David Stamler, MD
CEO

April 2025

Alterity THERAPEUTICS

Forward Looking Statements

This presentation may contain some statements that may be considered “Forward-Looking Statements”, within the meaning of the US Securities Laws. Thus, any forward-looking statement relating to financial projections or other statements relating to the Company’s plans, objectives, expectations or intentions involve risks and uncertainties that may cause actual results to differ materially. For a discussion of such risks and uncertainties as they relate to us, please refer to our 2024 Form 20-F, filed with US Securities and Exchange Commission, in particular Item 3, Section D, titled “Risk Factors.’’

Alterity is dedicated to creating an alternate future for people living with neurodegenerative diseases

Alterity means **the state of being different**

Our goal is to **modify the course of disease**

We aim to **disrupt the trajectory** of illness and improve quality of life

Investment Highlights

- Clinical stage biopharmaceutical company developing disease modifying treatments for Parkinson's disease and related disorders
- ***Positive Phase 2 data in Jan '25 in Multiple System Atrophy, a Parkinsonian Disorder without approved therapy***
  - Robust efficacy on key clinical endpoint
  - Orphan Drug Designation in U.S. and Europe
  - Up to 50,000 patients in the U.S.
- Strong patent portfolio
- Highly experienced leadership team in movement disorders including 3 FDA approvals in neurology

Experienced Clinical Leadership Team with Multiple FDA Approvals in Neurology

David Stamler, M.D.

Chief Executive Officer

Auspex/Teva | Abbott | Prestwick Xenoport | Fujisawa

- **3 FDA Approvals in Neurology**
- Former CMO, Auspex
- VP, Clinical Development & Therapeutic Head, Movement Disorders, Teva Pharmaceuticals
- Part of Teva's US$3.5 billion acquisition of Auspex in 2015
- Led development of AUSTEDO® (deutetrabenazine) for treatment of Huntington disease and Tardive dyskinesia, both approved in 2017

Margaret Bradbury, Ph.D.

VP, Nonclinical Development

Auspex/Teva | Neurocrine | Merck

- Auspex - led strategic planning and program management in Huntington Disease chorea from IND through NDA filing
- Teva - led non-clinical development of several neuroscience programs

Cynthia Wong, M.P.H.

Senior Director, Clinical Operations

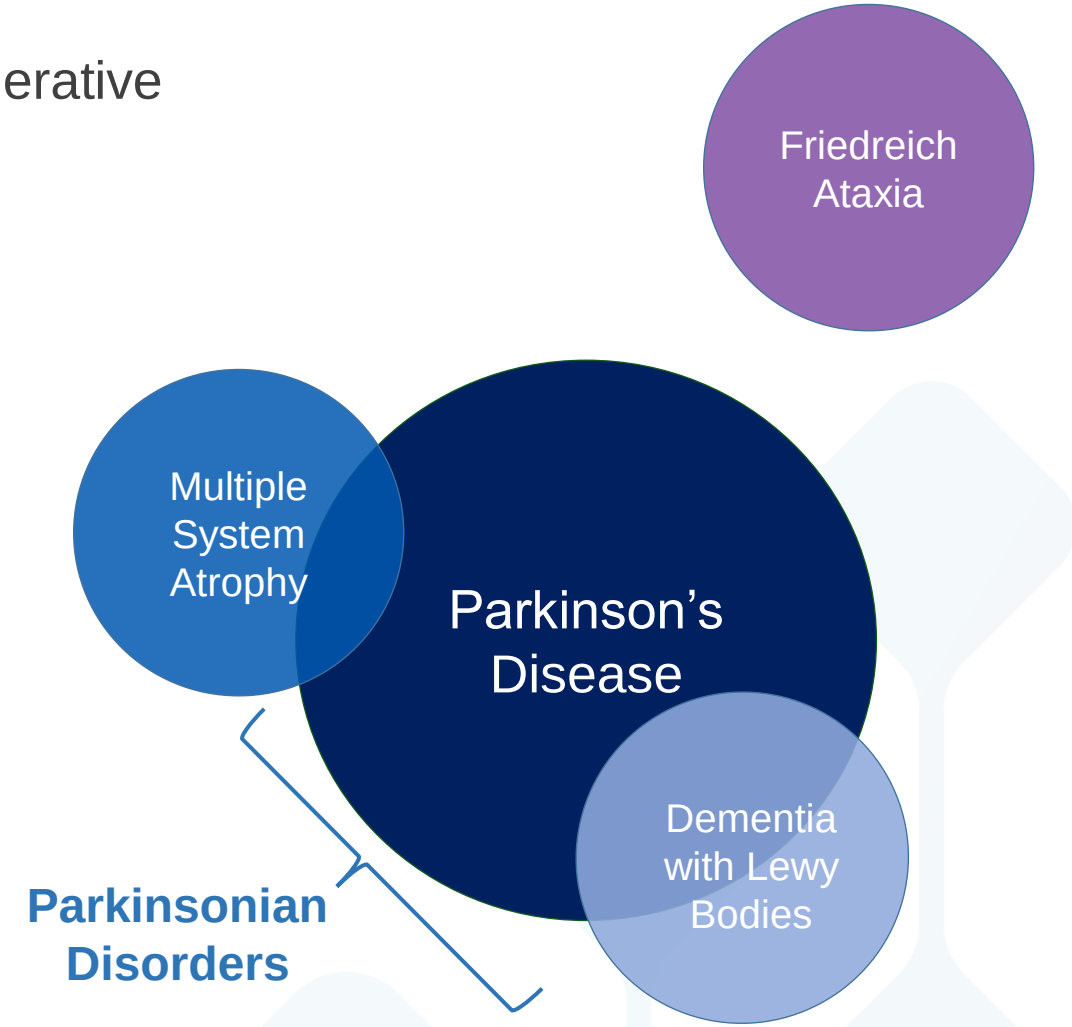
Auspex/Teva | Nextwave | Astex | Intermune | Impax Labs

- Clinical Operations leadership at Auspex/Teva.
- Led clinical trial activities for the registration study of AUSTEDO® in Huntington Disease chorea.
- Prior, led Phase 1-3 studies, including registration studies for marketing approval for Quillichew ER, Esbriet and Infergen.

Targeting Iron-Related Neurodegenerative Diseases

- Iron: Central to pathology of several neurodegenerative diseases
- Parkinsonian disorders include
  - Parkinson's disease (PD)
  - Rare diseases with similar motor symptoms
    - ➢ Multiple System Atrophy (MSA) – Lead Indication
    - Dementia with Lewy Bodies (DLB)
  - Similar underlying pathology

- Friedreich's Ataxia
  - Rare disease with uncoordinated movements
  - Genetic disorder that appears in childhood



