
anavex®
LIFE SCIENCES Corp.
Corporate Presentation
Christopher U Missling, PhD | President & CEO
Nasdaq: AVXL | January 2022

Forward Looking Statement

This presentation contains forward-looking statements made within the meaning of the Private Securities Litigation Reform Act of 1995 by Anavex® Life Sciences Corp. and its representatives. These statements can be identified by introductory words such as “expects,” “plans,” “intends,” “believes,” “will,” “estimates,” “forecasts,” “projects,” or words of similar meaning, and by the fact that they do not relate strictly to historical or current facts. Forward-looking statements frequently are used in discussing potential product applications, potential collaborations, product development activities, clinical studies, regulatory submissions and approvals, and similar operating matters. Many factors may cause actual results to differ from forward-looking statements, including inaccurate assumptions and a broad variety of risks and uncertainties, some of which are known and others of which are not. Known risks and uncertainties include those identified from time to time in reports filed by Anavex Life Sciences Corp. with the Securities and Exchange Commission, which should be considered together with any forward-looking statement. No forward-looking statement is a guarantee of future results or events, and one should avoid placing undue reliance on such statements. Anavex Life Sciences Corp. undertakes no obligation to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise. Anavex Life Sciences Corp. cannot be sure when or if it will be permitted by regulatory agencies to undertake clinical trials or to commence any particular phase of any clinical trials. Because of this, statements regarding the expected timing of clinical trials cannot be regarded as actual predictions of when Anavex Life Sciences Corp. will obtain regulatory approval for any “phase” of clinical trials. We also cannot be sure of the clinical outcome for efficacy or safety of our compounds. Potential investors should refer to the risk factors in our reports filed on Edgar.

ANAVEX Platform for Neurological Diseases

Neurological chronic conditions: Impaired housekeeping function and impaired homeostasis

SIGMAR1 activation as compensatory mechanism to chronic CNS diseases[1]

[1] *Brimson JM, Brimson S, Chomchoei C, et al. Using Sigma-ligands as part of a multi-receptor approach to target diseases of the brain. Expert opinion on therapeutic targets. 2020*

Large Markets by Applying Precision Medicine Platform

Today

- SIGMAR1 activation established as a New Platform Class

- ANAVEX®2-73 (*blarcamesine*) Clinical study results in broad CNS indications confirm SIGMAR1 technology

Tomorrow

- SIGMAR1 technology to Succeed Traditional Modalities

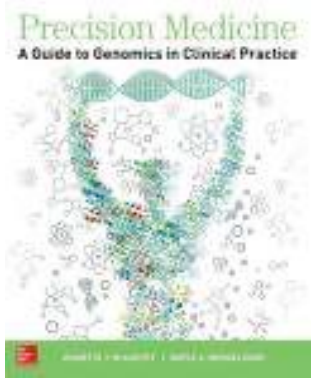
  - Alzheimer's disease
  - Parkinson's disease
  - Rett syndrome
  - Fragile X syndrome
  - Other rare diseases

