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Phase 2/3 LIFT-AD Interim Analysis Results and Next Steps

October 17, 2022

ADVANCING NEW THERAPIES FOR NEURONAL HEALTH

Forward-Looking Statements

This presentation and the accompanying oral commentary contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on our management's beliefs and assumptions and on information currently available to our management. Forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "could," "expect," "plan," anticipate," "believe," "estimate," "predict," "intend," "potential," "would," "continue," "ongoing" or the negative of these terms or other comparable terminology. Forward-looking statements include all statements other than statements of historical fact contained in this presentation, including information concerning our future financial performance, business plans and objectives, timing and success of our planned development activities, our ability to obtain regulatory approval, the potential therapeutic benefits and economic value of our product candidates, potential growth opportunities, competitive position, industry environment and potential market opportunities, the anticipated reporting of data; the potential learnings from the ACT-AD trial and LIFT-AD unblinded interim efficacy and futility analysis and their ability to inform and improve future clinical development plans, regulatory authorities' response to protocols, amendments and other submissions, and the impact of the COVID-19 pandemic on our business and operations.

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The ACT-AD trial 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 presentation is solely the responsibility of Athira and does not necessarily represent the official views of the National Institutes of Health.

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Phase 2/3 LIFT-AD Study Advances

INDEPENDENT UNBLINDED INTERIM ANALYSIS SUPPORTS POTENTIAL CLINICALLY MEANINGFUL ACTIVITY OF FOSGONIMETON WITHOUT BACKGROUND THERAPY AND MITIGATES PROGRAM RISK

- Phase 2 exploratory ACT-AD study results suggested congruent positive effects
  - Cognition (ADAS-Cog11); Function (ADCS-ADL23); Neurodegeneration (neurofilament light chain or NfL)
- Data driven approach was used to determine best path forward to optimize ongoing Phase 2/3 LIFT-AD study in the same patient population as in ACT-AD
- Analysis of ~100 patients supports potential clinically meaningful effects of cognition and function and informs the sample size required to power LIFT-AD
  - Enrollment target of <150 additional patients enables LIFT-AD to be well-powered for the primary endpoint
  - Enrollment completion target by mid 2023 with topline data in early 2024

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ADAS-Cog11, Alzheimer's Disease Assessment Scale–Cognitive Subscale; ADCS-ADL23, Alzheimer's Disease Cooperative Study–Activities of Daily Living; NfL, neurofilament light chain.

Hans Moebius, M.D., Ph.D

Chief Medical Officer

Summary of Phase 2 ACT-AD Study Results

EXPLORATORY STUDY TO INFORM LARGER LIFT-AD IN PATIENTS WITHOUT BACKGROUND THERAPY

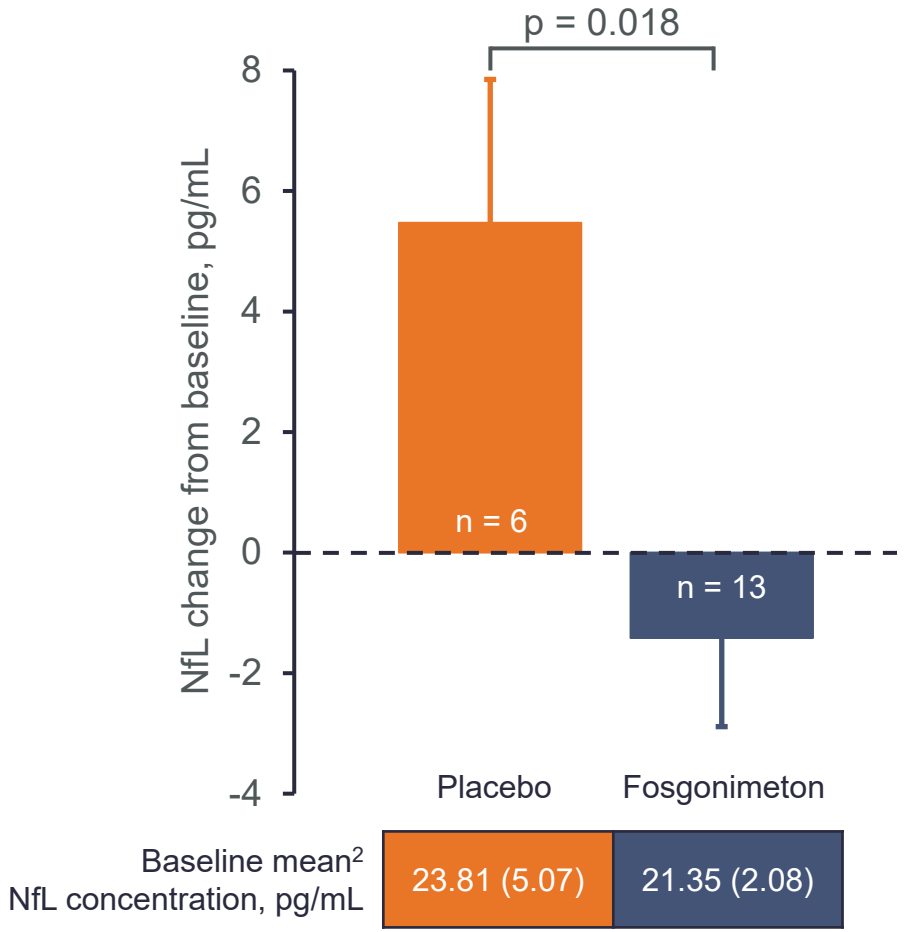
Favorable safety and tolerability profile

