



Corporate Presentation

March 30th 2023

No Offer or Solicitation

This communication does not constitute an offer to sell or the solicitation of an offer to sell or the solicitation of an offer to buy any securities, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No public offer of securities shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.

Important Additional Information and Where to Find It

In connection with the proposed transaction between Diffusion Pharmaceuticals and EIP Pharma, Diffusion Pharmaceuticals intends to file relevant materials with the SEC, including a registration statement that will contain a proxy statement and prospectus related to a special meeting of its stockholders. Diffusion Pharmaceuticals will mail the definitive proxy statement and prospectus to Diffusion Pharmaceuticals' stockholders as of the record date to be established for voting on the merger and any other matters to be voted on at the special meeting. BEFORE MAKING ANY VOTING DECISION, DIFFUSION PHARMACEUTICALS URGES INVESTORS AND STOCKHOLDERS TO READ THESE MATERIALS – INCLUDING THE DEFINITIVE PROXY STATEMENT, ANY AMENDMENTS OR SUPPLEMENTS THERETO, AND ANY DOCUMENTS INCORPORATED THEREIN – CAREFULLY AND IN THEIR ENTIRETY WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT DIFFUSION PHARMACEUTICALS, EIP PHARMA, THE PROPOSED TRANSACTION AND RELATED MATTERS. This communication is not a substitute for the registration statement, definitive proxy statement/prospectus or any other documents that Diffusion Pharmaceuticals may file with the SEC or send to Diffusion Pharmaceuticals' stockholders in connection with the proposed transaction. Investors and stockholders will be able to obtain free copies of the proxy statement, prospectus and other documents filed by Diffusion Pharmaceuticals with the SEC (when they become available) through the website maintained by the SEC at www.sec.gov. In addition, investors and stockholders will be able to obtain free copies of the proxy statement, prospectus and other documents filed by Diffusion Pharmaceuticals with the SEC by contacting Diffusion Pharmaceuticals by mail at 300 East Main Street, Suite 201, Charlottesville, VA 22902, Attn: Corporate Secretary.

Participants in the Solicitation

Diffusion Pharmaceuticals and EIP Pharma, and each of their respective directors and executive officers and certain of their other members of management and employees, may be deemed to be participants in the solicitation of proxies in connection with the proposed transaction. Information regarding these persons and their interests in the transaction will be included in the prospectus and proxy statement relating to the transaction and other relevant materials to be filed with the SEC. Additional information regarding Diffusion Pharmaceuticals' directors and officers is included in Diffusion Pharmaceuticals' Annual Report on Form 10-K for the year ended December 31, 2022, which was filed with the SEC on March 24, 2023. These documents can be obtained free of charge from the sources indicated above.

Forward-Looking Statements

This presentation includes express and implied forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, regarding management's intentions, plans, beliefs, expectations or forecasts for the future, including, but not limited to, the timing and potential outcome of the proposed transaction between Diffusion Pharmaceuticals and EIP Pharma; the therapeutic potential and potential market opportunity of neflamapimod; and anticipated milestones related to the development of the combined company's clinical programs and reporting of data. Terms such as "believes," "estimates," "anticipates," "expects," "plans," "intends," "may," "could," "might," "will," "should," "approximately," or other words that convey uncertainty of future events or outcomes may identify these forward-looking statements. Although there is believed to be reasonable basis for each forward-looking statement contained herein, forward-looking statements by their nature involve risks and uncertainties, known and unknown, many of which are beyond the parties' control and, as a result, actual results could differ materially from those expressed or implied in any forward-looking statement. Particular risks and uncertainties include, among other things, those related to the completion of the proposed transaction, including the need for stockholder approval and the satisfaction of closing conditions; the cash balances of the combined company following the closing, if completed, of the proposed transaction; the ability of Diffusion Pharmaceuticals to remain listed on the Nasdaq Capital Market, as well as comply with any Nasdaq rules and regulations related to the proposed transaction; the price of Diffusion Pharmaceuticals' securities, which may be volatile due to a variety of factors, including changes in the competitive and highly regulated industries in which Diffusion Pharmaceuticals and/or EIP Pharma operates; variations in operating performance across competitors; changes in laws and regulations affecting Diffusion Pharmaceuticals' or EIP Pharma's business; the ability to implement business plans, forecasts, and other expectations after the completion of the proposed transaction; general economic, political, business, industry, and market conditions, inflationary pressures, and geopolitical conflicts; the uncertainties inherent to the biopharmaceutical industry, including the fact that preclinical and interim results may not be indicative of future results; and the other factors discussed under the heading "Risk Factors" in Diffusion Pharmaceuticals' most recent Annual Report on Form 10-K and other filings with the SEC. Any forward-looking statements in this presentation speak only as of the date hereof (or such earlier date as may be identified). New factors emerge from time to time, and it is not possible for us to predict all such factors, nor can we assess the impact of each such factor on the businesses or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. These risks, as well as other risks associated with the merger, will be more fully discussed in the proxy statement/prospectus that will be included in the registration statement that will be filed with the SEC in connection with the proposed transaction and, except as required by applicable law, rule, or regulation, neither Diffusion Pharmaceuticals nor EIP Pharma undertakes any obligation to update any such statements after the date hereof.