Promising Portfolio in Neurodegenerative Diseases

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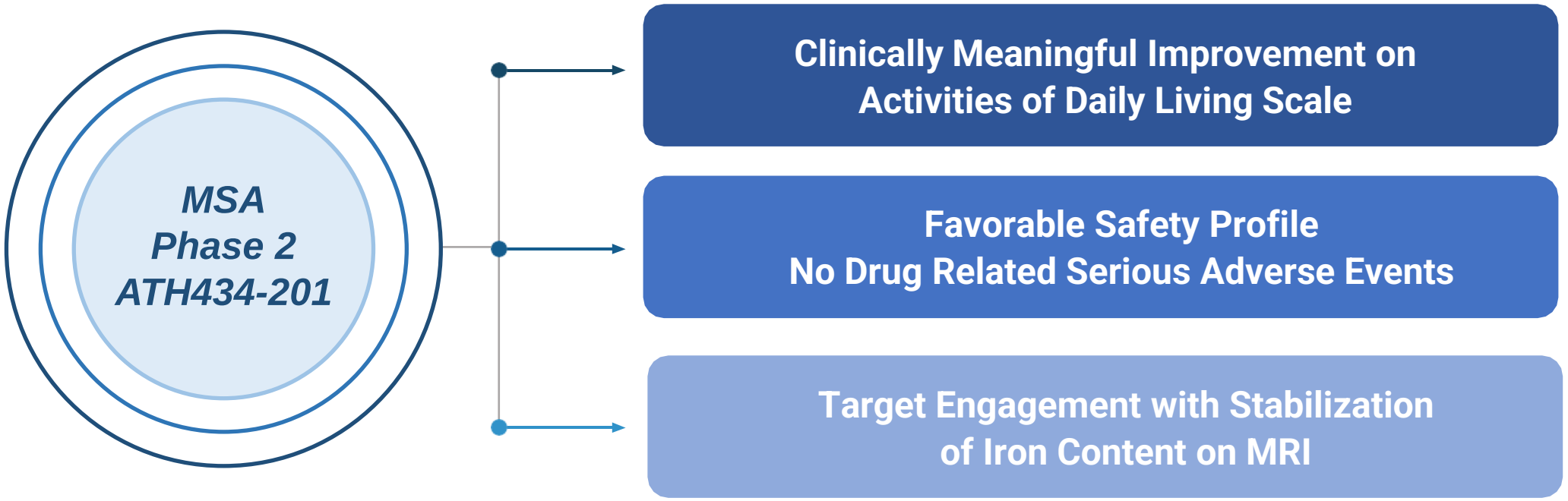
ASSET		PHASE					PARTNER
PROGRAM	**INDICATION**	**DISCOVERY**	**PRE-CLINICAL**	**NATURAL HISTORY**	**PHASE 1**	**PHASE 2**	**PARTNER / COLLABORATOR**
ATH434-201	Multiple System Atrophy				*Positive Topline Data*		
ATH434-202	Multiple System Atrophy *Advanced*				*Enrollment Complete*		
ATH434	Parkinson's Disease						THE MICHAEL J. FOX FOUNDATION FOR PARKINSON'S RESEARCH
bioMUSE	Multiple System Atrophy *Natural History Study*						VANDERBILT UNIVERSITY MEDICAL CENTER
ATH434	Friedreich's Ataxia						
Drug Discovery	Neurodegenerative Diseases						

Double Blind Study Achieved Target Measures for Success with Exceptional Clinical Efficacy



Significant Commercial Opportunity in Treating Multiple System Atrophy

Substantial Unmet Need

Severely debilitating illnesses with no current treatments are ripe for new entrants targeting underlying pathology of the disease.

Unique MOA

Inhibition of protein aggregation is a novel mechanism of action that may prove to impact more than motor symptoms.

Strong Intent to Prescribe

Motivated by efficacy of treating the underlying disease and not just the symptoms, clinicians intend to offer ATH434 to most of their patients with MSA.

Ease of Use

Twice daily oral administration of ATH434 preferred by physicians

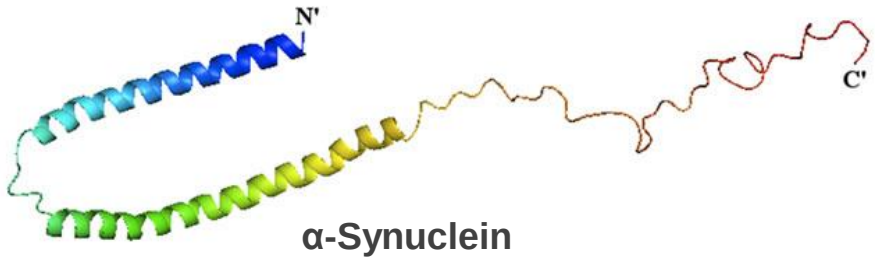
Source: Survey of U.S. neurologists, updated 2023

ATH434: Disease Modifying Drug Candidate Targeting Labile Iron and Alpha-Synuclein Aggregation in Parkinsonian Disorders

Alpha-Synuclein and Iron in Health

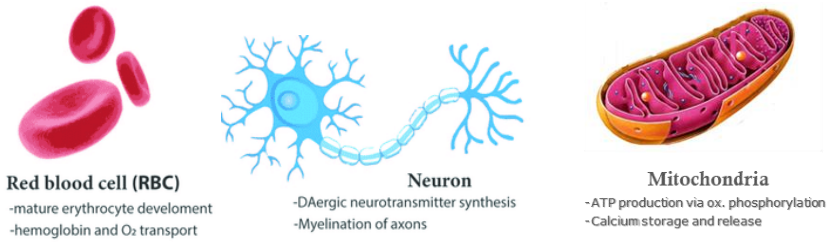
α-Synuclein protein

- Critical for normal function of neurons
- Enables nerves to communicate with each other via neurotransmitters



Iron essential for important cellular functions

- Red blood cell production, oxygen transport
- Energy production and activity of many enzymes
- Neurotransmitter synthesis in neurons



Sources: Ritchie et al, 2012; DOI:10.4236/health.2012.431175; Cronin et al, 2019, doi.org/10.3389/fmolb.2019.00116 (adapted)

Excess Iron and Misfolding α-Synuclein are Important Contributors to Pathology in Parkinsonian Disorders

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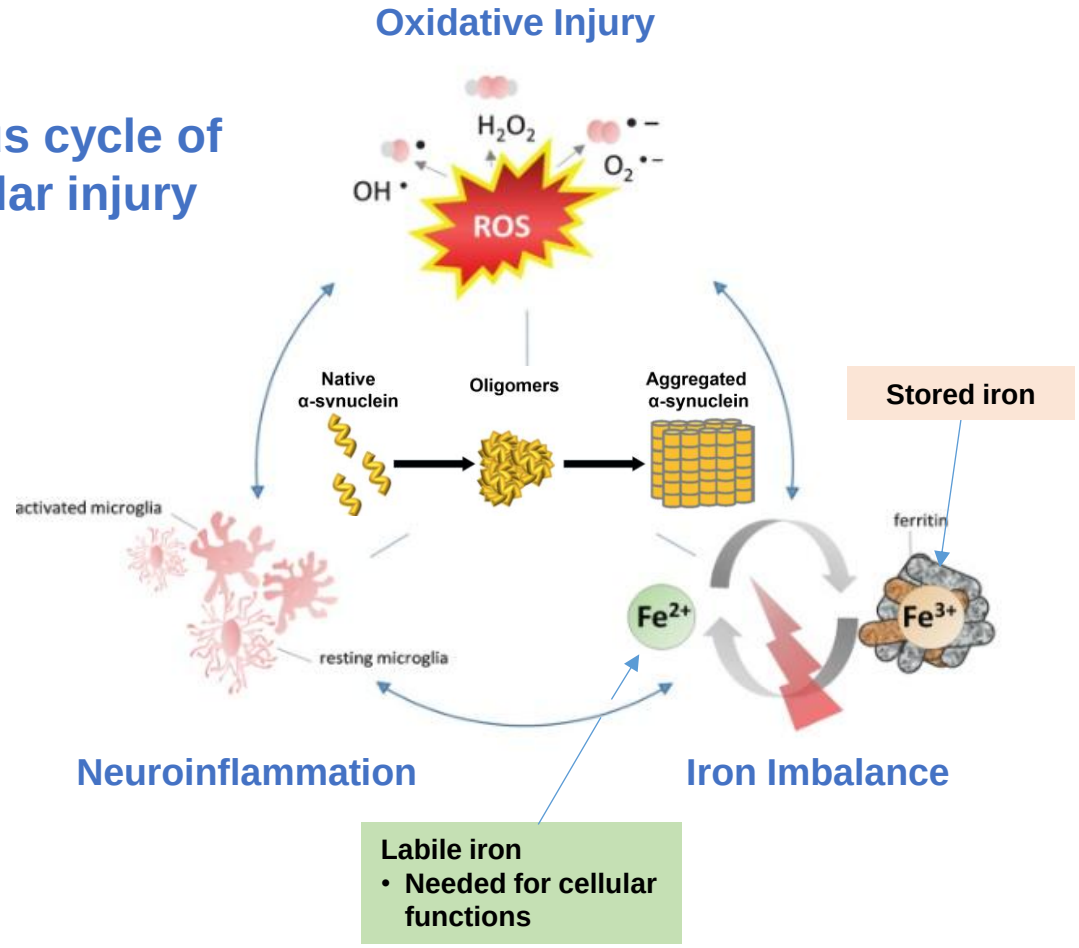
Vicious cycle of cellular injury

