Alterity Therapeutics Announces Publication Demonstrating the Utility of Quantitative MRI as a Biomarker for Multiple System Atrophy

– Peer-reviewed study from the bioMUSE Natural History Study shows advanced MRI method detects disease-specific iron accumulation that supports diagnosis and correlates with clinical severity in patients with Multiple System Atrophy (MSA) –

– Findings support QSM as an objective imaging biomarker to enable earlier diagnosis and assess iron-modulating therapies in MSA, including Alterity's lead candidate ATH434 –

MELBOURNE, AUSTRALIA AND SAN FRANCISCO, USA – 11 May 2026: Alterity Therapeutics (ASX: ATH, NASDAQ: ATHE) ("Alterity" or "the Company"), a biotechnology company dedicated to developing disease modifying treatments for neurodegenerative diseases, today announced the publication of a peer-reviewed study in *NeuroImage*, a leading journal in human brain imaging, demonstrating that quantitative susceptibility mapping (QSM) MRI can detect disease-specific iron accumulation in the brains of patients with Multiple System Atrophy (MSA), distinguish MSA from Parkinson's disease, and track clinical disease severity — including in early-stage disease.

The publication, entitled "Quantitative Imaging of Iron Dysregulation in Multiple System Atrophy," utilizes longitudinal data generated through Alterity's Biomarkers of Progression in Multiple System Atrophy (bioMUSE) Natural History Study, together with additional cross-sectional MSA, Parkinson's Disease (PD), and healthy control data. The study was led by investigators at Vanderbilt University Medical Center in collaboration with Alterity Therapeutics, and is available online (here).

"The bioMUSE study was designed to give us tools we could implement in our clinical program, and QSM is one of the valuable tools we identified," said David Stamler, M.D., Chief Executive Officer of Alterity. "We used this imaging approach in our Phase 2 trial of ATH434, where it improved diagnostic accuracy and provided objective evidence of target engagement. This peer-reviewed publication validates our approach and reinforces the role of QSM as a biomarker for iron-modulating therapies in MSA."

The study analyzed high-resolution structural and QSM MRI data from 10 MSA patients followed prospectively for 12 months, and cross-sectional data from 28 MSA patients, 43 PD patients, and 23 age-matched healthy controls.
Key findings include:

- **Disease-specific iron accumulation.** MSA patients showed significantly higher iron content in the lentiform nucleus — comprising the globus pallidus and putamen — versus both healthy controls and PD (all $p<0.05$), with the most pronounced effect in the globus pallidus.
- **Differentiation from Parkinson's disease.** Iron content in the globus pallidus distinguished MSA from PD with moderate-to-good accuracy (AUC = 0.76–0.79), with comparable performance in the early-stage subgroup — a setting in which clinical misdiagnosis is common.
- **Correlation with clinical severity.** Higher iron content was significantly correlated with greater overall disease severity on the Unified Multiple System Atrophy Rating Scale (UMSARS), linking the imaging measure directly to patients' functional and motor impairment.
- **Longitudinal progression.** In preliminary 12-month analyses of the early-stage bioMUSE cohort, both the magnitude and spatial extent of abnormal iron accumulation increased progressively, paralleling clinical decline.

"These data show that iron dysregulation in MSA is measurable, regionally specific, tied to clinical severity, and progressive even in early disease," said Daniel O. Claassen, M.D., M.S., senior author of the publication, Professor of Neurology at Vanderbilt University Medical Center, and Chief Medical Advisor of Alterity. "QSM provides an objective imaging signature that can help confirm the diagnosis of MSA and connect what we see in the brain to how patients are functioning. Quantifying iron burden at the individual patient level and monitoring change over 12 months has provided important insights into MSA pathology and has led to further insights into the mechanism of ATH434. I look forward to the continued application of this technology in future clinical trials."