EIP Pharma at a Glance



Late Clinical Stage CNS Company

Differentiated approach to age-related neurologic disorders with a late-stage lead clinical asset; pipeline of additional indications and second asset

Phase 2b Ready Lead Drug Candidate

Neflamapimod has the potential to be the **first disease-modifying treatment for dementia with Lewy bodies (DLB)**; granted Fast Track designation by FDA

Attractive Commercial Opportunity in DLB

1.4M patients in the US and EU; 3rd most common neurodegenerative disease¹
\$5B US peak sales opportunity for first to market

Multiple Catalysts by the end of 2024

Expect to dose first patient in Phase 2b DLB study in 2Q23; complete enrollment in 1H24 and report primary efficacy results² in 2H24

Phase 2b Clinical Study Funded by NIH/NIA

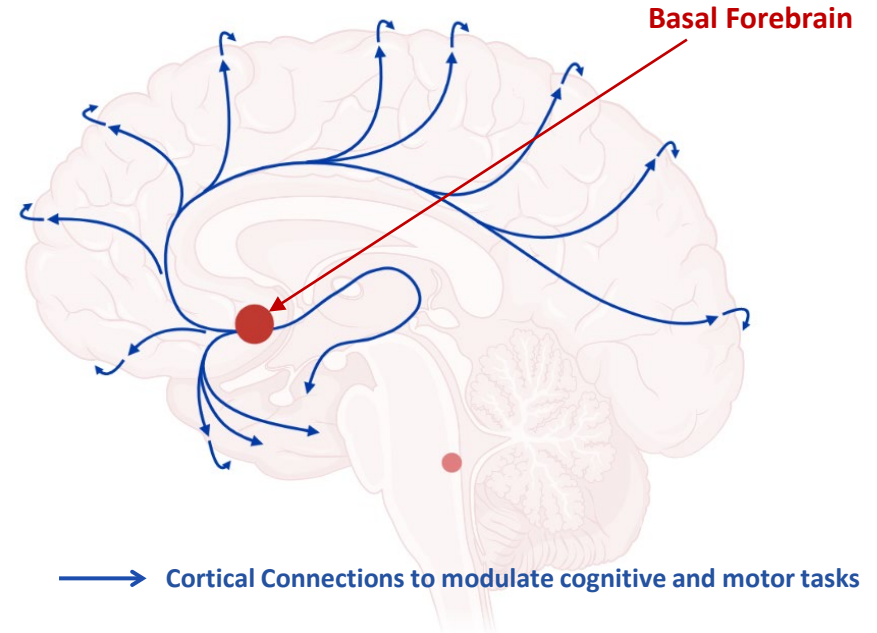
Awarded \$21M grant from the NIH's National Institute on Aging (NIA) which will fully fund the planned Phase 2b study³

1. After Alzheimer's disease and Parkinson's disease. 2. From placebo-controlled portion of Phase 2b DLB study. 3. The NIA grant funds will be disbursed over the course of study as costs are incurred.

Opportunity for Therapeutics Targeting Basal Forebrain Cholinergic Degeneration



- Age-related degeneration of the basal forebrain cholinergic system plays major role in many neurologic disorders:
 - Dementia with Lewy bodies (DLB), where it is the primary pathology
 - Early stages of Alzheimer's
 - Impaired functional recovery after stroke
 - Gait dysfunction, dementia in Parkinson's
- The neurodegenerative process in the basal forebrain is **reversible**



EIP Pharma Pipeline



	EIP Comm. Rights	PRECLINICAL	PHASE 1	PHASE 2	PHASE 3
NEFLAMAPIMOD					
Dementia with Lewy bodies*	WW	ENTERING PHASE 2B			
Recovery after Anterior Circulation Ischemic Stroke	WW	PHASE 2 READY			
Early-onset Alzheimer's Disease (EOAD)	WW	PHASE 2 READY			
EIP200 (novel co-crystal)					
Multiple CNS	WW	PRECLINICAL			

*Received FDA Fast Track designation

Dementia with Lewy Bodies (DLB)

What is DLB?