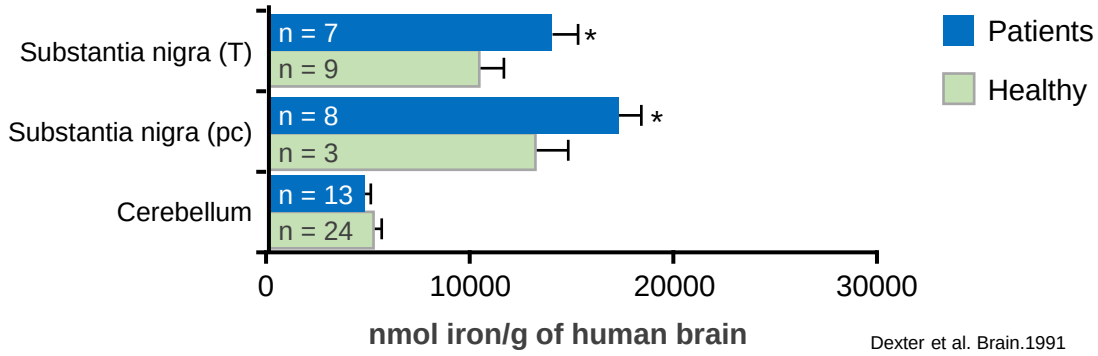


Pathology Driver	*Effect*
Excess labile iron	*Alpha-synuclein aggregation*
	Free radical production
	DNA, lipid, mitochondria damage
	Cell death
Aggregating α−synuclein	*Neuron dysfunction*
	Glial cell impairment / ↓ trophic support
	Additional free radical production
	Neuron and glial cell death

Sources: Kaindlstorfer, J. Alzheimers Dis. 2018; Bengoa-Vergniory N, Acta Neuropathol. 2017

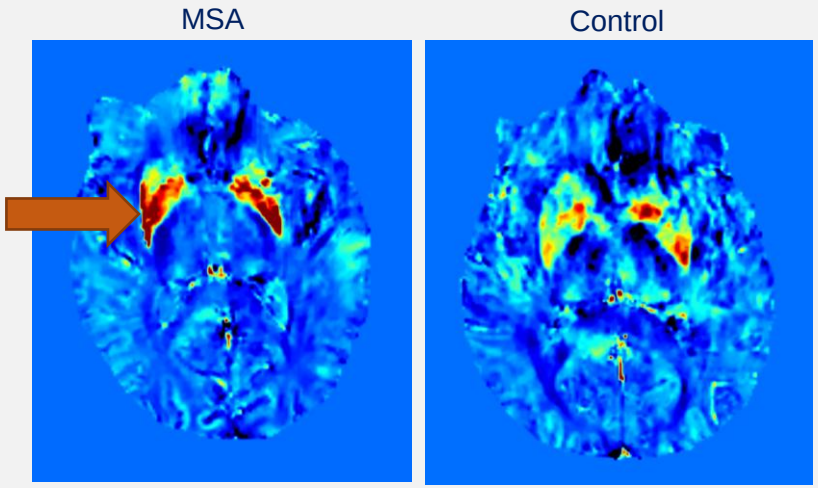
Increased Brain Iron in Parkinson's Disease and Multiple System Atrophy