Fosgonimeton signals without background therapy compared to placebo (limited subgroup size)

- Reduced ERP P300 latency (n.s.)
- Improved cognition as measured by ADAS-Cog11 (n.s.)
- Improved function as measured by ADCS-ADL23 (n.s.)
- Showed a statistically significant improvement in plasma levels of NfL (p=0.018)

ACT-AD was a similar study design to LIFT-AD to help inform larger LIFT-AD Both are randomized, double-blind, placebo-controlled, parallel-group studies of fosgonimeton for patients with mild-to-moderate Alzheimer's disease

NfL at week 26 (fosgonimeton without background therapy)[1]



ADAS-Cog11, Alzheimer's Disease Assessment Scale–Cognitive Subscale; ADCS-ADL23, Alzheimer's Disease Cooperative Study–Activities of Daily Living; ERP, event related potential; NfL, neurofilament light chain.
[1] Data presented are least squares mean ± SE. [2] Data shown as mean NfL concentration (SEM).

Fosgonimeton Phase 2/3 LIFT-AD Study Design

LEARNINGS FROM ACT-AD INFORM STUDY DESIGN OPTIMIZATION

POPULATION

LIFT-AD: Target N=TBD, informed by interim analysis

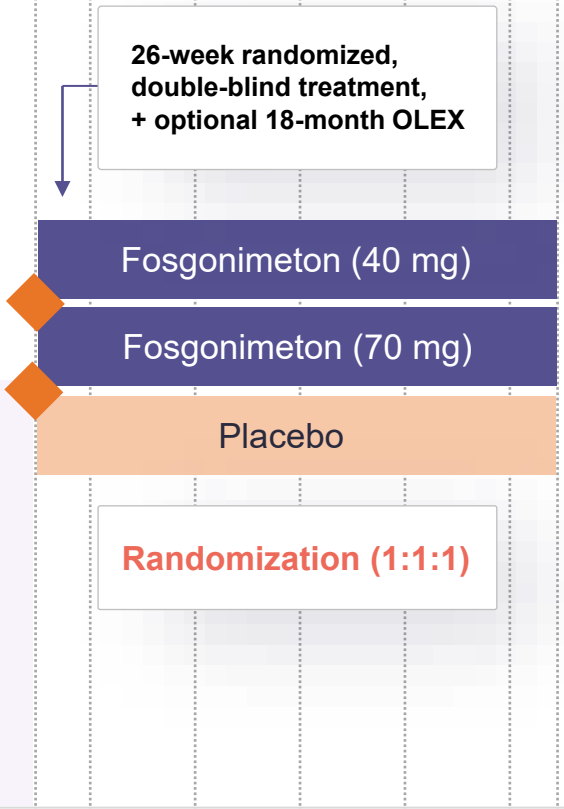
Mild-to-moderate AD subjects

- 55-85 years
- CDR 1 and 2
- MMSE 14-24
- Approximately 40% of patients not on background AChEI

Path Forward:

- Exclusion criterion added for subjects on background AChEIs (Sept 2022)
- Independent, unblinded interim analysis to inform sample size for primary endpoint (Oct 2022)

TREATMENT DURATION



RESULTS

PRIMARY ENDPOINT

- Global Statistical Test (GST) – unbiased composite of data from two key co-secondary endpoints (ADAS-Cog11 and ADCS-ADL23)
- Safety

SECONDARY ENDPOINTS

- Cognition: ADAS-Cog11
- Function: ADCS-ADL23
- Global clinical change: ADCS CGIC – Clinician

EXPLORATORY ENDPOINTS

- Fluid biomarkers (e.g., NfL)

TIMELINE

- Enrollment ongoing

AChEI, acetylcholinesterase inhibitor; ADAS-Cog11, Alzheimer's Disease Assessment Scale–Cognitive Subscale; ADCS-ADL23, Alzheimer's Disease Cooperative Study–Activities of Daily Living; ADCS-CGIC, Alzheimer's Disease Cooperative Study–Clinical Global Impression of Change; CDR, clinical dementia rating; GST, global statistical test; MMSE, mini-mental state examination; NfL, neurofilament light chain; OLEX, open-label extension.