- Disease associated with abnormal deposits of a protein called alpha-synuclein in the brain. These deposits, called Lewy bodies, affect chemicals in the brain whose changes, in turn, can lead to problems with thinking, movement, behavior, and mood¹
- Patients incur greater rate of cognitive decline, higher healthcare costs, report lower quality of life, and have caregivers with higher levels of distress compared to patients with Alzheimer's disease (AD)

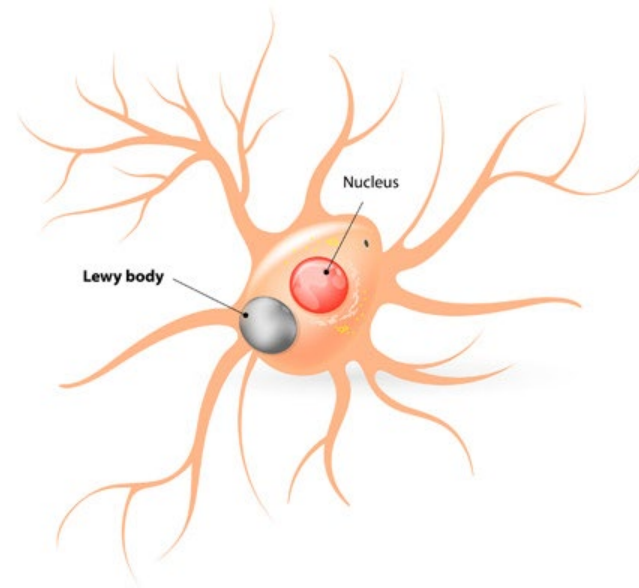
Treatment Landscape and Unmet Need

- No approved therapies; limited drugs in development
- Current standard of care is cholinesterase inhibitor therapy that only transiently improves cognition and does not impact motor component

Market Opportunity

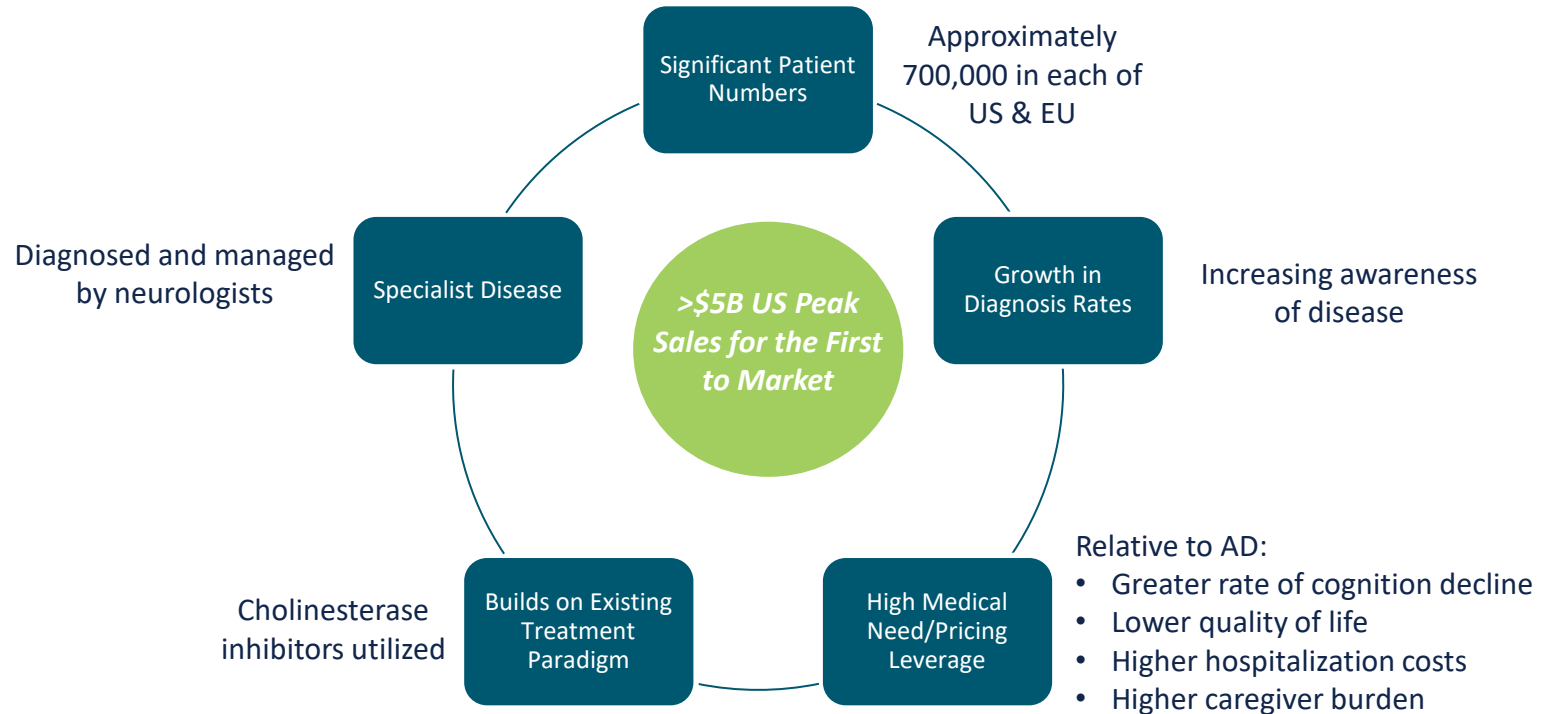
- 3rd most common neurodegenerative disease (after AD and PD)
- ~1.4 million individuals in US and EU
- Neflamapimod has the potential to be the first disease-modifying approach because it treats the primary pathology - cholinergic degeneration in the basal forebrain