Parkinson's disease



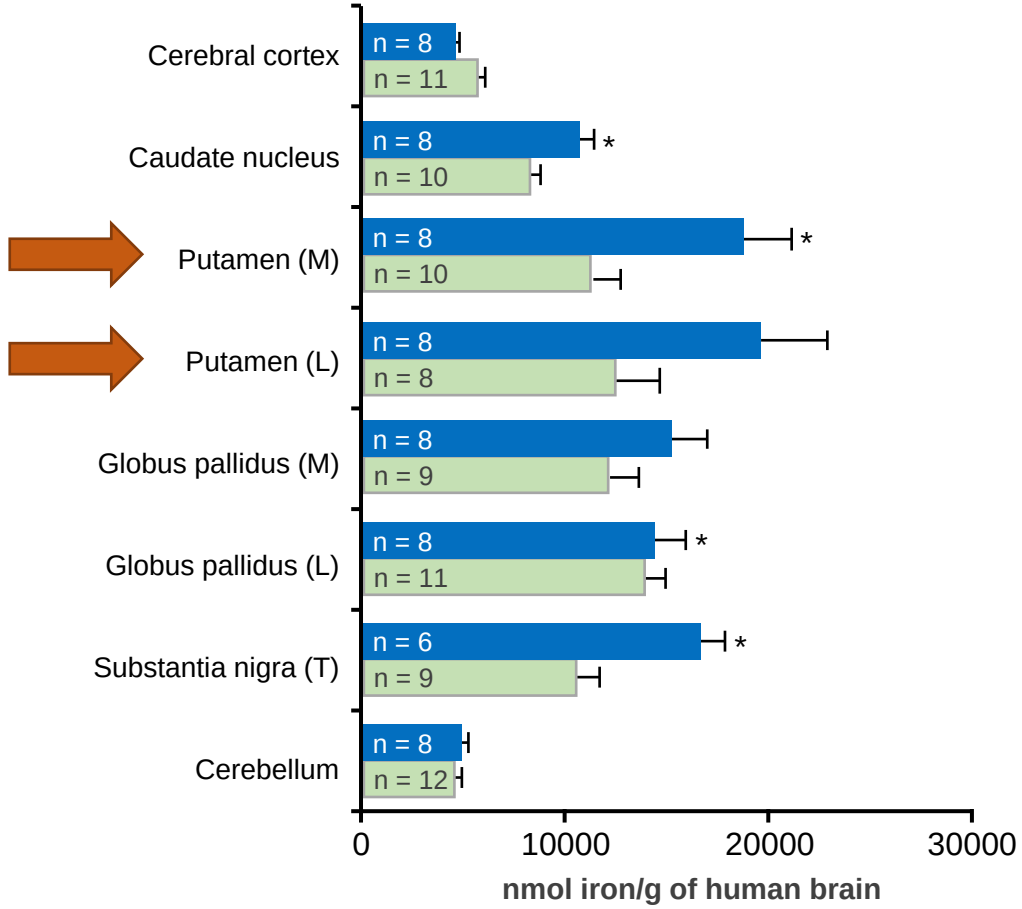
Dexter et al. Brain.1991

Advanced Quantitative MRI to measure brain iron

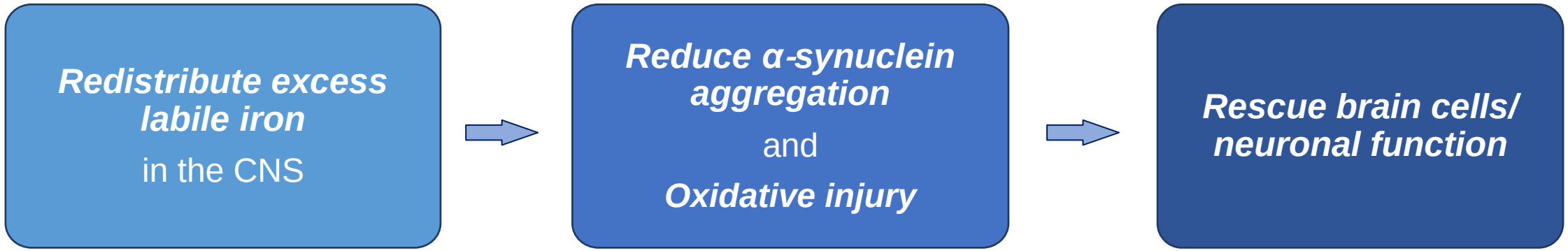


Courtesy of P. Trujillo, D. Claassen

Multiple System Atrophy



Treatment Approach: Address Underlying Pathology



Potential Disease Modifying Therapy for MSA

ATH434: Potential Disease Modifying Therapy

- Small molecule drug candidate
- Iron chaperone redistributes excess labile iron in CNS
- ***Oral medication***
  - Preferred over infusions and injections
- Potential to treat iron-related neurodegenerative diseases
- Orphan Drug Designation in the US and EU for MSA treatment
- Development pathway endorsed by FDA and EMA

ATH434 binding to iron

Accumulated Evidence of ATH434 Efficacy

Target Disease	Model	Midbrain* Iron	α-Synuclein	Preserve Neurons/ Function	Clinical Observations
Parkinson's disease	Monkey MPTP	↔ or ↓	n/a	↑	Improved motor performance
Parkinson's disease	Mouse MPTP	↓	↓	↑	Improved motor performance
Parkinson's disease	Mouse A53T	↓	↓	↑	Improved motor performance
Parkinson's disease	Mouse tau knockout	↓	↓	↑	Improved motor performance
MSA[1]	PLP-α-syn	↓	↓	↑	Improved motor performance
MSA[2]	PLP-α-syn	↔ or ↓	↓	↑	Improved motor performance

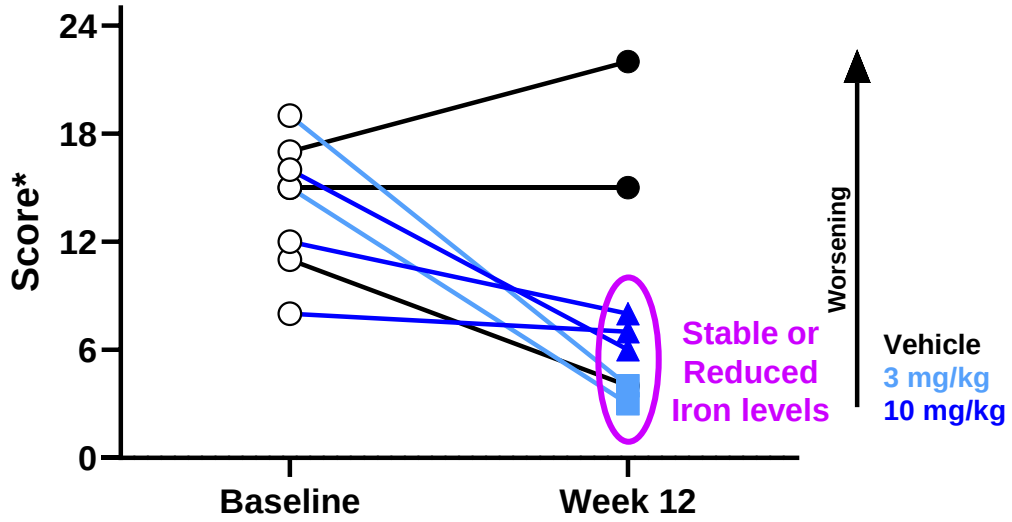
* includes s. nigra

ATH434 consistently improved motor performance across diverse animal models of disease by redistributing iron and preserving neurons

Source: Finkelstein, Acta Neuropath Comm 2017; Beauchamp et al, Neurotherapeutics 2022; 1 Heras-Garvin et al, Mov Disord. 2021; 2 Finkelstein et al, J Park Dis 2022; Bradbury et al, Am Acad. Neurol 2024

ATH434 Improved Behavior and Function in Monkey Model of Parkinson's Disease

All ATH434-treated Monkeys Improved (n=5)
Placebo: 2 of 3 had Stable or Worsening Scores



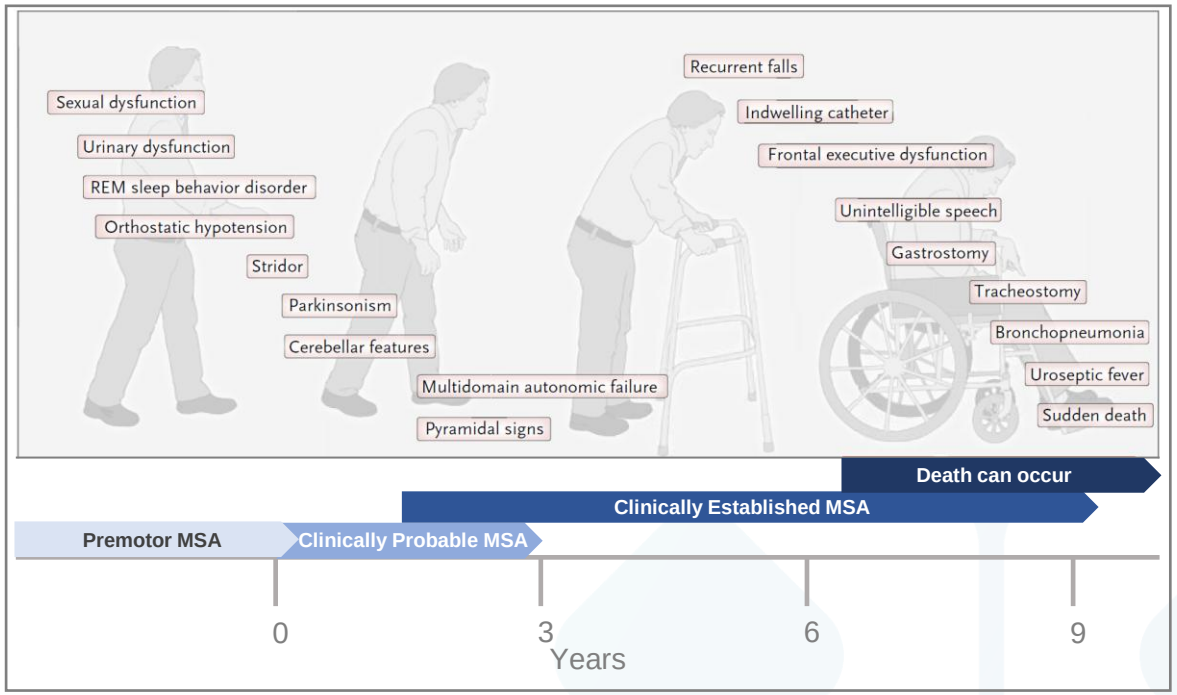
* Parkinson Behavior Rating Scale Subgroup 1 (0– 32):
Activity, appetite, appearance, posture, balance, response to food, climbing, tremor, freezing, facial expression, defensive reactions

- Monkey closely related to humans in neuroanatomy and behavior
- ATH434 improved behavior and function in monkeys with experimental Parkinson's disease
  - Improvement in Parkinson's symptoms in animals with redistributed brain iron
- Data validate clinical approach and increase overall confidence in ongoing Phase 2 trials

ATH434 Clinical Development Program in Multiple System Atrophy

Multiple System Atrophy (MSA): Parkinsonian Disorder with No Approved Treatment

- Rare, highly debilitating, rapidly progressive neurodegenerative disease
- Orphan disease: up to 50,000 patients in U.S.
- Disease characteristics
  - Motor: Parkinsonism, uncoordinated movements, balance problems, falls
  - Autonomic dysfunction: blood pressure maintenance, bladder control, bowel function
  - Brain atrophy and α-synuclein accumulation in multiple regions
- Over 50% require wheelchair in 5 years
- Median survival 7.5 years after symptom onset