The Future

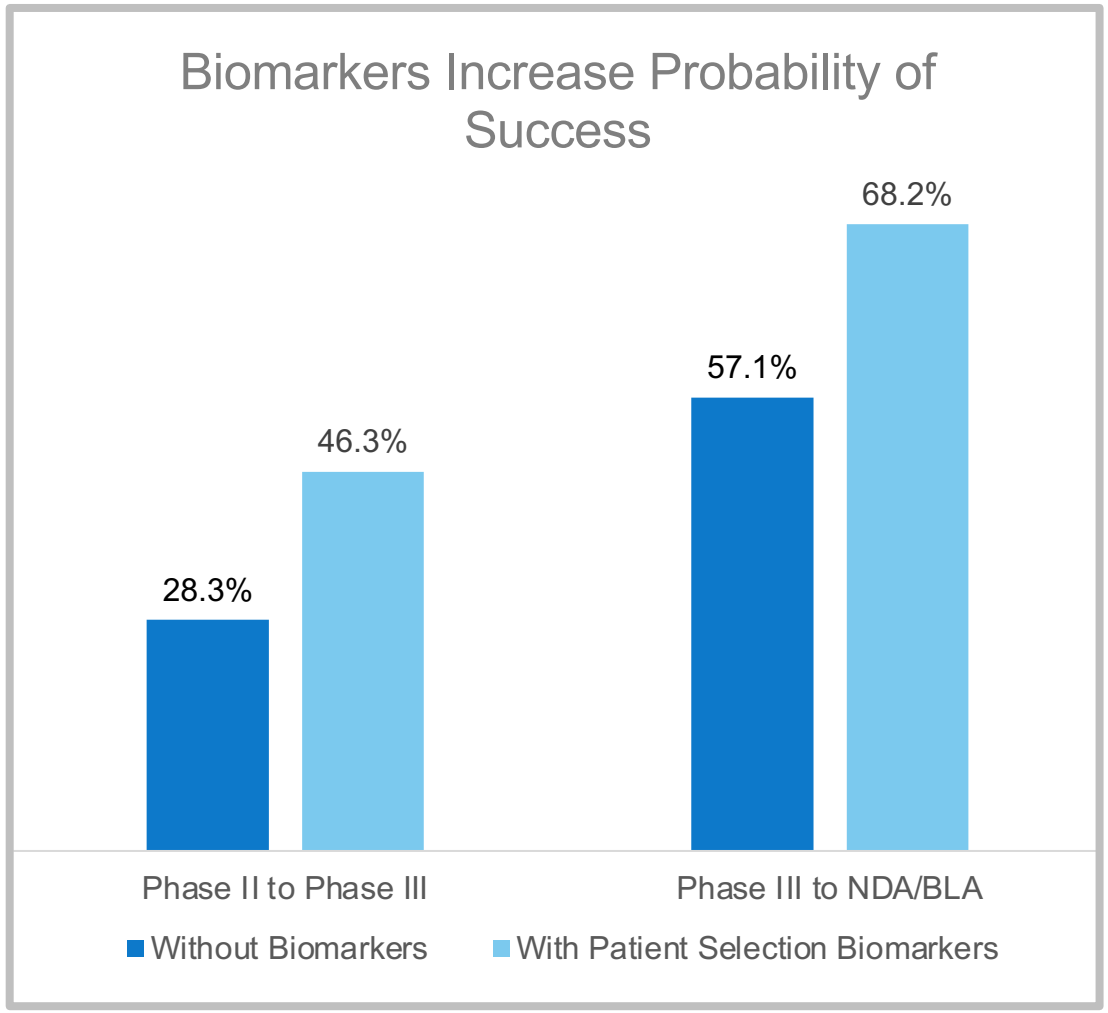
- SIGMAR1 to open up new opportunities Beyond the Horizon

  - Expanded CNS indications
  - Regenerative medicine[1]
  - Disease prevention[2]

[1] K. Ruscher, T. Wieloch, The involvement of the sigma-1 receptor in neurodegeneration and neurorestoration, Journal of Pharmacological Sciences, Volume 127, Issue 1, 2015, Pages 30-35, ISSN 1347-8613, https://doi.org/10.1016/j.jphs.2014.11.011. [2] L. Nguyen et al., Role of sigma-1 receptors in neurodegenerative diseases, Journal of Pharmacological Sciences, Volume 127, Issue 1, 2015, Pages 17-29, ISSN 1347-8613, https://doi.org/10.1016/j.jphs.2014.12.005.