Affects ~1.4 million individuals in the US and EU



1. <https://www.nia.nih.gov/health/what-lewy-body-dementia-causes-symptoms-and-treatments>

Neflamapimod for DLB: Well-Positioned Commercially

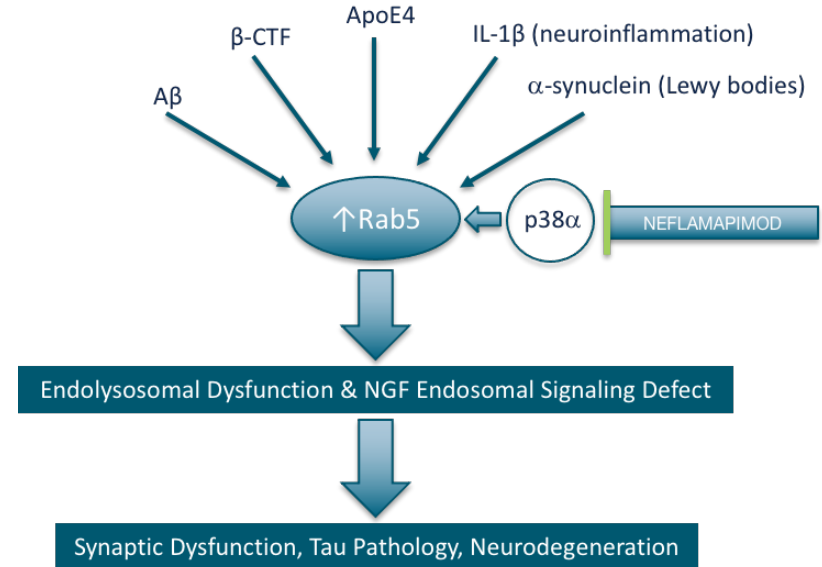


Neflamapimod: Background



- Potent, highly selective, blood-brain-barrier penetrant oral small molecule inhibitor of p38 α
- Licensed in 2014 from Vertex Pharmaceuticals, which had:
 - Discovered the compound utilizing their proprietary structure-based drug discovery platform
 - Completed chronic repeat toxicology
 - Completed single and multiple dose phase 1 in healthy volunteers and phase 2a studies in rheumatoid arthritis
- Inhibition of p38 α has multiple beneficial effects on the neuron
 - Blunts effect of neuroinflammation on synaptic function
 - Decreases tau phosphorylation
 - **Targets molecular mechanisms underlying synaptic dysfunction in the cholinergic system**

p38 α /Rab5 Axis is a Convergence Point Underlying Basal Forebrain Cholinergic Neurodegeneration



NGF = Nerve Growth Factor

Int. J. Mol. Sci., **2020**, *21*, 5485

Robust Preclinical Pharmacology Package



In Ts2 mice 4 weeks neflamapimod treatment **reverses** neurodegenerative process in the basal forebrain and **restores** functional deficits (*Nat. Communications*, 2022)

In aged rats, **reverses** cholinergic dysfunction-induced deficits in Morris-water-maze performance (*J. of Alzheimer's Disease*, 2015)

Promotes neurological recovery after transient ischemia induced stroke in rats (*PLOS ONE*, 2020)

In Vitro

Demonstrated potent effects, with IC₅₀ between 20nM and 30nM

- Reverses Rab5+ endosomal pathology and endocytosis defect in human DS fibroblasts (Jiang et al, *AAIC*, 2019)
- Improves retrograde axonal transport (unpublished data, Schiavo lab)
- Inhibits prion protein and oligomeric amyloid-beta induced dendritic spine loss (Amin et al, *AAIC*, 2019)
- Inhibits IL-1 β signaling (Alam, *JAD*, 2015)