Sources: Fanciulli, Wenning. NEJM 2015 | Wenning, et al. Mov Disorders 2022 | Coon, et al. Brain 2015 | Claassen,et al. Mov Disorders 2021 | Multiple System Atrophy: National Institute of Neurological Disorders and Stroke (nih.gov)

Our Diligent Approach to MSA Clinical Development Program to Achieve Meaningful Outcomes

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Phase 1 Program

- ATH434 achieved blood levels that exceed efficacious concentrations in animal models of MSA
- Twice-daily dosing
- Favorable safety profile

bioMUSE Natural History Study

- Observational study in individuals with MSA
- Designed to de-risk clinical development program
- Optimized patient selection for Phase 2 trials

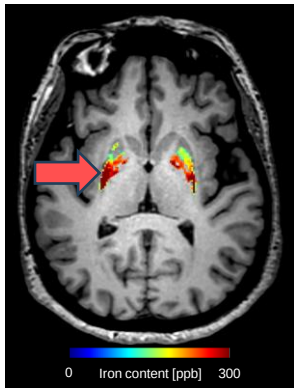
Phase 2 Program

- Double-blind trial in MSA demonstrated clinically meaningful efficacy and favorable safety
- Open label trial in advanced MSA showed improved neurological symptoms in less severe patients and favorable safety

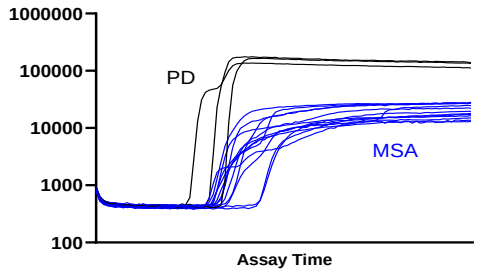
BioMUSE Natural History Study Informs and De-Risks Treatment Studies

Design	**Observational**
Objectives	Optimize selection of patients and endpoints for Phase 2
Population	**Clinically Probable MSA (n=21)**
Observation	12 months
MRI Biomarkers	Iron, volume, glial pathology
Fluid Biomarkers	NfL, Aggregated α-synuclein
Digital Biomarkers	Wearable movement sensors
Clinical Measures	ADLs (UMSARS I), global measures, autonomic function, motor function

Optimize Patient Selection in P2



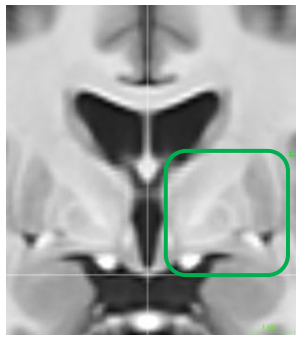
Iron signature of MSA



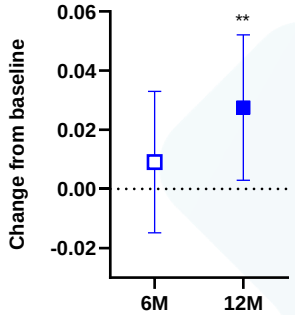
α-synuclein fluorescence pattern

Revised selection criteria in Phase 2 protocols to *exclude PD patients*

Precision Biomarker Assessments



Measure brain volumes with machine learning

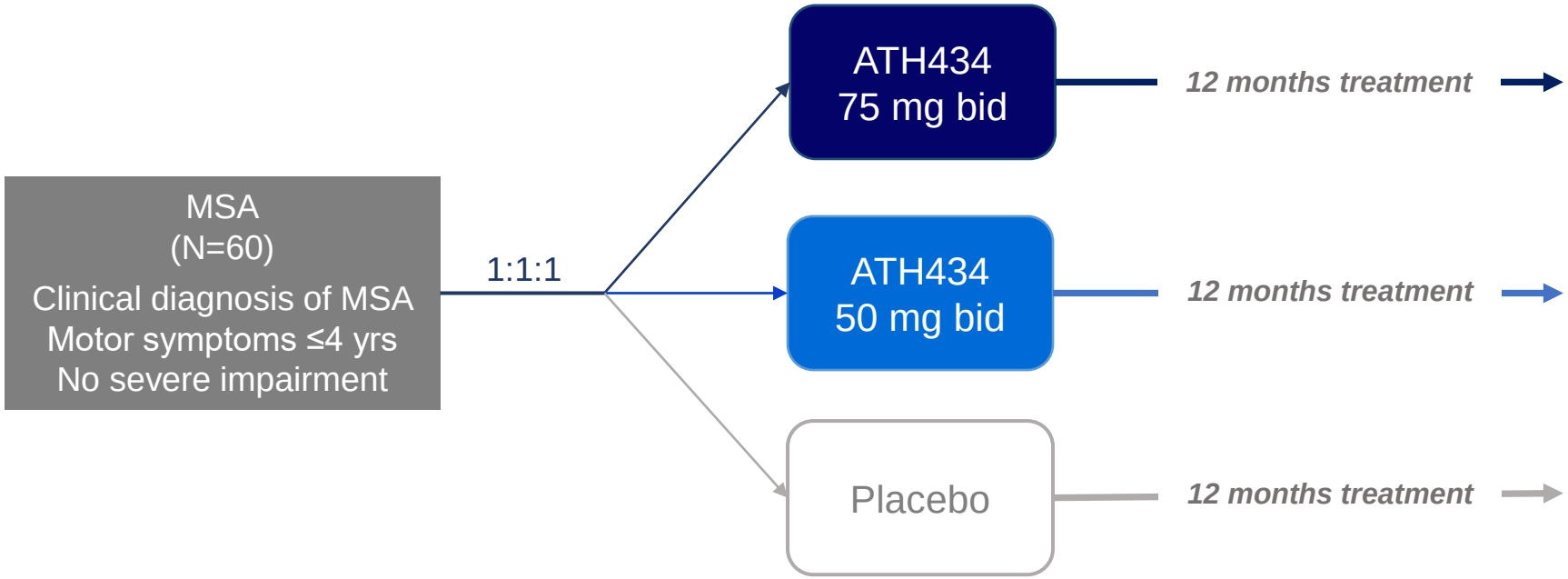


Optimize processing to implement in multicenter P2 study

State of the art methods to measure brain iron and volume with MRI

Positive Phase 2 Results in MSA

ATH434-201 Phase 2 Randomized, Double-blind, Placebo Controlled Trial



- Key Clinical Endpoint: Change in modified UMSARS Part I (activities of daily living)
- Key Biomarker Endpoint: Change in brain iron concentration by MRI

Baseline Characteristics

Parameter	Placebo (n = 19)	50mg BID (n = 21)	75mg BID (n = 21)	Overall (n = 61)
Age (y)	61.5 (7.0)	62.9 (6.3)	64.0 (6.3)	62.8 (6.5)
Gender (% male)	63.2%	57.1%	57.1%	59.0%
Race (% white)	94.7%	81.0%	95.2%	90.2%
Modified UMSARS I	16.8 (4.2)	15.4 (4.6)	14.4 (4.7)	15.5 (4.5)
NNIPPS motor score	57.9 (15.2)	48.6 (16.0)	49.1 (17.7)	51.7 (16.6)
NfL (plasma), pg/mL	35.4 (12.0)	31.7 (8.9)	32.4 (9.6)	33.1 (10.1)
Duration of motor symptoms (y)	2.6 (0.9)	2.6 (0.9)	2.4 (0.9)	2.5 (0.9)
Radiographic phenotype (% SND)	68.4%	52.4%	66.7%	62.3%
Severe orthostatic hypotension	5.3%	4.8%	28.6%	13.1%