Precision Medicine

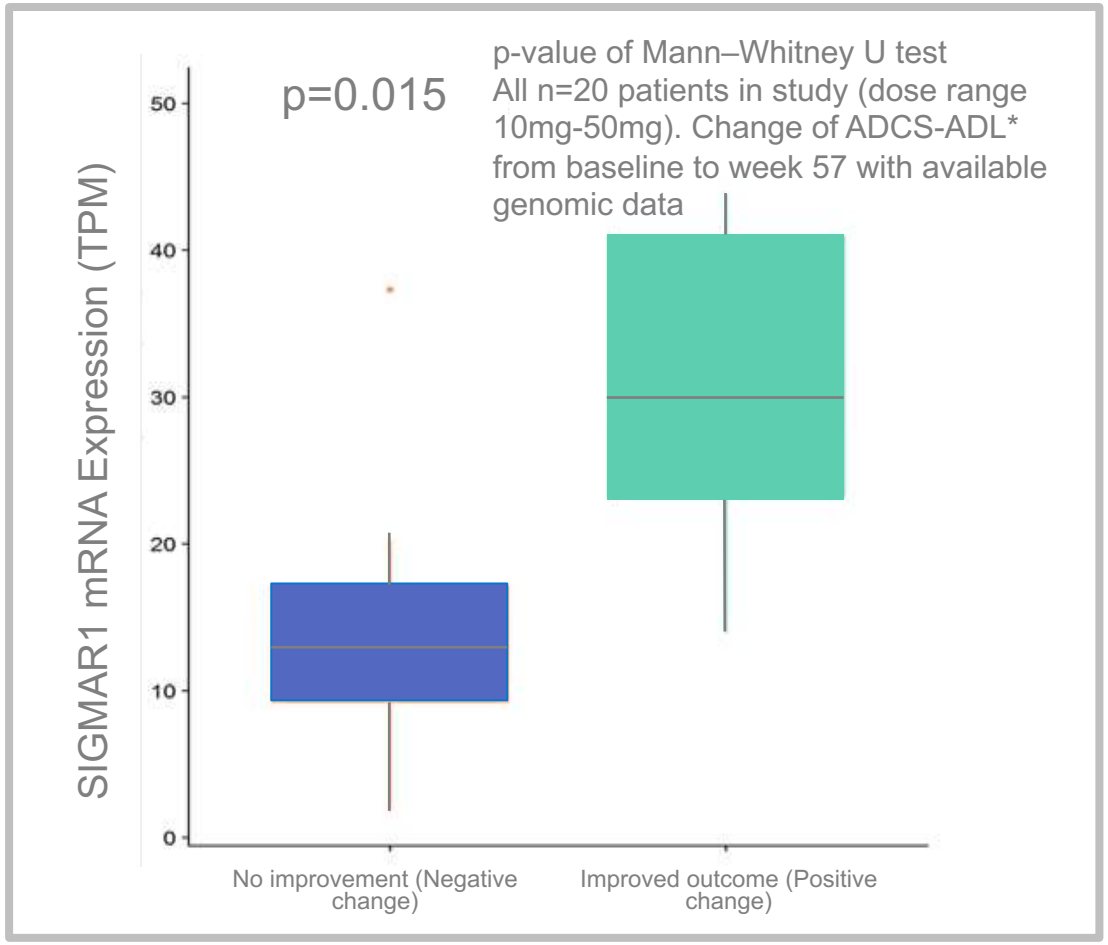


- Patient selection biomarkers
- Higher therapeutic response
- Lower variability in the target population

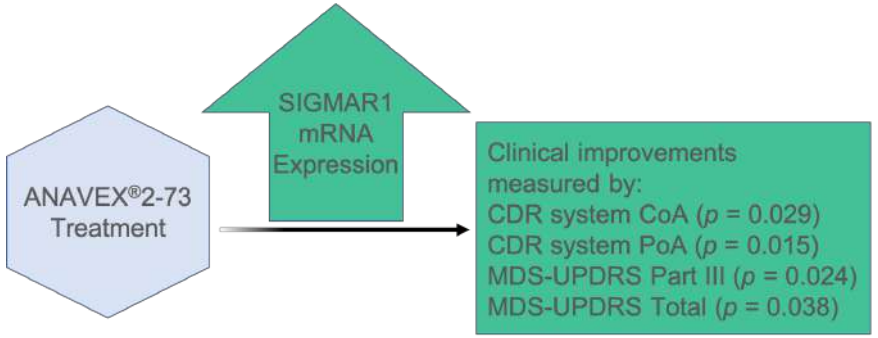
Thomas DW et al. Clinical Development Success Rates 2011-2020. BIO | QLS Advisors | Informa UK Ltd 2021