Neflamapimod *Reverses* Cholinergic Dysfunction and Degeneration

Ts2 mice

- Down Syndrome transgenic mouse model
- Develop adult-onset basal forebrain cholinergic degeneration
- Treated with vehicle or 3 mg/kg NFMD BID x 28 days

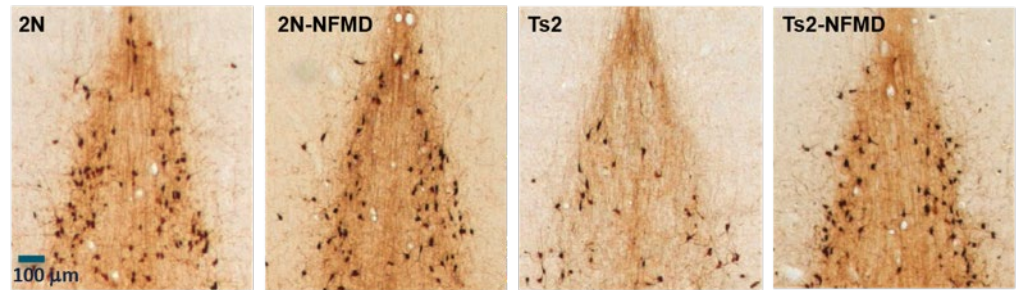
Reversed basal forebrain cholinergic neuron loss and restored cholinergic function

- Significantly increased number of cholinergic neurons in basal forebrain
- Normalized performance in Open field and NOR behavioral tests

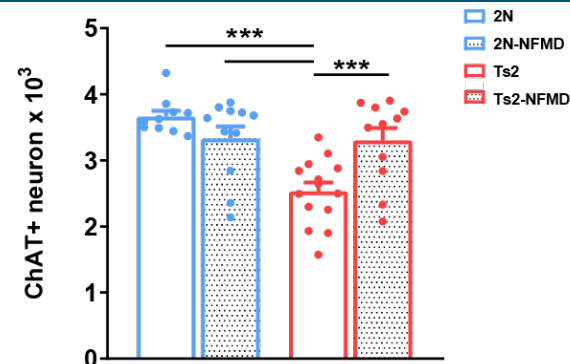
Mechanism of action well defined

- Significantly reduced Rab5 activity and BACE1 / β -CTF protein level
- Reversed Rab5+ endosomal pathology
- Normalized level of phosphorylated p38 α and reduced levels of its downstream substrates MK2 and MNK1

Cholinergic neurons in basal forebrain

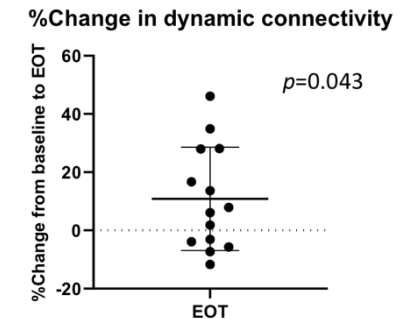
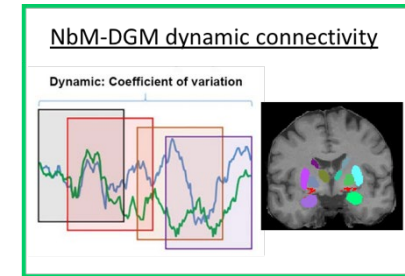
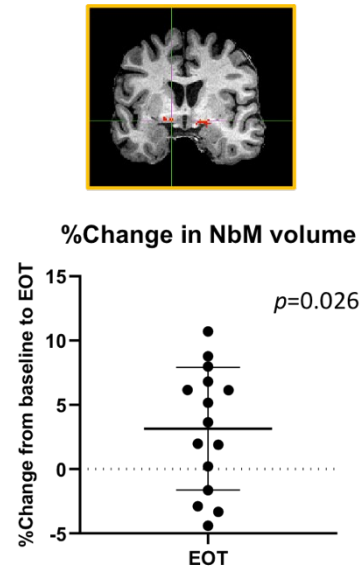
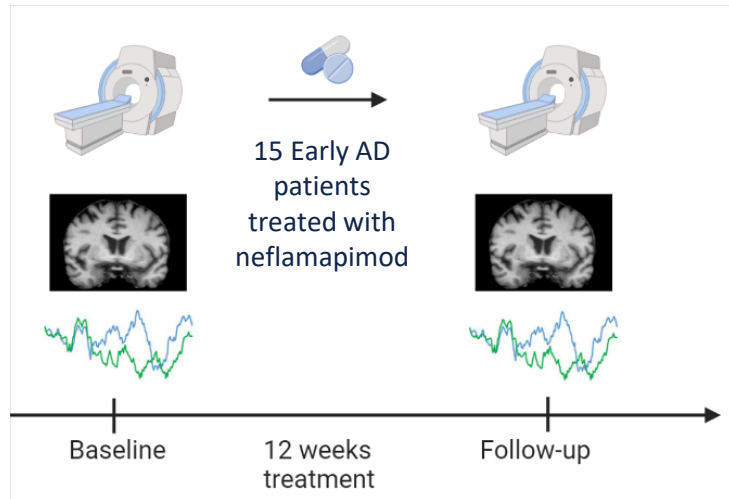