Modified Intent-to-Treat (mITT) population
NfL: Neurofilament light chain

Mean (SD)

Importance of the Unified MSA Rating Scale Part I (UMSARS I)

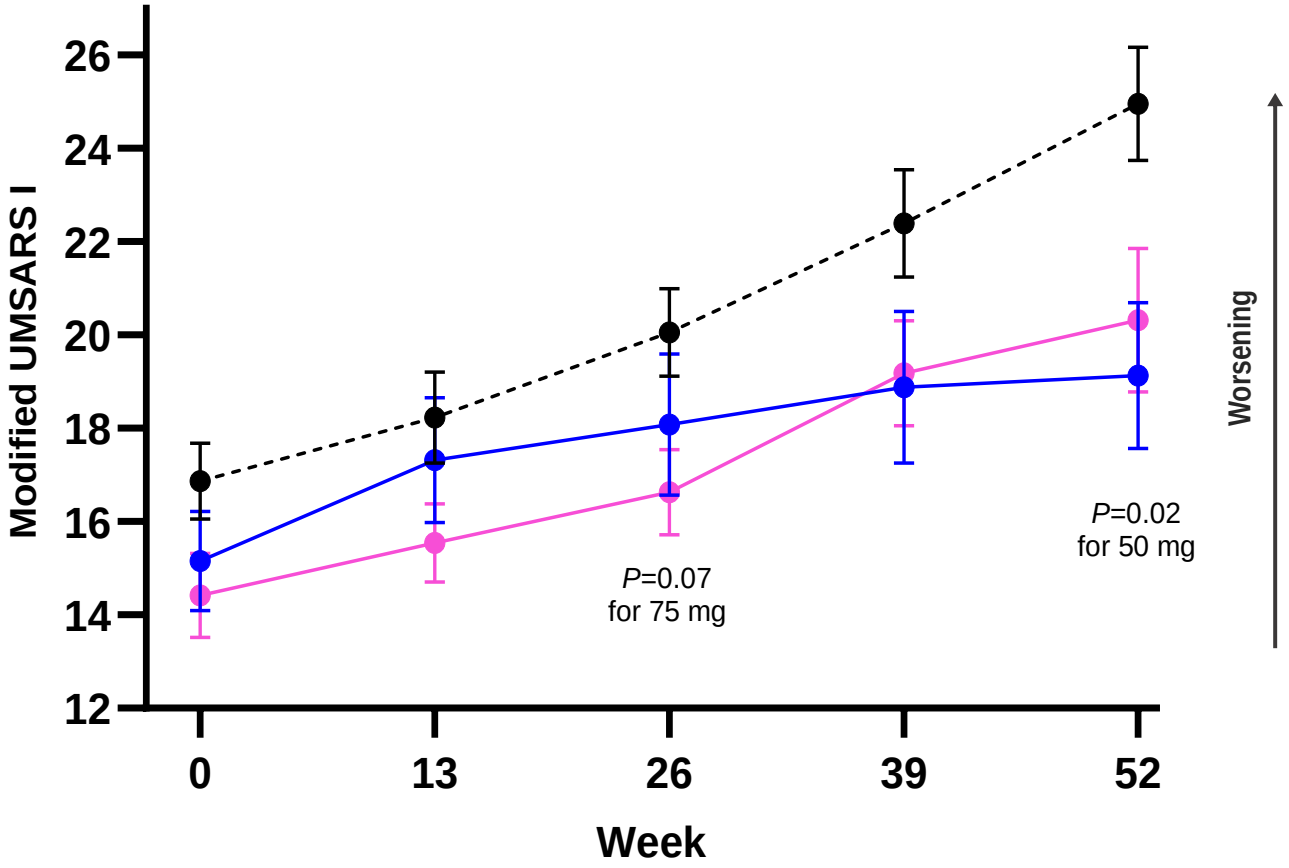
- Validated rating scale to assess MSA disease severity
- Rates functional impairment in areas affected in MSA
  - Symptom inventory of 12 items
  - Modified version used excludes sexual function
- Rated from 0 to 48 (higher scores worse)

- ***Most important clinical endpoint to support regulatory approval for treatment of MSA***

UMSARS Part I Items

- Speech
- Swallowing
- Handwriting
- Cutting food
- Dressing
- Hygiene
- Walking
- Falling
- Orthostatic symptoms
- Urinary Function
- Bowel Function
- [Sexual Function]

Clinically Significant Efficacy on Key Clinical Endpoint
Modified UMSARS Part I



Relative Treatment Effect* vs Placebo at 52 weeks	
50 mg bid	48%
75 mg bid	30%

$$* \frac{\text{Change}_{\text{ATH434}} - \text{Change}_{\text{Placebo}}}{\text{Change}_{\text{Placebo}}}$$

Both dose levels demonstrated a clinically meaningful treatment effect versus placebo at 12 months

Clinical Analysis Population

ATH434 Demonstrated Efficacy on Important Secondary Clinical Endpoints

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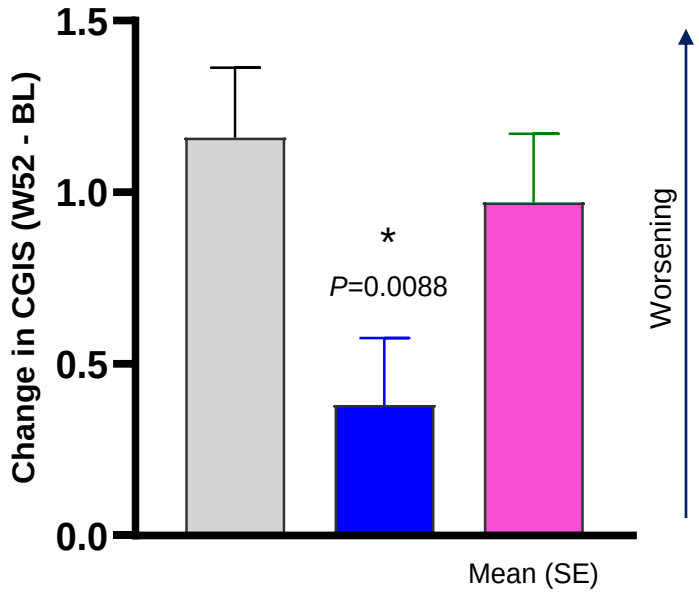
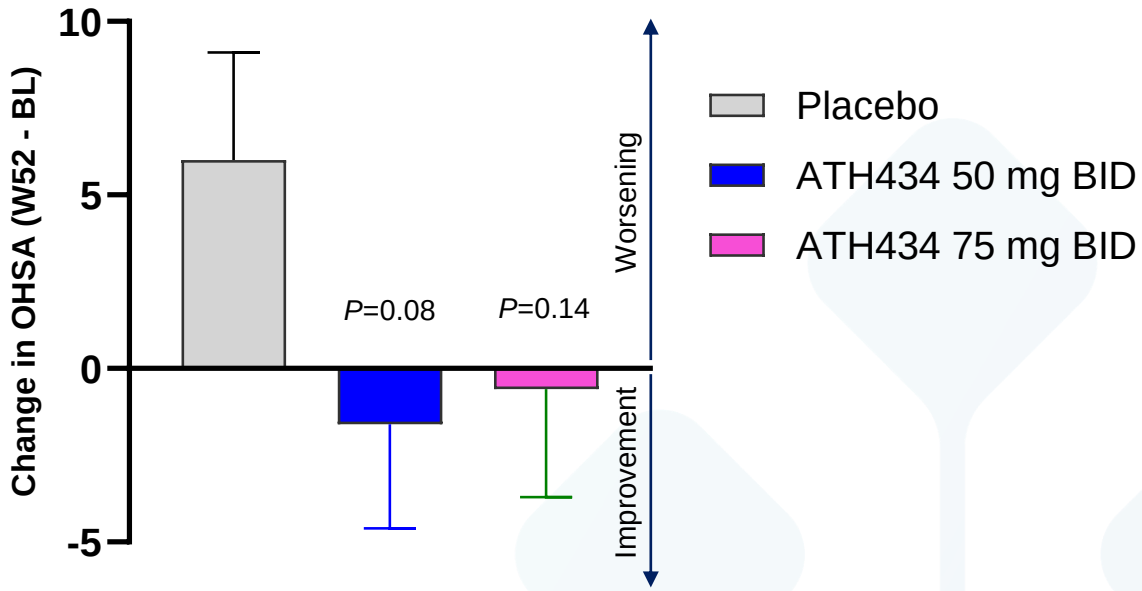
Clinical Global Impression of Severity



