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The ACT-AD trial and the related open-label extension for ACT-AD participants was supported by a grant from the National Institute on Aging of the National Institutes of Health under Award Number R01AG06268. The information presented in this press release is solely the responsibility of Athira and does not necessarily represent the official views of the National Institutes of Health.

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Investment highlights

Leveraging deep knowledge, broad IP, and HGF biology to develop potential first-in-class and next-generation small molecules to protect and repair neuronal networks

Strong balance sheet to support clinical programs through key inflection points

Leadership team with significant CNS product development and approval experience

Neurotrophic HGF system is critical to normal brain function and plays a key role in neurodegenerative diseases

Fully enrolled late-stage clinical trial of fosgonimeton in Alzheimer's disease (AD) with data expected in 2H24

- Factors that support the potential success of the Phase 2/3 LIFT-AD trial
 - Exploratory ACT-AD trial showed improvement across key AD indicators and informed LIFT-AD design
 - Independent unblinded interim analysis of LIFT-AD trial cleared stringent go/no go criteria; trial well powered to meet primary endpoint based on anticipated effect size
 - · Ongoing open label extension trial shows high participation rate and long duration of investigational treatment
 - Exploratory SHAPE trial* showed potential improvements in cognition in a different patient population treated with the same dose as being tested in the LIFT-AD trial
 - · Well-tolerated with a favorable safety profile
- Targeting the mild-to-moderate patient population representing an enormous opportunity likely
 >3M in US alone

Robust pipeline of proprietary small molecules targeting HGF biology

 Restoring the impaired HGF system in disease states has the potential to treat Alzheimer's, Parkinson's, ALS, neuropathic pain, and other neurological diseases



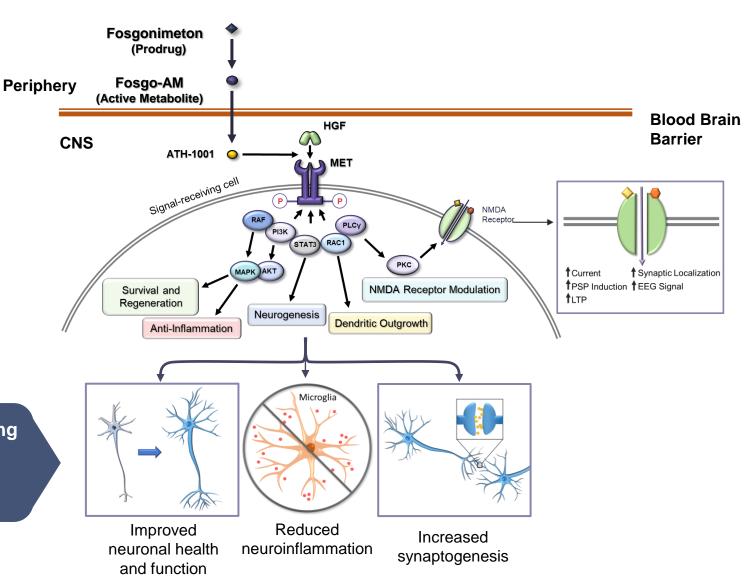
HGF is a critical neuroprotective system

THE ROLE OF HGF IN THE NERVOUS SYSTEM HAS BEEN EXPLORED THROUGH 30 YEARS OF RESEARCH*

HGF/MET signaling is a multimodal signaling pathway

- Activation of MET leads to activation of multiple kinase signaling cascades
- These signaling events influence neuron health, morphology, inflammatory response, and function

Fosgonimeton-enhanced HGF/MET signaling has the potential to lead to promotion of multiple beneficial cell behaviors by activating a range of pathways





HGF system impacts multifactorial complex pathologies that lead to neurodegeneration

Neurotrophic HGF System

CAUSES OF NEURODEGENERATIVE DISEASES

Inflammation

Protein Pathology

Oxidative Stress

Excitotoxicity

Synaptic Dysfunction

HALLMARKS OF NEURODEGENERATION

Neuronal damage

Loss of network connectivity

Loss of function

Disease progression



Positive modulators of the HGF system could be therapeutic

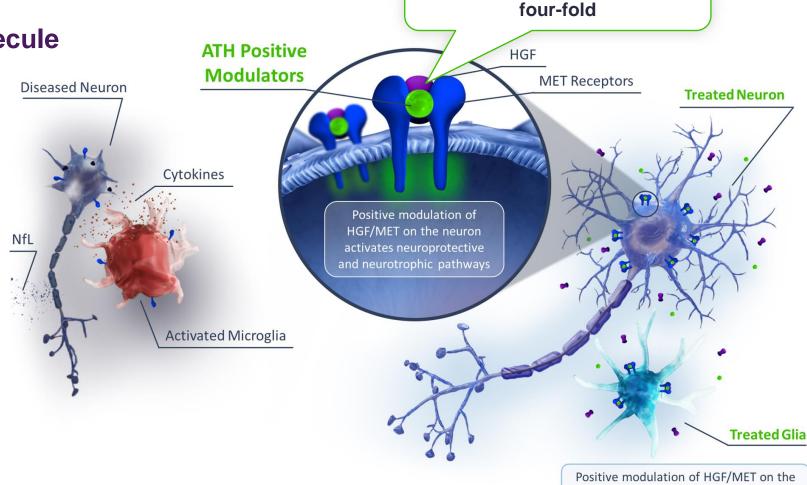
MULTIMODAL, PROTECTIVE, REGENERATIVE, DISEASE MODIFYING

Potential first-in-class small molecule drug candidates

- Able to cross the blood-brain barrier
- Positively modulate HGF/MET

Mechanism of action may

- Reduce inflammation
- Promote regeneration
- Provide neuroprotection
- Modify the course of disease