NFMD-treated Ts2 mice show >30% increase in cholinergic neurons compared to vehicle-treated Ts2 mice (**p<0.001)



Neflamapimod Appears to Reverse Basal Forebrain Atrophy, assessed by MRI

Neflamapimod treatment is associated with increased basal forebrain volume and functional connectivity



NbM – Nucleus basalis of Meynert, largest cluster of cholinergic neurons in the basal forebrain; DGM – Deep Grey Matter

Neflamapimod: Development Status



Toxicology

- Completed long-term toxicology studies in two species
- At 40 mg thrice daily in humans greater than 10-fold safety margin to no-adverse-event level in long-term animal toxicity studies

CMC

- Simple 3-step drug synthesis process
- Phase 3 ready drug substance and drug product manufacturing processes in place

Clinical Safety

- Clinical safety data in > 300 healthy volunteers and patients, with treatment up to six months and doses up to 750 mg BID
- Well defined and understood safety profile; transient liver enzyme elevation dose-limiting in the clinic but only at doses \geq 250 mg BID

Clinical Efficacy

- Target engagement (reduction in CSF ptau and total tau, relative to placebo) demonstrated in 24-week placebo-controlled phase 2 study in AD with 40 mg BID
- Proof-of-concept demonstrated in 16-week placebo-controlled phase 2 study in dementia with Lewy bodies with 40 mg TID

Target Engagement: Neflamapimod Reduces Cerebrospinal fluid (CSF) tau levels in patients with Early AD



In preclinical studies, inhibition of p38 α reduces tau phosphorylation and aggregation

Maphis et al. *Alzheimer's Research & Therapy* (2016) 8:54
DOI 10.1186/s13195-016-0221-y

Alzheimer's Research & Therapy

RESEARCH Open Access

Selective suppression of the α isoform of p38 MAPK rescues late-stage tau pathology

Molecular Neurobiology (2022) 59:1632–1648
<https://doi.org/10.1007/s12035-021-02715-0>

p38 Inhibition Decreases Tau Toxicity in Microglia and Improves Their Phagocytic Function

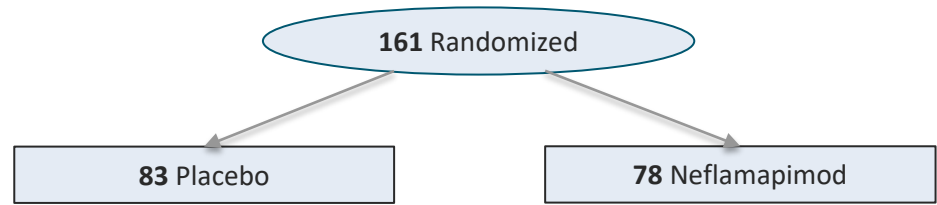
SCIENCE ADVANCES | RESEARCH ARTICLE

NEUROSCIENCE

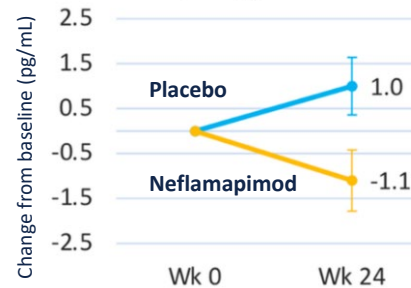
Alzheimer's disease: Ablating single master site abolishes tau hyperphosphorylation

Kristie Stefanoska^{1*}, Mehul Gajwani^{2,5}, Amanda R. P. Tan¹, Holly I. Ahe^{3,6}, Prita R. Asih¹, Alexander Volkerling¹, Anne Poljak⁴, Arne Ittner^{1*}

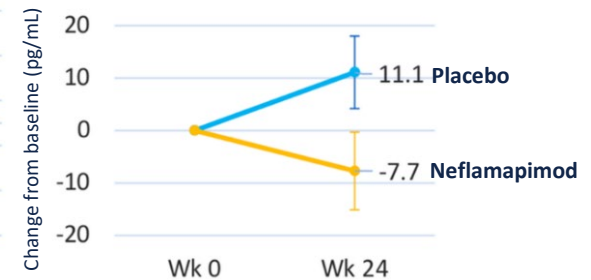
Clinical Trial Results with Neflamapimod