Alterity continues to advance ATH434 into a Phase 3 program for MSA. The Company has received positive feedback from the U.S. Food and Drug Administration (FDA) following two recent Type C meetings, with alignment reached on clinical pharmacology and non-clinical development as well as the chemistry, manufacturing, and control (CMC) elements of the program. Alterity remains on track to hold its End-of-Phase 2 meeting with the FDA in mid-2026, the next key step toward initiation of a pivotal Phase 3 trial in MSA.

About ATH434

Alterity's lead candidate, ATH434, is an oral agent designed to reduce iron accumulation and inhibit abnormal protein aggregation associated with neurodegeneration. ATH434 has been shown to reduce α-synuclein pathology and preserve neuronal function by restoring normal iron balance in the brain in preclinical models. As an iron chaperone, it has excellent potential to treat Parkinson's disease as well as various Parkinsonian disorders such as Multiple System Atrophy (MSA). Positive results from the randomized, double-blind, placebo-controlled Phase 2 clinical

trial in patients with MSA demonstrated robust clinical efficacy, target engagement as indicated by key biomarkers, and a favorable safety profile. Positive data from a second Phase 2 open-label biomarker trial in patients with more advanced MSA reinforced these results. ATH434 has been granted Fast Track Designation by the U.S. Food and Drug Administration (FDA), and Orphan Drug Designation by the FDA and the European Commission for the treatment of MSA.

About bioMUSE

Biomarkers of progression in Multiple System Atrophy (bioMUSE) is a natural history study that aims to track the progression of individuals with MSA, a parkinsonian disorder without an approved therapy. The study is being conducted in collaboration with Vanderbilt University Medical Center in the U.S. under the direction of Daniel Claassen, M.D., M.S., Professor of Neurology and Principal Investigator. Natural history studies are important for characterizing disease progression in selected patient populations. The study has provided rich data for optimizing the design of Alterity's randomized ATH434-201 Phase 2 clinical trial and enrolled approximately 20 individuals with clinically probable or clinically established MSA. BioMUSE continues to provide vital information on early stage MSA patients, informs the selection of biomarkers suitable to evaluate target engagement and preliminary efficacy, and delivers clinical data to characterize disease progression in a patient population that mirrors those currently enrolling in the Phase 2 clinical trial.

About Multiple System Atrophy

Multiple System Atrophy (MSA) is a rare, neurodegenerative disease characterized by failure of the autonomic nervous system and impaired movement. The symptoms reflect the progressive loss of function and death of different types of nerve cells in the brain and spinal cord. It is a rapidly progressive disease and causes profound disability. MSA is a Parkinsonian disorder characterized by a variable combination of slowed movement and/or rigidity, autonomic instability that affects involuntary functions such as blood pressure maintenance and bladder control, and impaired balance and/or coordination that predisposes to falls. A pathological hallmark of MSA is the accumulation of the protein α-synuclein within glia, the support cells of the central nervous system, and neuron loss in multiple brain regions. MSA affects up to 50,000 individuals in the U.S., and while some of the symptoms of MSA can be treated with medications, currently there are no drugs that are able to slow disease progression and there is no cure.[1]

[1] Multiple System Atrophy | National Institute of Neurological Disorders and Stroke (nih.gov)

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 is focused on developing disease modifying therapies in Multiple System Atrophy (MSA) and related Parkinsonian

disorders. Alterity is preparing to initiate a Phase 3 pivotal trial in MSA, a rare and rapidly progressive disease. ATH434, the Company's lead asset, has demonstrated clinically meaningful efficacy in a randomized, double-blind, placebo-controlled Phase 2 clinical trial in participants with MSA. Alterity has further reported positive data in its open label Phase 2 clinical trial in participants with advanced MSA. In addition, Alterity has a broad drug discovery platform generating patentable chemical compounds to treat the underlying pathology of neurological diseases. The Company is based in Melbourne, Australia, and San Francisco, California, USA. For further information please visit the Company's website at https://alteritytx.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, 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 obtaining patent protection for the Company's intellectual property or trade secrets, the uncertainty of successfully enforcing the Company's patent rights and the uncertainty of the Company freedom to operate.

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.