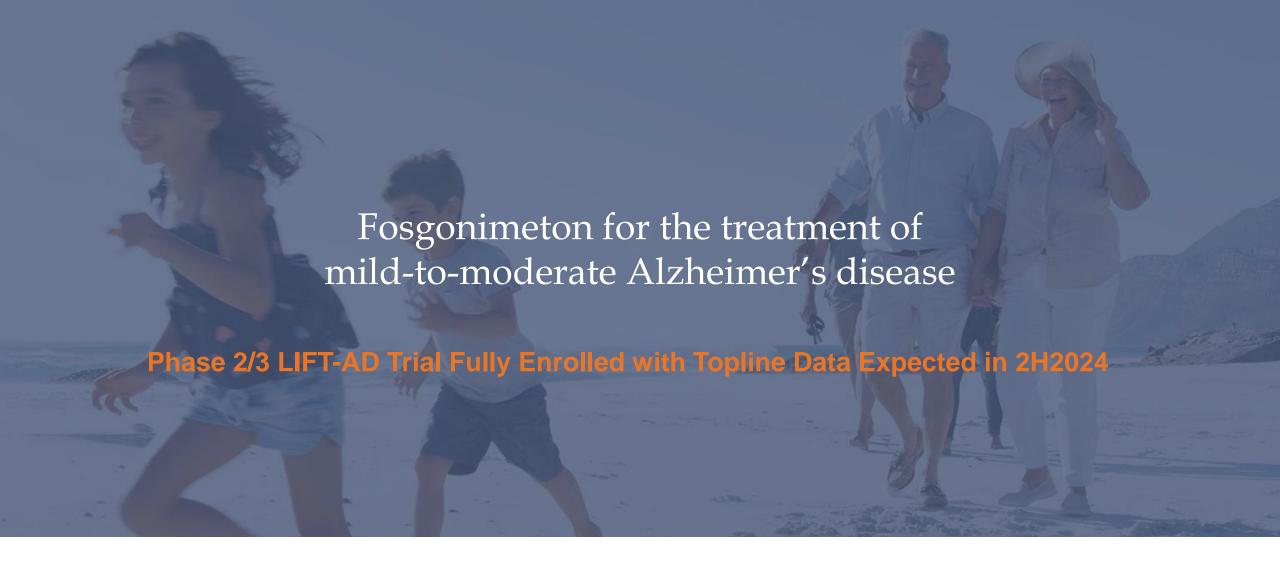
ATH drug candidates increase HGF MET activation by up to

glia inhibits neuroinflammation

Therapeutic potential across a broad range of clinical indications

		PRECLINICAL		CLINICAL			
Program	Indication	Early Discovery	IND-Enabling Studies	Phase 1	Phase 2	Phase 3	Status
Fosgonimeton	Alzheimer's Disease (AD) Act ^{AD}			Phase 2 (Phase 2/3 Clinical Trial Clinical Trial Open-Laber Extension	Open-Label Extension	LIFT-AD enrollment complete; topline data expected 2H24 ACT-AD topline data reported 2Q22
	Parkinson's Disease Dementia and Dementia with Lewy Bodies			Exploratory Phase 2 (Clinical Trial		SHAPE topline data reported 4Q23
ATH-1105	Amyotrophic Lateral Sclerosis (ALS)	41	ND-Enabling studies	IND Filing in 2024			Ongoing; target Phase 1 trial initiation in 2024
ATH-1020	Neurodegenerative Diseases		Phase 1 C	linical Trial			Single-ascending dose completed in healthy volunteers; no safety findings
Early Compounds	Neurodegenerative Diseases	Discovery and Development					Ongoing