A. CSF Levels of ptau₁₈₁



B. CSF Levels of Total Tau



Phase 2a Exploratory Clinical Study in Dementia with Lewy Bodies (DLB)



AscenD-LB

Patients

- Mild-to-Moderate DLB by consensus criteria (McKeith, *Neurology*, 2017)
- Abnormal dopamine uptake by DaTscan™
- **On background cholinesterase inhibitor therapy**

**16-WEEK TREATMENT, DOUBLE-BLIND
NFMD 40 mg or matching placebo**

Outcome Measures

- DLB-specific Neuropsychological Test Battery (NTB, a cognitive test battery)
- Dementia Severity, assessed by CDR-SB
- Motor Function, assessed by Timed Up and Go (TUG) test

Dosing:

- Randomized to neflamapimod (n=46) or placebo (n=45)
- Twice daily (BID) if weight < 80kg or three times daily (TID) if weight ≥ 80kg
- Well tolerated, with no study drug related discontinuations

AscenD-LB Outcome Measures

Clinical Dementia Rating Sum of Boxes (CDR-SB, Total Score = 0-18)

Cognitive Domains:

- Memory (0-3)
- Orientation (0-3)
- Judgement and Reasoning (0-3)

Functional Domains:

- Community Affairs (0-3)
- Home & Hobbies (0-3)
- Personal Care (0-3)

Neuropsychological Test Battery (NTB)*:

- Detection
- Identification
- One Card Learning
- One Back
- Letter Fluency Test
- Category Fluency Test

Timed Up and Go Test (TUG, scored in seconds)



*DLB-specific cognitive test battery designed to assess attention, executive function and visual learning

NTB composite: results of all six tests combined into single z-score

Attention composite: Detection and Identification tests combined into single z-score

AscenD-LB Efficacy Results



Outcome Measure	Comparison of all neflamapimod (40mg BID and 40mg TID) with placebo		Comparison of neflamapimod 40mg TID with placebo	
	Drug-Placebo Difference On-Study (95% CI)	p-value	Drug-Placebo Difference On-Study (95% CI)	p-value
CDR-SB	-0.45 (-0.83,-0.06)	0.023	-0.56 (-0.96,-0.16)	0.007
NTB Composite z-score	0.04 (-0.11, 0.19)	>0.2	0.17 (0.00, 0.35)	0.049
Attention Composite z-score	0.14 (-0.06, 0.35)	0.17	0.28 (0.04, 0.51)	0.023
TUG	-1.4 (-2.7,-0.1)	0.044	-1.4 (-2.6,-0.2)	0.024

- Clinically relevant positive effects of 40 mg TID neflamapimod on multiple aspects of mild-to-moderate DLB:
 - ✓ Dementia Severity: Clinical Dementia Rating Sum of Boxes (CDR-SB)
 - ✓ Cognition: Significant effect on Neuropsychological Test Battery
 - ✓ Motor Function: Significant effect on Timed and Go Test

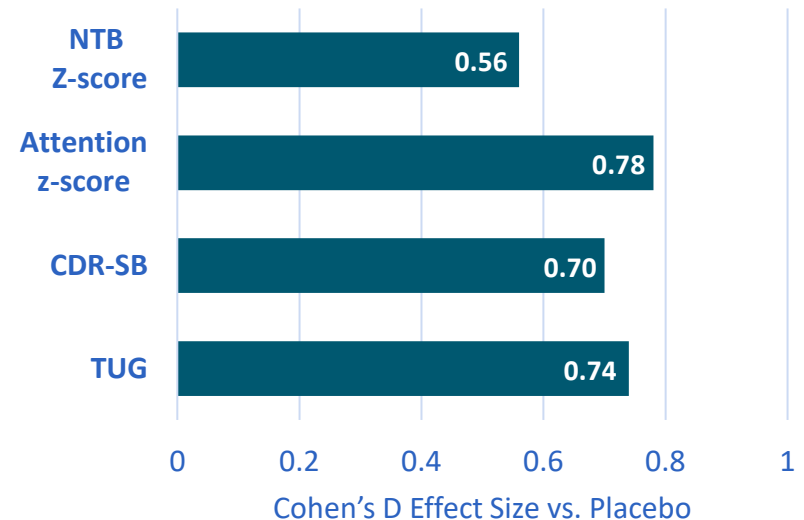
Improvement is reflected as increases in NTB, and as decreases in CDR-SB and TUG test