ANAVEX®2-73 Establishes SIGMAR1 mRNA Predictive Biomarker of Efficacy in Alzheimer's, Parkinson's and Rett Syndrome

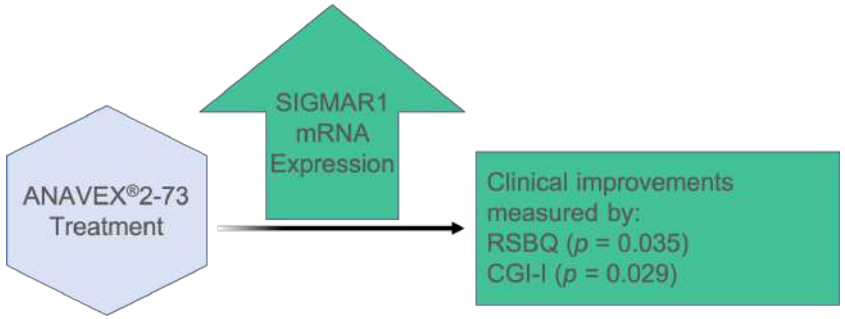
ANAVEX®2-73 improves functional (ADCS-ADL*) outcome in Alzheimer's disease patients correlating with SIGMAR1 mRNA levels



ANAVEX®2-73 positive response in functional outcome in patients with Parkinson's disease correlate with SIGMAR1 mRNA levels



ANAVEX®2-73 positive response in functional outcome in patients with Rett syndrome correlate with SIGMAR1 mRNA levels