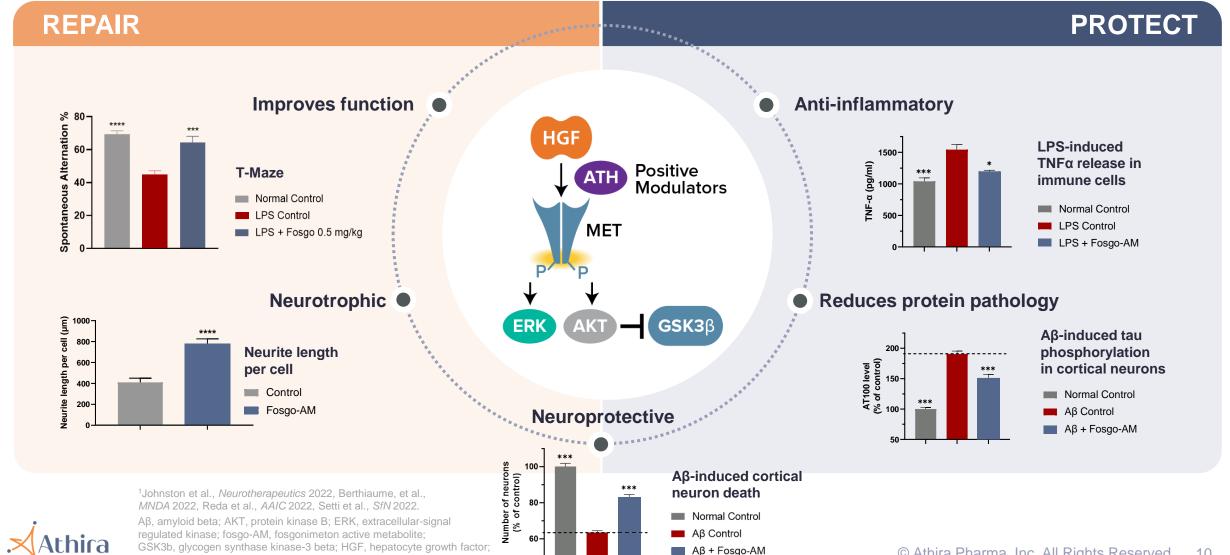






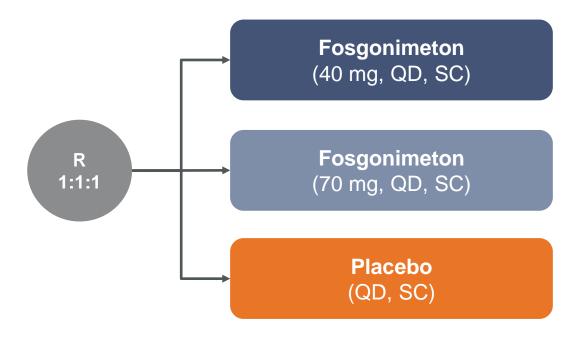
Fosgonimeton protects and repairs neuronal networks in preclinical models

MULTIMODAL APPROACH WITH POTENTIAL FOR DISEASE MODIFICATION



Fosgonimeton exploratory phase 2 trial in mild-to-moderate Alzheimer's disease*

RANDOMIZED PLACEBO-CONTROLLED SIX-MONTH TRIAL (N=77)





Primary: Change in ERP P300 latency safety and tolerability

Secondary: ADAS-Cog11, ADCS-CGIC, ADCS-ADL23

Exploratory: Plasma biomarkers



Key Learnings from ACT-AD

- Fosgonimeton was well-tolerated with a favorable safety profile
- Unexpected potential pharmacodynamic interaction with AChEIs
- Greater than 85% enrollment into OLEX from both ACT-AD and LIFT-AD studies
- Congruent clinical effects and biological signals
- P300 not appropriate endpoint given variability

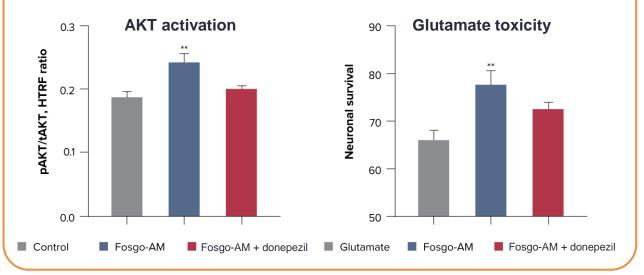


Neuroprotective effects of fosgonimeton are reduced with exposure to AChEIs

Preclinical

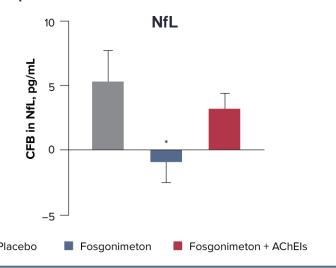
- Combination of fosgo-AM with donepezil interferes with fosgo-AM-induced AKT activation
- Neuroprotective effects of fosgo-AM are reduced when combined with donepezil

Likely the result of observed decrease in fosgo-AM-induced AKT activation



Clinical

- Fosgonimeton significantly reduced NfL, a biomarker of neurodegeneration, in the ACT-AD study
- When combined with AChEIs, NfL increased, suggesting a loss of the neuroprotective effect
- This result is consistent with preclinical findings of reduced neuroprotection in combination with AChEIs



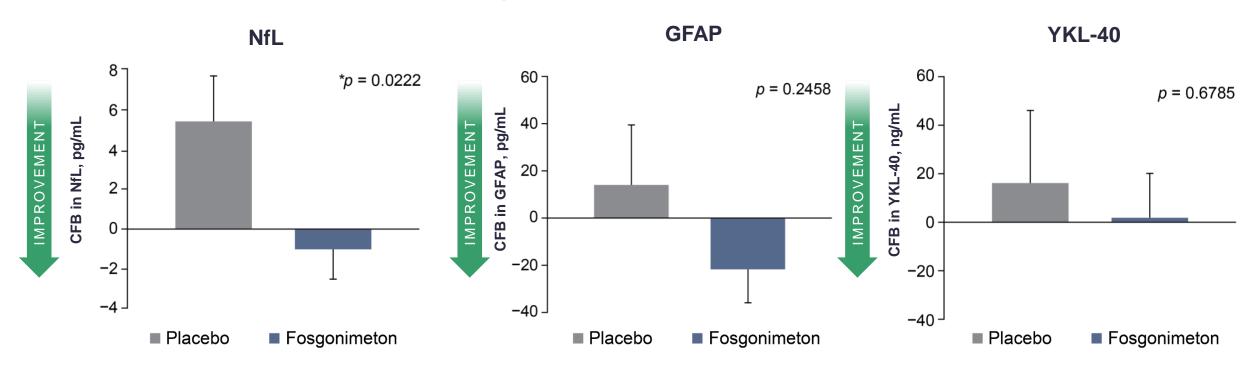


AChEls, acetylcholinesterase inhibitors; AKT, protein kinase B; NfL, neurofilament light chain.