Systematic and Data-driven Process to Support LIFT-AD

STEPS COMPLETED SINCE ACT-AD READOUT IN JUNE 2022

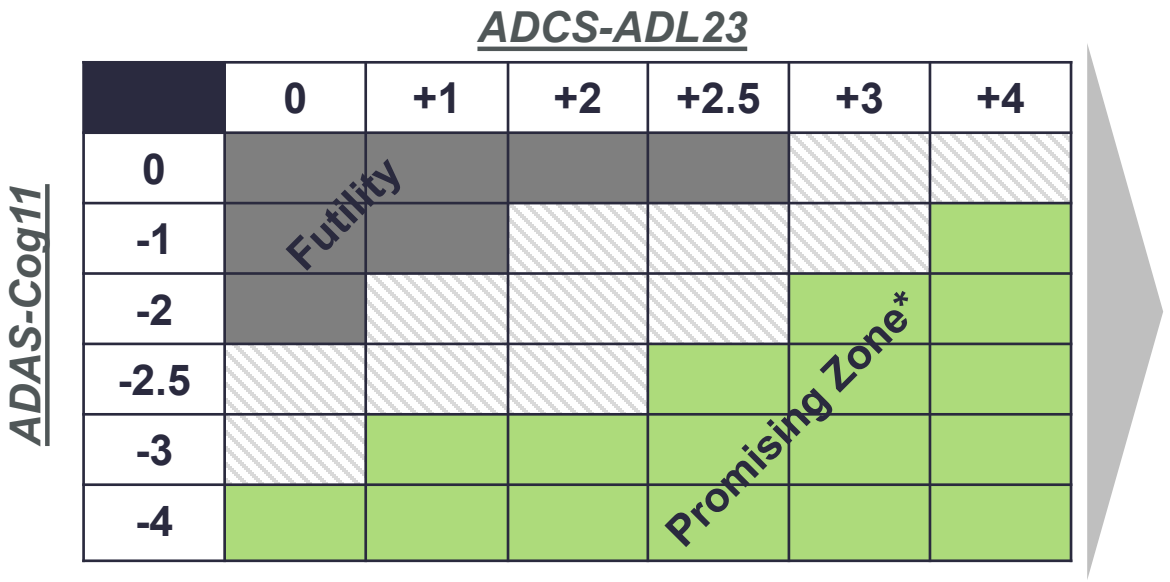
- Additional analysis of ACT-AD
- DSMB unblinded adjudication of LIFT-AD
- Blinded analysis of LIFT-AD
- Proactively amended Phase 2/3 LIFT-AD in September
- Independent unblinded interim analysis in October

Development plan optimized with mitigated risk

LIFT-AD Sample Size Well Powered for Primary Endpoint

STRINGENT CRITERIA APPLIED TO INCREASE PROBABILITY OF DEMONSTRATING A CLINICALLY MEANINGFUL EFFECT SIZE FOR COGNITION AND FUNCTION

Pre-specified Decision Framework



DMC Recommendation: "Continue LIFT-AD Study"

- **Promising Zone* confirmed**
- **<150** patients needed to complete study
- Target enrollment complete **by mid 2023 with data in early 2024**

*Mehta and Pocock, 2000, 2011

Mark Litton, Ph.D

President and Chief Executive Officer

Moving Forward

- Target enrollment completion by mid 2023 with data in early 2024
- Continued focus on LIFT-AD recruitment and completion to meet timelines
- Strong cash and cash equivalents of approximately $282M* provides support through key data points and beyond

*As of June 30, 2022

Fosgonimeton – A New Potential Therapy for Alzheimer's Disease

35 million
Estimated Alzheimer's cases worldwide[1]

Multi-Billion $ Market
Despite generic entries

Zero
New marketed products since 2003

Over 100 million globally by 2050

~900,000 new patients diagnosed annually in the US alone[1,2]

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

Growing at 3% per year[2,3]

Mild to Moderate comprises 81% of all patients with Alzheimer's disease[3,4]

Significant opportunity for fosgonimeton

Limited treatment options exist today for those with Alzheimer's disease; novel approaches to improve cognition, function and neuroprotection are needed

[1] https://www.who.int/news-room/fact-sheets/detail/dementia
[2] https://www.alz.org/media/documents/alzheimers-facts-and-figures.pdf
[3] GlobalData AD prevalence data access and analysis
[4] https://www.nia.nih.gov/news/half-alzheimers-disease-cases-may-be-mild