Biomarker Results Support Enrichment Strategy for Future Trials



- 35-50% of patients with DLB have biomarker evidence of Alzheimer's disease (AD)
 - Represent patients with extensive neurodegeneration (neuronal loss) in the cerebral cortex, particularly in the medial temporal lobe (i.e., in the hippocampus)
 - DLB patients without positive AD biomarkers have minimal cortical atrophy (Hansen, 1998; Amin, 2020; Abdelnour, 2020)
- In phase 2a, magnitude of neflamapimod treatment effect in DLB was high (>0.5 effect size) in the 54% of patients who did *not* have biomarker evidence of AD (evaluated by plasma ptau181)

Effect Size at 40mg TID in patients with plasma ptau181 below cut-off



Learnings from Phase 2a Study That Enhance Probability of Success in Phase 2b



- Optimal dose is 40mg TID
- Clinical endpoints that can detect effects on both cognitive and motor function (specifically, CDR-SB and TUG) perform better than endpoints that are purely focused on evaluating cognition
 - In AD, CDR-SB accepted by regulatory authorities as an approval endpoint
- Patients with pure DLB appear to have a greater response to treatment
 - Therefore, excluding patients with AD co-pathology as assessed by plasma ptau181
 - Goal is to increase statistical power in clinical trials

Phase 2b Confirmatory Study in DLB



Protocol EIP21-NFD-504

Patients

- DLB by consensus criteria (McKeith, *Neurology*, 2017)
- Abnormal dopamine uptake by DaTscan™
- On background cholinesterase inhibitor therapy or naïve
- Global CDR <2.0
- ptau181 ≤ 2.4 pg/mL (i.e., no AD co-pathology)
- 160 patients (randomized 1:1 to placebo or NFMD)

**16-WEEK TREATMENT, DOUBLE-BLIND
NFMD 40 mg TID or placebo, daily**

**32-WEEK TREATMENT, Open Label Extension
NFMD 40 TID**

Outcome Measures

- 1°: CDR-Sum of Boxes
- 2°: Cognition assessed by DLB-specific Neuropsychological Test Battery (NTB), CGIC; Motor Function, assessed by Timed Up and Go (TUG) test

Other evaluations:

- Fluctuation scale, NPI-12, MDS-UPDRS3
- EEG evaluations
- Structural MRI in patients enrolled in UK and NL

Potential to Broaden Opportunity



- Additional indications in which dysfunction or degeneration of basal forebrain cholinergic system plays major pathogenic role:
 - Functional recovery after anterior circulation ischemic stroke
 - Alzheimer’s disease (AD): Early-onset AD (EOAD) or Late Onset AD (in combination with anti-amyloid mAb)
- EIP200
 - Novel composition of matter with same underlying mechanism

Leadership Team



John Alam, MD
President, CEO & Co-Founder



Kelly Blackburn
VP, Clinical Development



Sylvie Gregoire, PharmD
Executive Chair & Co-Founder



Darryl Patrick, DVM, PhD
VP, Non-Clinical Development



William Tanner, PhD
Chief Financial Officer



Board of Directors

- **Sylvie Grégoire, PharmD:** Executive Chair
- **John Alam, MD:** President & CEO
- **Jeff Poulton:** CFO, Alnylam; former CFO, Shire; CFO, Indigo Ag
- **Frank Zavri:** Investor; former non-executive director, Puma Biotechnology
- **Marwan Sabbagh, MD:** Prof. of Neurology, Barron Neurological Institute

Scientific Advisory Board

- **Ole Isacson, MD (Chair):** Harvard Medical School
- **Lewis Cantley, PhD:** Dana-Farber Cancer Institute, Founder, Agios
- **Jeff Cummings, MD, PhD:** Chambers-Grundy Center for Transformative Neuroscience at UNLV
- **Heidi McBride, PhD:** McGill University

Key Upcoming Anticipated Milestones/Catalysts



1H 2023

- ✓ NIA approves \$21M grant for Phase 2b
- ✓ Signed merger agreement with Diffusion Pharma
- ❑ FPD in Phase 2b DLB study
- ❑ Present data at AD/PD 2023

2H 2023

- ❑ Close merger transaction; begin trading as a public company (mid-year)
- ❑ Publish additional Phase 2a data¹ from DLB study

2024

- ❑ Complete enrollment in Phase 2b DLB study (1H)
- ❑ Report data from placebo-controlled portion of Phase 2b DLB study (2H)

1. Plasma ptau181 stratified results.

Summary



Differentiated Approach to Age-related Neurologic Disorders with a Late-Stage Asset



Major value creation potential in phase 2b read-out in dementia with Lewy bodies

**EIP
Pharma**



Experienced Management Team and Board of Directors



Potential to broaden opportunity through additional indications and 2nd asset



Significant news flow through to end of 2024



Thank you