For in vitro assays, fosgonimeton was administered as the active metabolite, fosgo-AM. AKT assay: one-way ANOVA with Dunnett's post-test; **p<0.01 vs. control; n = 6 (control), 5 (fosgo-AM), 3 (fosgo-AM + AChEls), mean + SEM. Glutamate assay: one-way ANOVA with Dunnett's post-test; **p<0.01 vs. glutamate; n = 6 (glutamate), 6 (fosgo-AM), 5 (fosgo-AM), 5 (fosgo-AM), 5 (fosgo-AM), 5 (fosgo-AM), 6 (fosgo-AM),

Neuroprotective and anti-inflammatory: Fosgonimeton reduces markers of neurodegeneration and inflammation





- Neurofilament light (NfL) is an established, objective biomarker of neurodegeneration
- Decrease of NfL to below baseline levels suggestive of repair in this continuously progressive disease

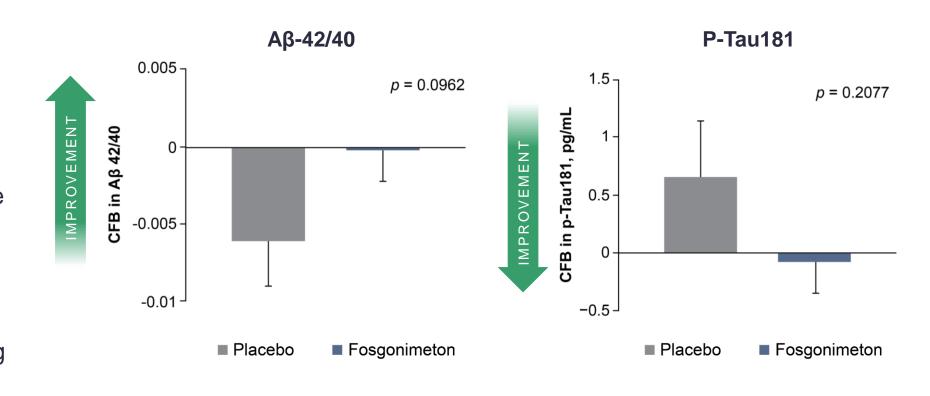
- GFAP and YKL-40 are markers of neuroinflammation
- Magnitude of decrease is encouraging in this continuously progressive condition



Protein pathology: Fosgonimeton induces directional improvements in hallmarks of Alzheimer's disease



- Decreased Aβ 42/40 ratio and increased absolute p-Tau values are hallmarks of Alzheimer's disease
- Changes support relevance of the HGF/MET pathway also to Alzheimer's-specific protein pathology
- Supports disease modifying potential of fosgonimeton





Functional improvements: Potential benefits in cognition and function from fosgonimeton treatment



SUPPORTS POTENTIAL TO BE A SAFE AND DIFFERENTIATED FUTURE THERAPY

74%

-3.0 points n.s

IMPROVED COGNITION

Improvement over placebo over 6 months as measured by ADAS-Cog11 in patients without background therapy

41%

+1.7 points n.s.

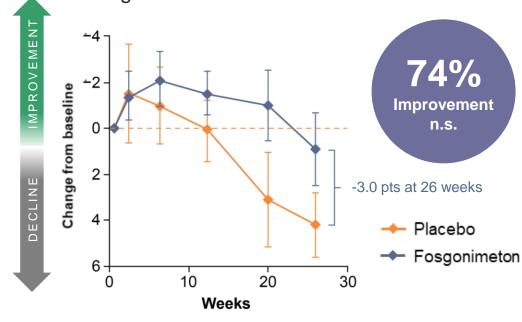
IMPROVED FUNCTION

Improvement over placebo over 6 months as measured by ADCS-ADL23 in full study population

Favorable safety and tolerability profile, injection site reactions are most frequent AE

ADAS-COG11 (Procognitive Effect)

Change from Baseline over 6 months



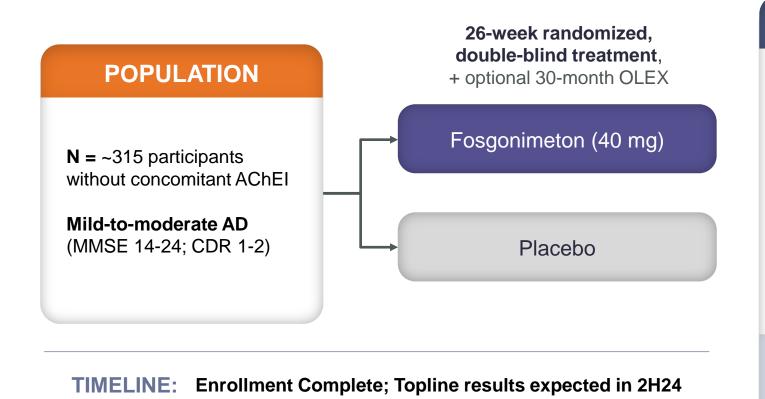
n at each visit	W2	W6	W12	W20	W26
Placebo	8	8	7	7	6
Fosgonimeton	19	19	17	16	17



Fosgonimeton phase 2/3 LIFT-AD trial after amendments



LEARNINGS FROM ACT-AD INFORM TRIAL DESIGN OPTIMIZATION



ENDPOINTS

PRIMARY

- Composite endpoint of cognition and function (ADAS-Cog11 and ADCS-ADL23)
- Safety

SECONDARY

- Cognition: ADAS-Cog11
- Function: ADCS-ADL23

EXPLORATORY

 Additional clinical endpoints and plasma biomarkers



Independent unblinded analysis by DMC supports the potential clinically meaningful activity of fosgonimeton



DMC ANALYSIS

 Efficacy and futility analysis performed on first 100 patients who completed the six-month trial of fosgonimeton compared with placebo

Cooperative Study-Activities of Daily Living; DMC, data monitoring committee.