CGI-S is a single-item questionnaire that assesses total picture of subject over the prior month

Orthostatic Hypotension Symptom Assessment

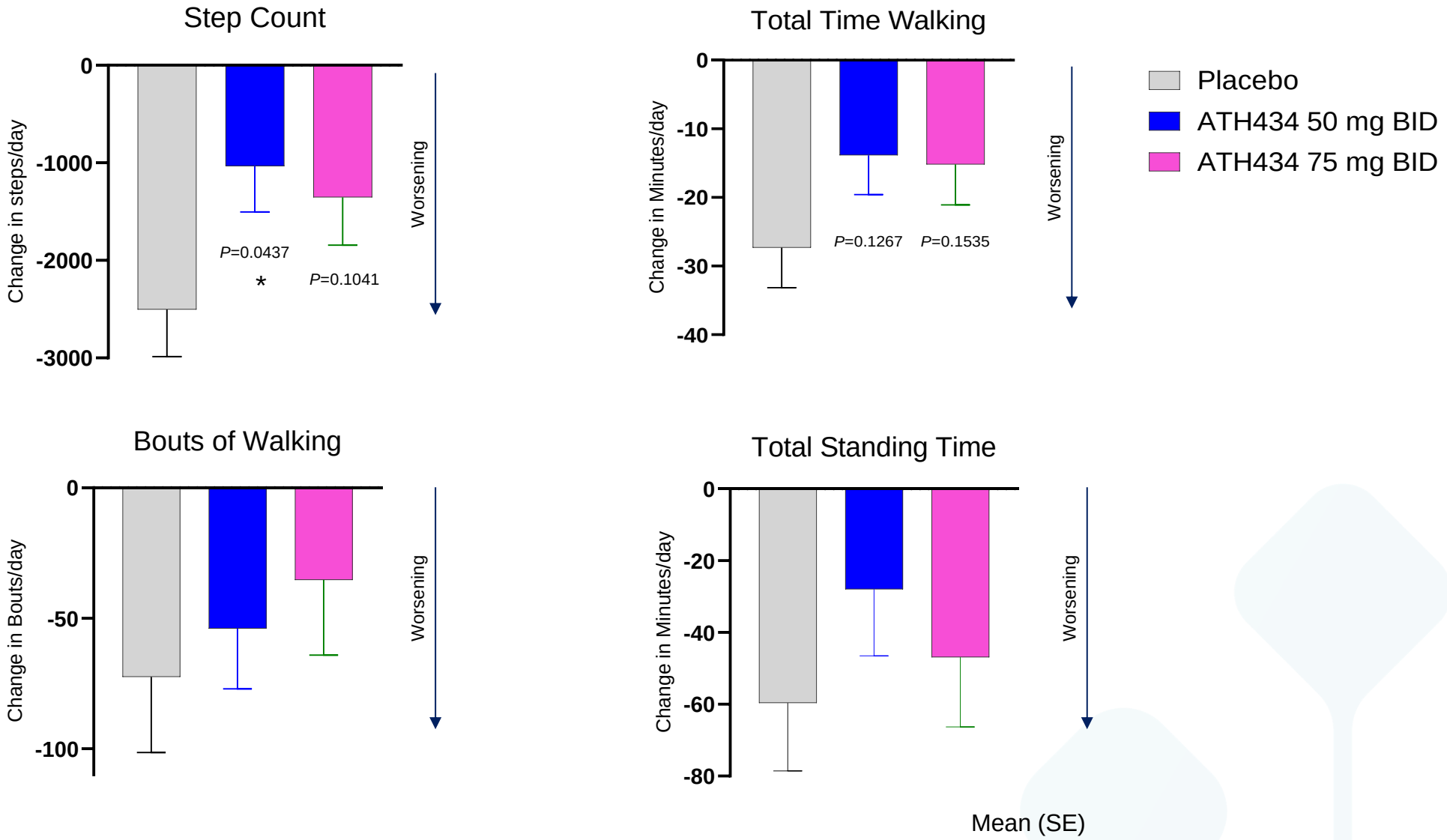


OHSA assesses six symptoms of OH, incl. dizziness, vision problems, weakness, fatigue, concentration, head and neck discomfort

Clinical Analysis Population

ATH434 Preserved Activity in Outpatient Setting

Change from Baseline to Week 52



Clinical Analysis Population

Mean (SE)

Adverse Events

Number (%) of Subjects[1]	Placebo BID (n=26)	50mg BID (n=25)	75mg BID (n=26)
Any Adverse Event (AE)	24 (92.3%)	21 (84.0%)	25 (96.2%)
AE by Severity			
Mild	10 (38.5%)	10 (40.0%)	8 (30.8%)
Moderate	6 (23.1%)	8 (32.0%)	11 (42.3%)
Severe	8 (30.8%)	3 (12.0%)	6 (23.1%)
Serious AEs[2]	10 (38.5%)	5 (20.0%)	7 (26.9%)

[1] Reporting one or more event
[2] None related to Study Drug

Most frequent Adverse Events

- UTI, fall, Covid-19, fatigue, back pain
- Similar rates across groups

Safety Population

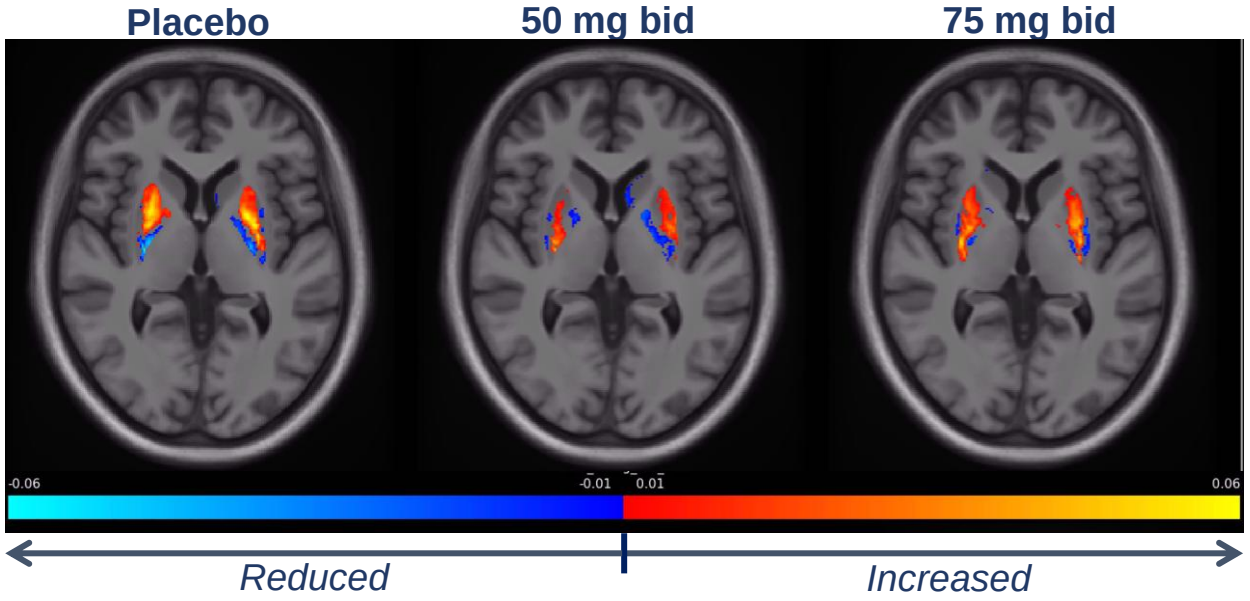
ATH434 Reduced Iron Accumulation Compared to Placebo