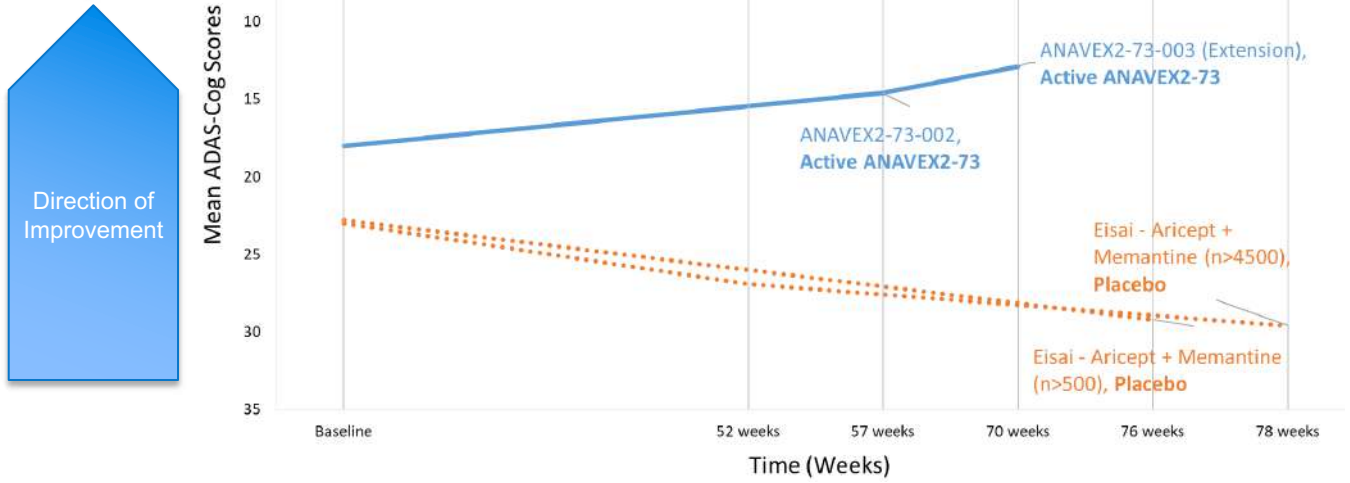


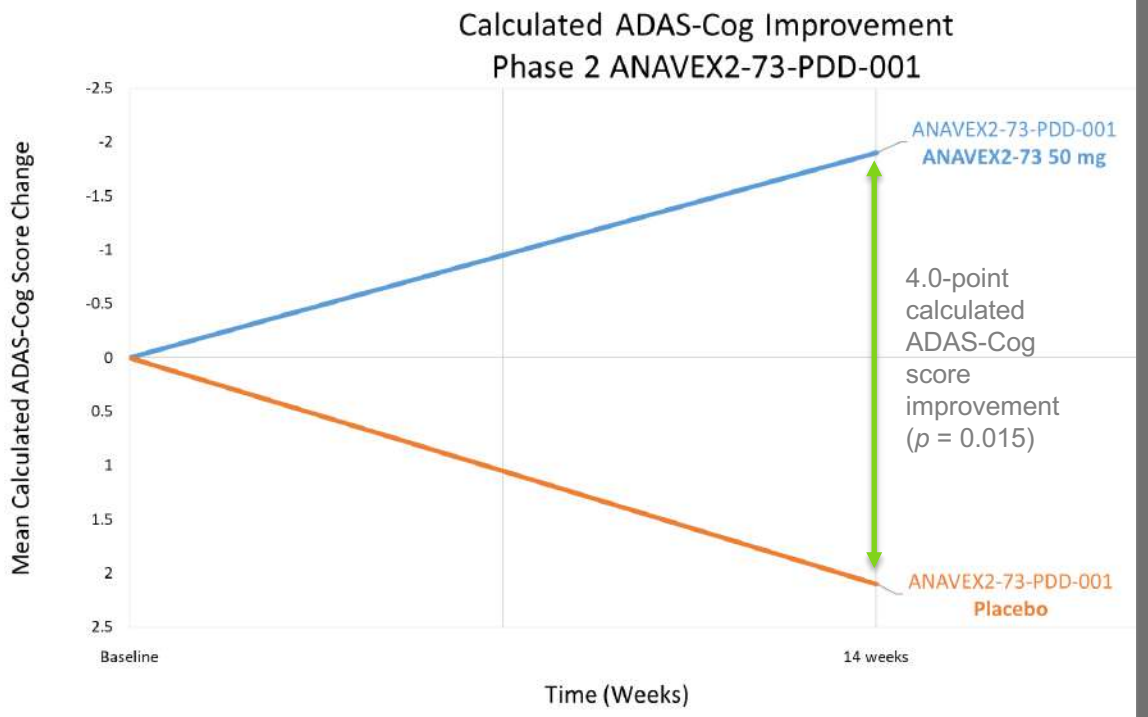
*Source: Hampel H et al. Alzheimer's Dement. 2020;00:1–14; *Alzheimer's Disease Cooperative Study Activities of Daily Living 23-item scale (ADCS-ADL)*