 DMC Recommendation (Oct 2022): Continue LIFT-AD Study

ADAS-Cog11

	0	+1	+2	+2.5	+3	+4
0		Eutility				
-1	Stop for			um.		
-2			eds maxin	straint		
-2.5		enro	eds maxir Iment con		Study	
-3				Contin	iue Study	
-4						

ADCS-ADL23

DMC analysis suggests greater potential of LIFT-AD success

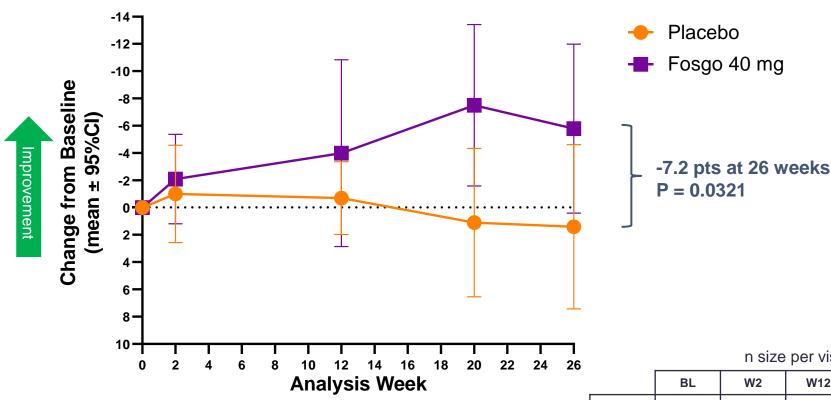


In a different disease setting* fosgo improved cognition with 40mg dose compared to placebo



ADAS-COG13 SCORE CHANGE FROM BASELINE MEAN AND 95% CI - MODIFIED INTENT TO TREAT POPULATION

ADAS-Cog13 Score CFB



n size per visit

	BL	W2	W12	W20	W26
Placebo	9	9	9	8	7
40 mg	7	7	7	6	5





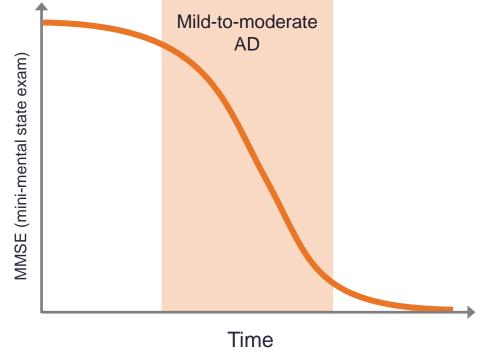
New Treatment Options Needed for Mild-to-Moderate Alzheimer's Disease

Medical need:

The point of most accelerated disease progression^{1,2}

Few treatment options with only modest effects³

Higher financial burden than pre-dementia⁴



Reduced development risk:

Clinical, syndromal diagnosis is possible⁵

Increased likelihood of tangible placebo decline

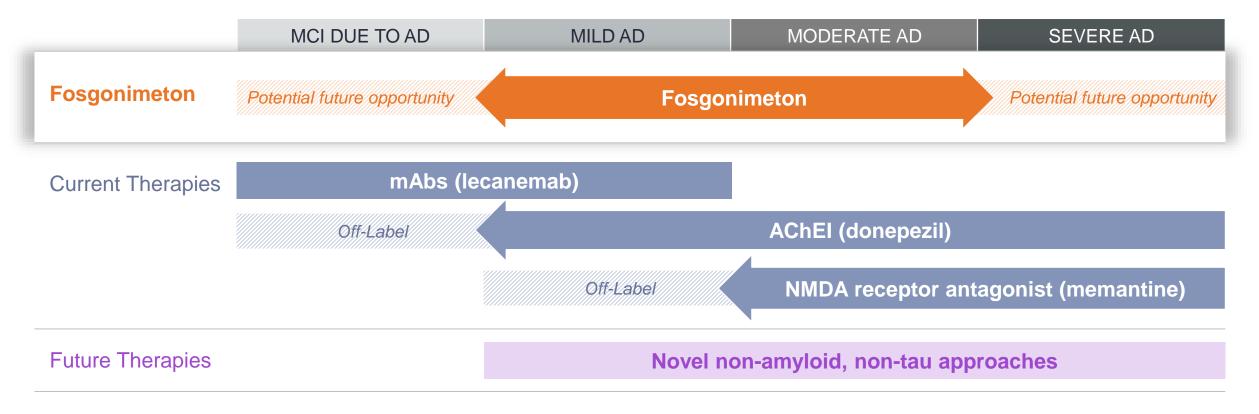


^{1.} Ower et al, Eur J Epidemiol 2018

^{2.} Caroli et al, Neurobiol Aging 2010

^{3.} Fink et al, Ann Intern Med 2020

Significant opportunity in Alzheimer's disease



81% of all patients diagnosed with Alzheimer's disease are mild-to-moderate

2.1 million mild-to-moderate Alzheimer's patients diagnosed in 2021 in the US

Few available options

75% of patients in the US move to a second-line treatment in less than a year



Significant opportunity in Alzheimer's disease



55 million

People living with Alzheimer's dementia today¹



Multi-Billion \$ Market

Despite generic entries



Only Two

New drugs launched since 2003 - two anti-amyloid antibodies

Over 100 million globally by 2050

~900,000 new patients diagnosed annually in the US alone^{1,2}

Mild to Moderate comprises 81% of all patients with Alzheimer's Disease

78.5% of these patients receive Rx therapies³

6.2 million treatment eligible patients in the US in 2021 based on prevalence data

Growing at 3% per year²

Significant opportunity for fosgonimeton

Market research suggests favorable reaction and receptivity to fosgonimeton base case target product profile⁴

⁴ ClearView Healthcare Partners Market Research Analysis



¹ https://www.alzint.org/about/dementia-facts-figures/

² https://www.alz.org/media/documents/alzheimers-facts-and-figures.pdf

³https://www.nia.nih.gov/news/half-alzheimers-disease-cases-may-be-mild

Strong rationale to advance fosgonimeton

SIGNIFICANT OPPORTUNITY TO TRANSFORM THE TREATMENT PARADIGM FOR NEURODEGENERATIVE DISEASES

Disease	modifying
----------------	-----------

Improves cognition – preclinically and clinically

Improves function – preclinically and clinically

Reduces inflammation – preclinically and clinically

Prevents nerve cell death – preclinically

Favorable safety and tolerability profile

Risk mitigated Ph 2/3 LIFT-AD following interim analysis

Differentiated and Risk Mitigated



Favorable external landscape

High unmet need

Enormous potential market







Positive modulation of HGF as a potential treatment for ALS

ALS is a devastating progressive neurodegenerative disease

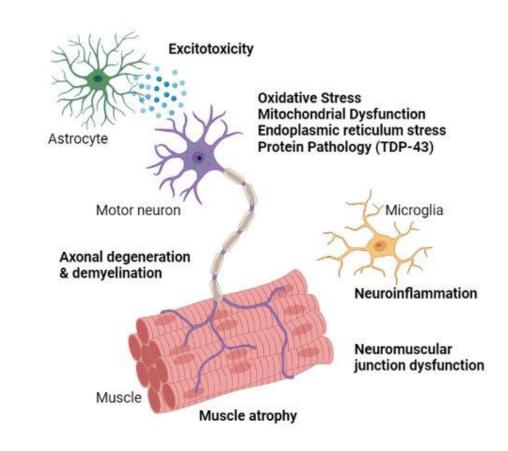
 Characterized by degradation of motor neurons due to several factors including glutamate excitotoxicity, TDP-43 protein pathology, and systemic inflammation

Approximately 97% of ALS patients have TDP-43 pathology¹

- TDP-43 is a nuclear protein under normal conditions but in ALS forms toxic aggregates in the cytoplasm of motor neurons
- TDP-43 mouse models have been developed that exhibit TDP-43 pathology and ALS-like symptoms

Promotion of HGF/MET activity has been reported to have beneficial effects in preclinical models of ALS

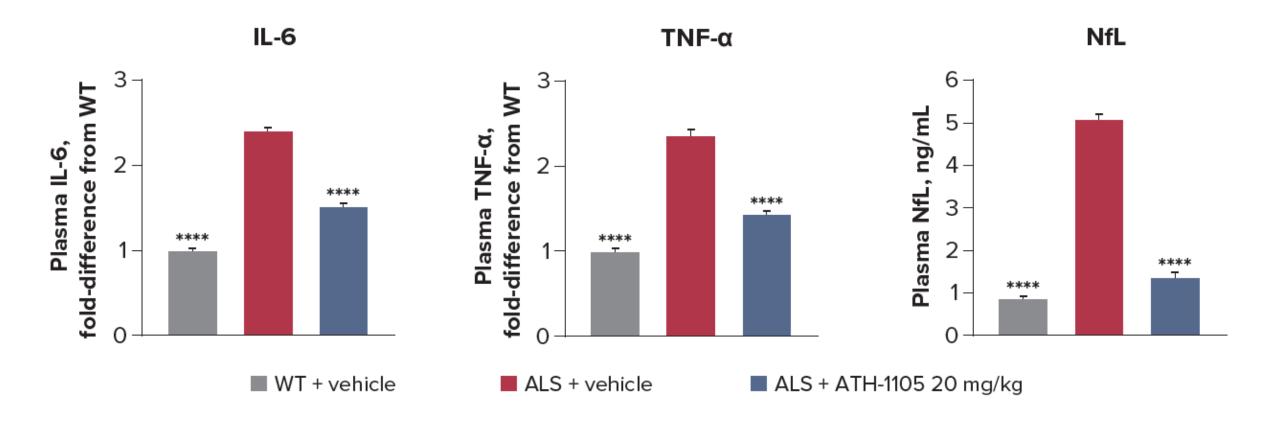
- HGF delays disease progression in ALS animal models^{2,3}
- HGF reduces muscle impairment and motor neuron loss in an ALS mouse model⁴