By-subject analysis

Region	50 mg BID		75 mg BID	
	Week 26	Week 52	Week 26	Week 52
Substantia nigra	↔	↓	↔	↔
Putamen	↓^	↓	↔	↔
Pallidum	↓	↓*	↓	↓

Compared to placebo: ↓ Reduced Iron content, ↔ No observable difference, ^ *P* = 0.025, * *P* = 0.08

Group Change in Iron Content (Week 52 − baseline)



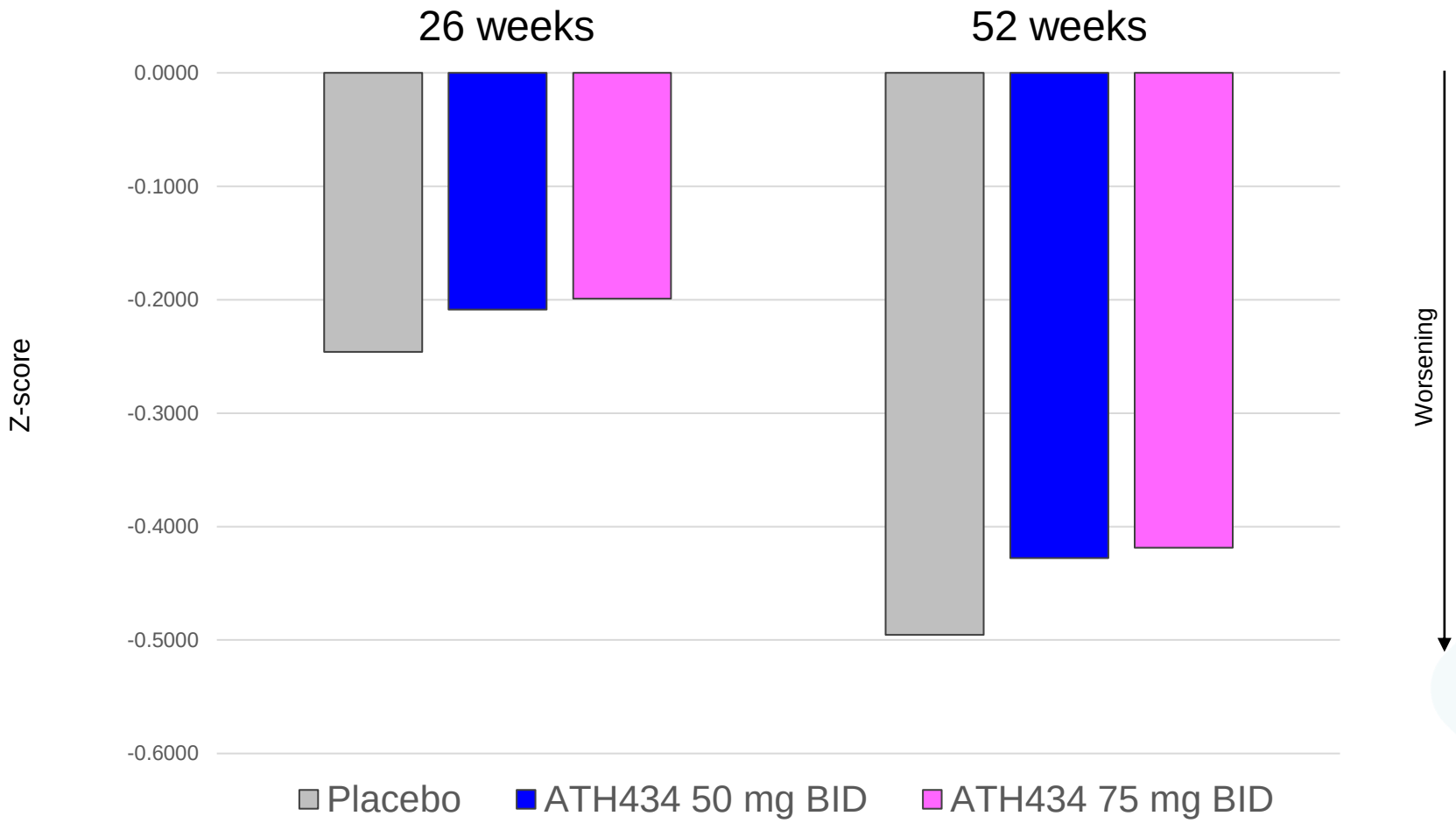
Imaging Analysis Population

By-subject analysis
- Evidence for stabilized iron content in Pallidum > Putamen
- No clear changes in s. nigra

Group analysis
- Reduced accumulation of iron in key regions over time in ATH434 treated patients compared to placebo

ATH434 Demonstrated Trends in Reduced Brain Atrophy

Change from Baseline in Brain Volume – MSA Atrophy Index^



^ Composite z-score of the putamen, globus pallidus, cerebellum and brainstem regions vs. healthy age-matched population

Imaging Analysis Population

Summary of Positive Phase 2 Trial Results

- ATH434 demonstrates clinically significant efficacy in modifying disease progression
- Robust efficacy on the UMSARS Activities of Daily living scale at both dose levels
- Evidence for efficacy on several additional clinical outcomes
- Baseline differences in pathology and disease severity may explain different response in ATH434 treatment groups
- ATH434 reduces iron signal in MSA affected brain regions
- Well tolerated with favorable safety profile

ATH434-202 Interim Data Support MSA Program
Advanced MSA

Design	**Single arm, open-label**
Objectives	Efficacy and safety of ATH434
Population	**Advanced MSA (n=10)**
Treatment	12 months
Brain MRI Biomarkers	Iron, volume, glial pathology
Fluid Biomarkers	NfL^, Aggregated α-synuclein
Clinical Measures	ADLs (UMSARS I), global measures, autonomic function, motor function

- Clinical response observed in progressive, unremitting disease
  - 30% had stable or improved overall neurological symptoms
- Objective biomarkers consistent with clinical findings
- ATH434 well-tolerated with no serious adverse events related to study drug
- Participants who stabilized or improved had less advanced disease

^NfL: Neurofilament light chain

Creating Strong Momentum in 2025

- Robust efficacy observed in Phase 2 double-blind trial
- Open label and Natural history studies support ATH434 clinical development approach
- Lead indication of MSA is an Orphan disease with no approved treatment
- Highly experienced development team with multiple FDA approvals in neurology
- Strong cash balance to advance clinical development and research
  - AU$4.5M as of 31 Dec
  - AU$14.9M raised via ATM (US) and Tranche One
  - AU$27.2M raised by Tranche Two

Current Upcoming Milestones	
ATH434-201 Topline Data	✓Q1 25
ATH434-202 Study complete	✓Q1 25
Data presentations at AAN	✓Q2 25
ATH434-202 Topline Data	Q2 25
Data presentations at MSA Congress	Q2 25
Data presentations at MDS	Q4 25
Data presentations at AAS	Q4 25
FDA End-of-Phase 2 Meeting	Q4 25

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ASX:ATH | NASDAQ:ATHE