurodegeneration in a widely accepted murine model of Multiple System Atrophy (MSA)[1].

"The publication of data demonstrating that ATH434 preserves neurons while reducing α-synuclein in areas of pathology is exactly what we were hoping to see as we advance to clinical trials in MSA," said Alterity Chief Executive Officer David Stamler, M.D.,. "By targeting α-synuclein and excess brain iron in MSA, we believe that ATH434 can treat the underlying cause of this devastating disease which has no approved therapy. We remain on track to initiate our Phase 2 clinical trial of ATH434 in patients with MSA by the end of the calendar year."

The study was performed at the Laboratory for Translational Neurodegeneration Research, Department of Neurology, Medical University of Innsbruck in Austria, a leading laboratory of animal research in MSA, under the direction of Professor Nadia Stefanova.

The preclinical study showed that treatment with ATH434 was neuroprotective and improved motor function, independently confirming and extending previous findings from another academic laboratory, both in the same MSA model as well as animal models of Parkinson's Disease.[2,3] In preserving neurons, ATH434 reduced both the aggregated form of α-synuclein and the so-called toxic oligomeric form, which is thought to underlie the spreading of disease to other neurons. At the same time, ATH434 significantly reduced brain iron in areas of pathology, consistent with its mechanism of action.

Beyond these observations, the study also revealed for the first time that ATH434 preserved neurons in a region of the brain, called the striatum, that is known to be affected in patients with MSA. Importantly, ATH434 improved performance on diverse motor tests, including a beneficial

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[1] Heras-Garvin A, Refolo V, Schmidt C, et al. ATH434 Reduces α-Synuclein-Related Neurodegeneration in a Murine Model of Multiple System Atrophy. *Mov Disord.* 2021 Jul 8. doi: 10.1002/mds.28714. Epub ahead of print. PMID: 34236731.

[2] Finkelstein D, Stefanova N, Adlard P, et al. PBT434 Prevents α-synuclein Aggregation, Neuron Loss, Motor Dysfunction and Reduces Glial Cell Inclusions in a Transgenic Mouse Model of Multiple System Atrophy (P5.8-006). *Neurology* Apr 2019, 92 (15 Suppl) P5.8-006.

[3] Finkelstein, D.I., Billings, J.L., Adlard, P.A. *et al.* The novel compound PBT434 prevents iron mediated neurodegeneration and alpha-synuclein toxicity in multiple models of Parkinson's disease. *Acta Neuropathol Commun* **5,** 53 (2017). https://doi.org/10.1186/s40478-017-0456-2

effect on the "challenging beam" task, which is used to assess balance. This latter finding is especially relevant to patients with MSA, where impaired balance is a major source of disability.

The full publication can be found at the *Movement Disorders* journal website:
http://doi.org/10.1002/mds.28714

About Multiple System Atrophy

Multiple System Atrophy (MSA) is a rare, neurodegenerative disease with no approved therapy. It is rapidly progressive and causes profound disability. MSA is a Parkinsonian disorder characterized by motor impairment typical of Parkinson's disease; autonomic instability that affects involuntary functions such as blood pressure maintenance and bladder control; and impaired balance and/or coordination that predisposes to falls. MSA affects approximately 15,000 patients in the U.S. A pathological hallmark of MSA is the accumulation of α-synuclein within oligodendroglia cells (glial cytoplasmic inclusions) and neuron loss in multiple brain regions.

About ATH434

ATH434 is the first of a new generation of small molecule drug candidates designed to inhibit the accumulation and aggregation of pathological proteins implicated in neurodegeneration. Alpha-synuclein is a neuronal protein that aggregates in neurons and is considered an important biologic target for treating these neurodegenerative diseases. ATH434 has been shown to reduce abnormal accumulation of α-synuclein protein in animal models of disease by restoring normal iron balance in the brain. As a result, it has the potential to treat various disorders including Multiple System Atrophy (MSA), Parkinson's Disease, and Dementia with Lewy Bodies (DLB). ATH434 has been granted Orphan designation for the treatment of MSA by the U.S. Food and Drug Administration and the European Union.

About Alterity Therapeutics Limited

Alterity Therapeutics is a clinical stage biotechnology company dedicated to creating an alternate future for people living with neurodegenerative diseases. The Company's lead asset, ATH434, has the potential to treat various forms of Parkinsonian disorders. Alterity also has a broad drug discovery platform generating patentable chemical to intercede in disease processes. The Company is based in Melbourne, Australia, and San Francisco, California, USA. For further information please visit the Company's web site at www.alteritytherapeutics.com.

Authorisation & Additional information
This announcement was authorized by David Stamler, CEO of Alterity Therapeutics Limited.

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Forward Looking Statements

This press release contains "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. The Company has tried to identify such forward-looking statements by use of such words as "expects," "intends," "hopes," "anticipates," "believes," "could," "may," "evidences" and "estimates," and other similar expressions, but these words are not the exclusive means of identifying such statements.

Important factors that could cause actual results to differ materially from those indicated by such forward-looking statements are described in the sections titled "Risk Factors" in the Company's filings with the SEC, including its most recent Annual Report on Form 20-F as well as reports on Form 6-K, including, but not limited to the following: statements relating to the Company's drug development program, including, but not limited to the initiation, progress and outcomes of clinical trials of the Company's drug development program, including, but not limited to, ATH434, and any other statements that are not historical facts. Such statements involve risks and uncertainties, including, but not limited to, those risks and uncertainties relating to the difficulties or delays in financing, development, testing, regulatory approval, production and marketing of the Company's drug components, including, but not limited to, ATH434, uncertainties relating to the impact of the novel coronavirus (COVID-19) pandemic on the company's business, operations and employees, the ability of the Company to procure additional future sources of financing, unexpected adverse side effects or inadequate therapeutic efficacy of the Company's drug compounds, including, but not limited to, ATH434, that could slow or prevent products coming to market, the uncertainty of patent protection for the Company's intellectual property or trade secrets, including, but not limited to, the intellectual property relating to ATH434.

Any forward-looking statement made by us in this press release is based only on information currently available to us and speaks only as of the date on which it is made. We undertake no obligation to publicly update any forward-looking statement, whether written or oral, that may be made from time to time, whether as a result of new information, future developments or otherwise.