Anti-inflammatory and neuroprotective: ATH-1105 reduces markers of inflammation and neurodegeneration

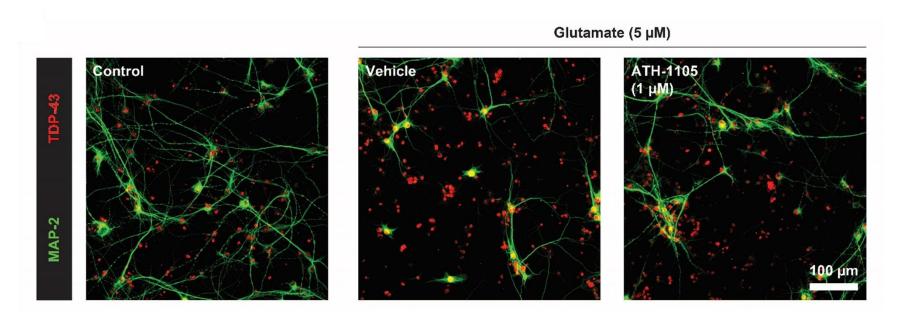
TDP-43 MOUSE MODEL OF ALS



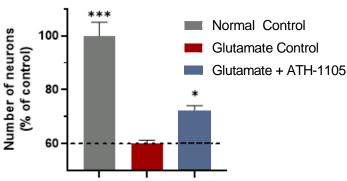


Neuroprotection and protein pathology: ATH-1105 reduces extranuclear TDP-43 accumulation and enhances neuron survival

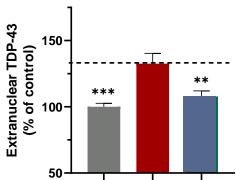
GLUTAMATE CHALLENGE MODEL IN MOTOR NEURON CULTURES



Motor neuron survival following glutamate challenge



Glutamate-induced TDP-43 accumulation in spinal motor neurons



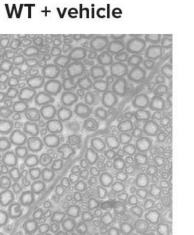


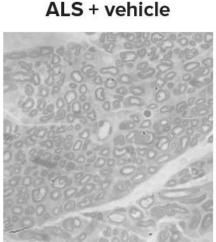
Primary rat spinal motor neurons. Cultures treated with vehicle control or 5 μ M glutamate. Data presented as mean \pm SEM. Statistics applied: 1-way ANOVA with Fisher least significant difference test. *p < 0.05, **p < 0.01, ***p < 0.001 versus Glutamate Control; n = 6.

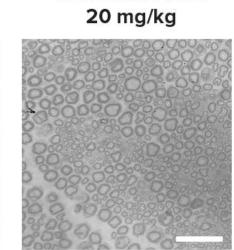
Neuroprotective: ATH-1105 protects against axon degeneration and demyelination, and reduces pTDP-43