Aiming to Change the Course of Dementia …

… Dementia is progressive and over time a patient's cognition will worsen

▸ Trajectory changed with ANAVEX®2-73



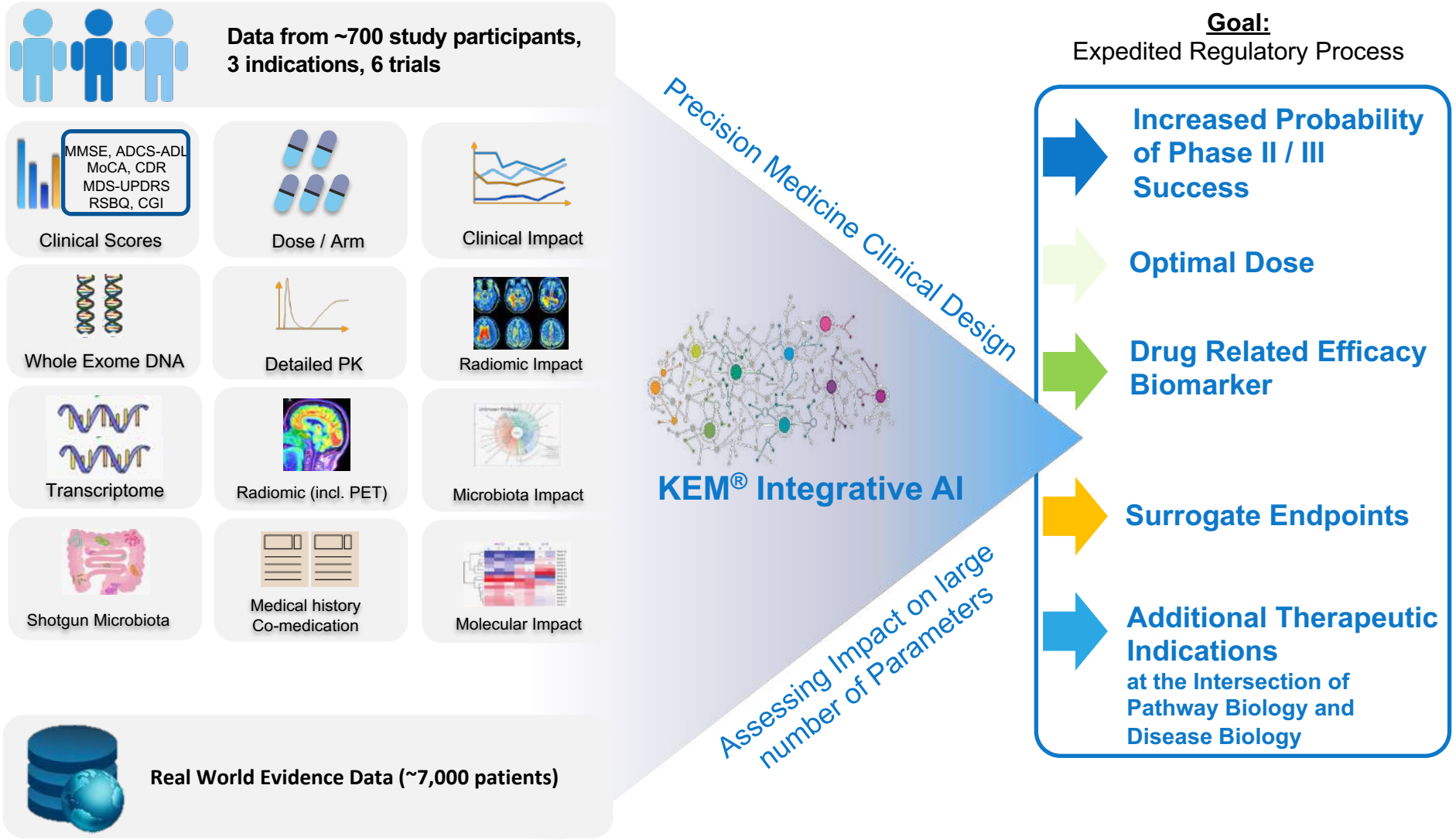


Visualize the improvement in calculated ADAS-Cog scores in Alzheimer's patients treated with ANAVEX®2-73, relative to the placebo arms of other sponsors' trials

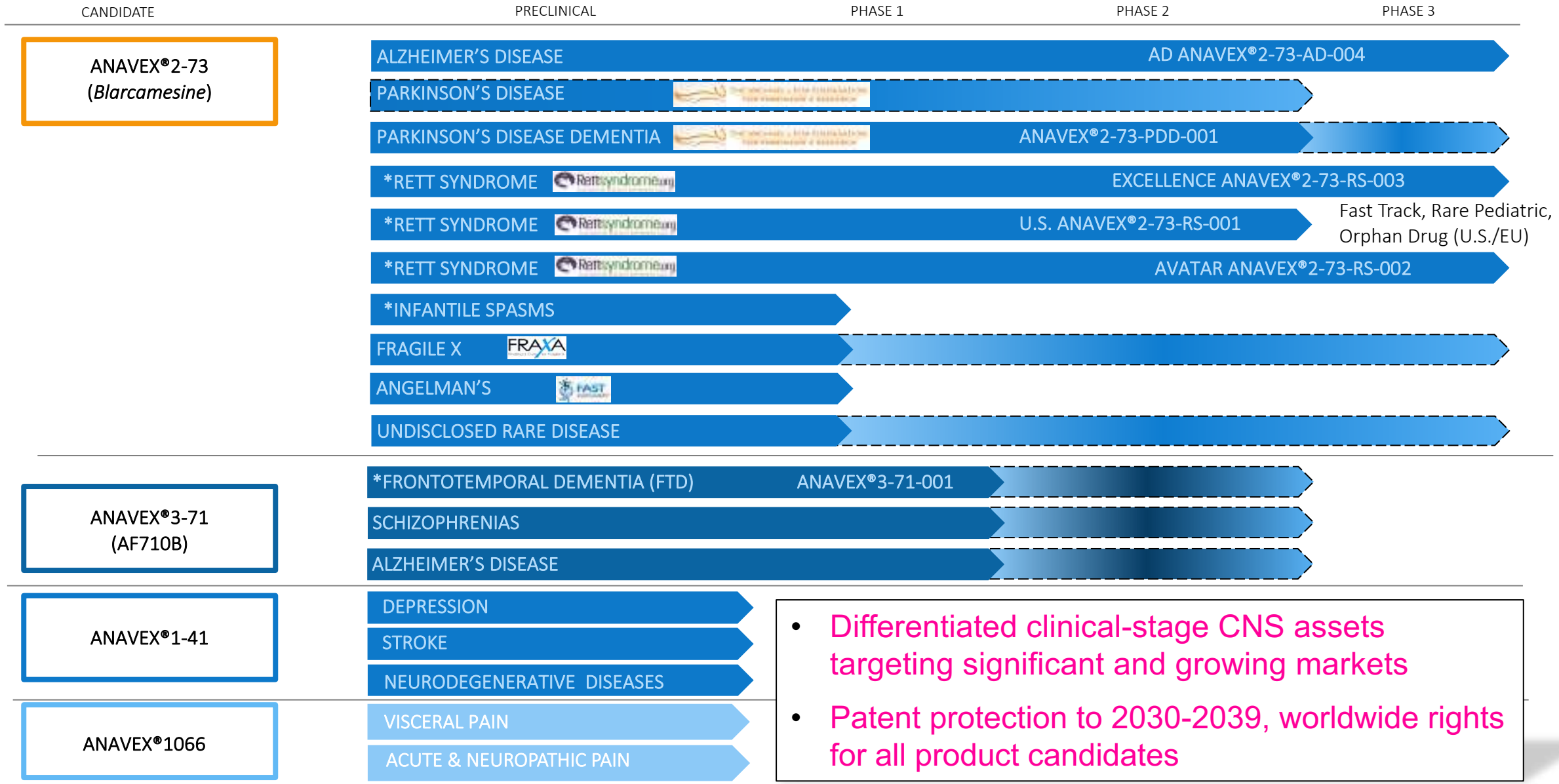
Parkinson's disease dementia (PDD) patients improved with ANAVEX®2-73 in calculated corresponding ADAS-Cog scores from baseline to 14 weeks

Source: https://www.anavex.com/anavex-life-sciences-reports-anavex2-73-blarcamesine-featured-as-a-disease-modifying-small-molecule-in-phase-3-clinical-trials-in-a-new-publication-in-medical-journal-titled-future-av/

AI Powered, Biomarker Driven, Accelerated Development Built on in-depth Molecular Understanding of SIGMAR1 Pathway