TDP-43 MOUSE MODEL OF ALS

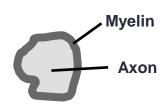
Cross section
of sciatic nerve

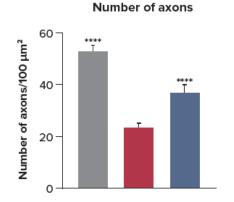


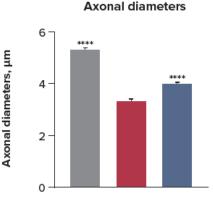


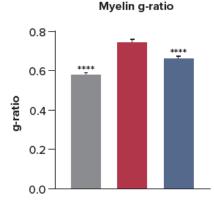


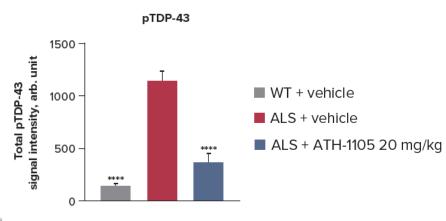
ALS + ATH-1105









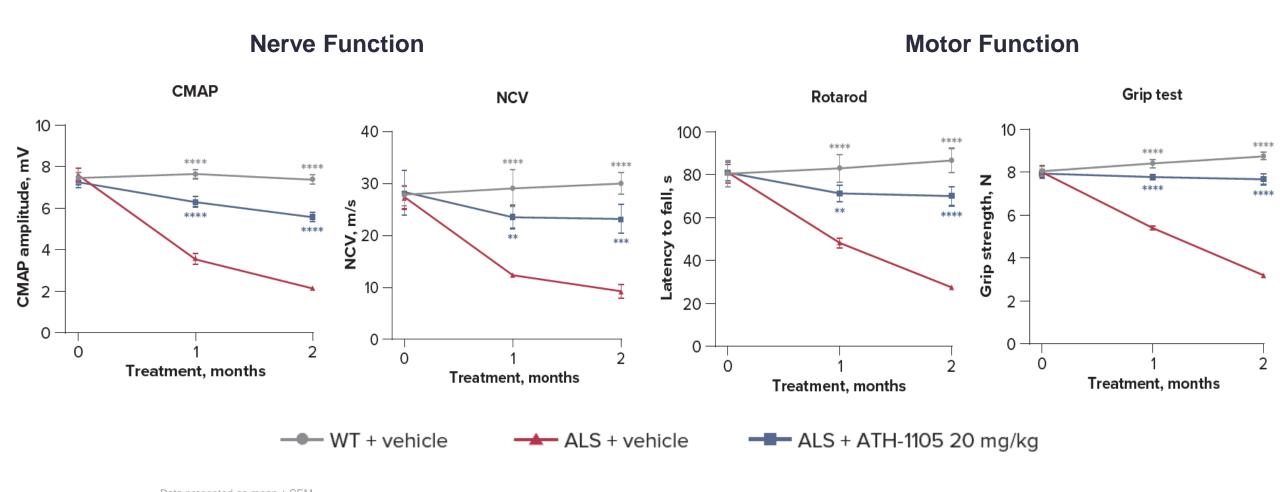




Graphical representation of the number of axons (per 100 μ m2), axonal diameter (in micrometers), and mean of myelin g-ratio, defined as the ratio of the inner axonal diameter to the total axonal diameter, following 2 months of treatment. Data presented as mean + SEM. Statistical significance was determined by 1-way ANOVA with Dunnett's test versus ALS + vehicle. ****p < 0.0001.

Function: ATH-1105 improves nerve and motor function

TDP-43 MOUSE MODEL OF ALS





Data presented as mean ± SEM.

Statistical significance was determined by 2-way ANOVA with Dunnett's test versus ALS + vehicle. **p < 0.01; ***p < 0.001; ***p < 0.0001. n = 10 mice per group.

Survival: ATH-1105 prolongs survival and delays time to first mortality

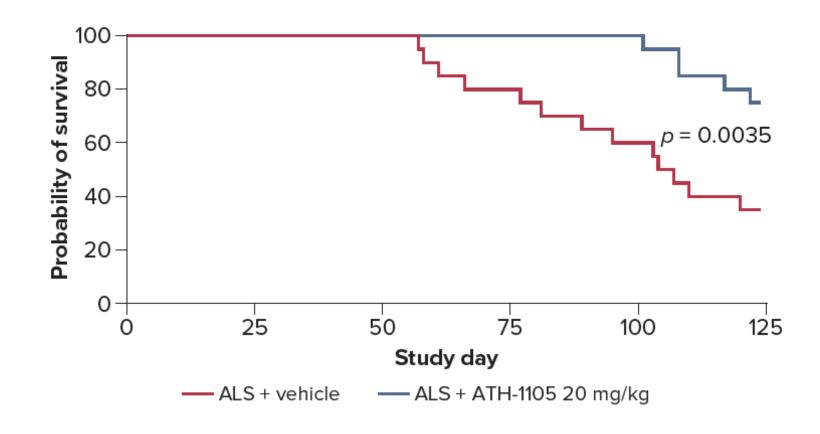
TDP-43 MOUSE MODEL OF ALS

Time to first mortality

- Day 57 in ALS + vehicle group
- Day 101 in ALS + ATH-1105 20 mg/kg

Percent survival at 5 months of age

- 35% in ALS + vehicle group
- 75% in ALS + ATH-1105 20 mg/kg





ATH-1105 preclinical data summary

In the TDP-43 mouse model of ALS, daily oral treatment of ATH-1105 resulted in:

- Improvement in motor function, and protection against body weight reduction
- Preservation of nerve function and structure
- Reduction of plasma biomarkers of systemic inflammation and neurodegeneration
- Prolonged survival and delayed time to first mortality

These results highlight the therapeutic potential of ATH-1105 in ALS and support further development



Significant unmet need: Amyotrophic Lateral Sclerosis (ALS)



~75,000¹

People globally affected by ALS with the 40% of those cases in the US



Six¹

Approved drugs specifically indicated for the treatment of ALS



Zero¹

ALS drugs targeting neurotrophic factor systems with a multimodal mechanism of action

Global Market Size for ALS¹

2019:

2029 Projected:

\$197M

\$781M

Drugs in Development^{1,2}

Limited differentiated and multifactorial approaches

Tofersen addresses a familial form of ALS accounting for <3% of all cases (recently received accelerated approval on the basis of NfL)

Significant Opportunity for ATH-1105

Limited approved treatment options exist for ALS patients

Multimodal mechanism of action – neuroprotective, anti-inflammatory and potentially disease modifying

Positive modulation of a naturally occurring repair mechanism







Athira management team with significant CNS product development and approval experience

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Moving forward

- ✓ Independent, unblinded interim analysis of fosgonimeton Phase 2/3 LIFT-AD
- ✓ LIFT-AD completed enrollment
- Enrolled 28 patients in exploratory fosgonimeton SHAPE trial of in PD and dementia with Lewy bodies
- ✓ ATH-1105 prolonged survival, delayed time to first mortality, and demonstrated consistent improvements in motor function, nerve function, biomarkers and nerve morphology in a transgenic mouse model of ALS



Topline results expected in 2H2024



 Topline results reported 4Q2023; evaluating next steps



- Complete IND enabling studies
- File IND
- Initiate first-in-human Phase 1 testing of ATH-1105 in 1H2024



Well positioned to lead with innovative approach to battling neurodegenerative diseases

Consistent and correlative preclinical, clinical and biomarker data showing that enhancing HGF neurotrophic system has potential to be neuroprotective, anti-inflammatory and disease modifying in a number of neurodegenerative diseases



Mitigated development risk through independent, unblinded interim analysis of Phase 2/3 LIFT-AD trial Evolving regulatory environment and favorable competitive landscape

Strong track record of execution and leadership team with significant CNS product development and approval experience

Strong balance sheet to support programs through key inflection points (~\$147M in cash*)