Broad SIGMAR1 Platform Targeting Significant Unmet Medical Need

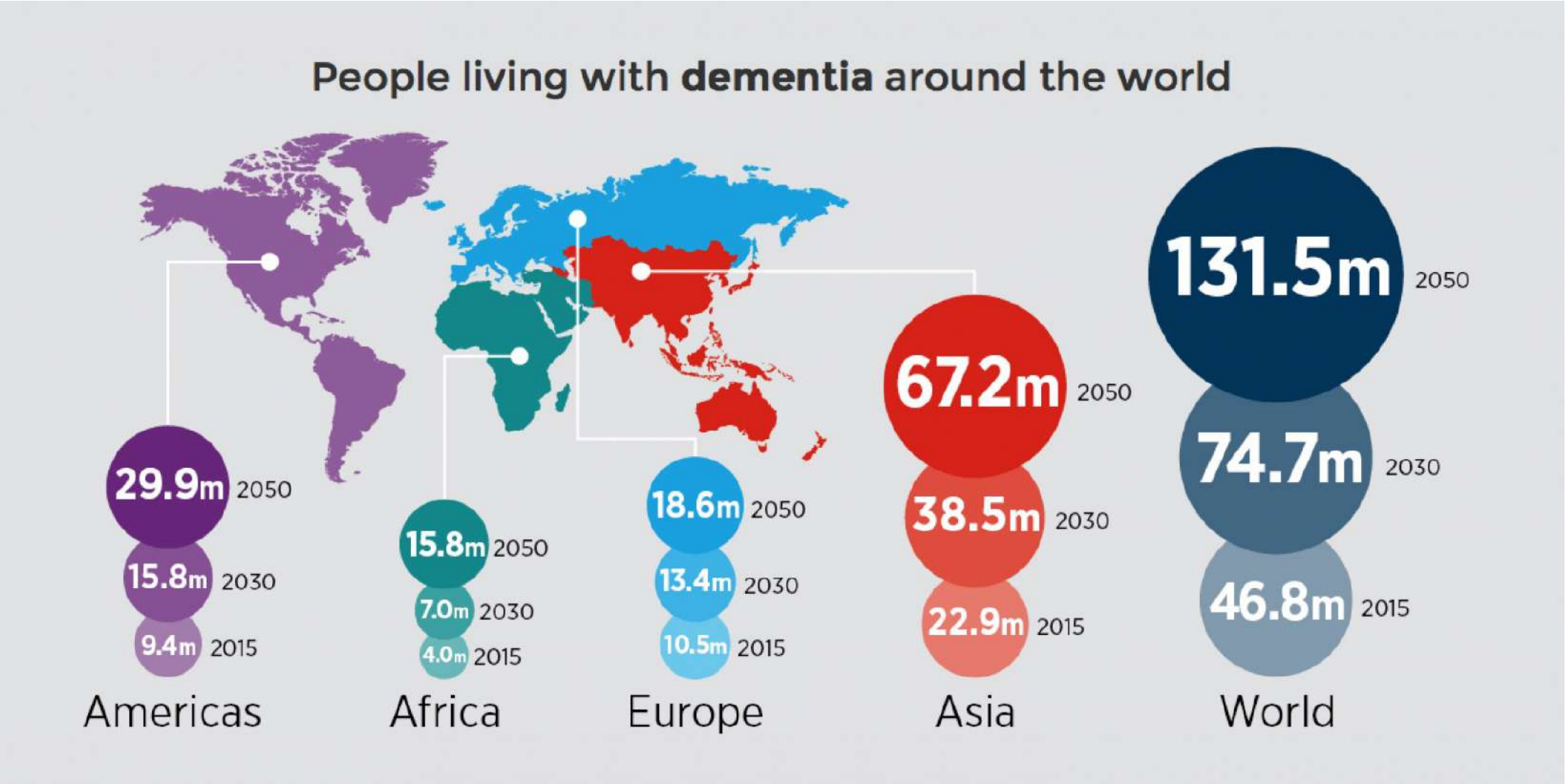


- Differentiated clinical-stage CNS assets targeting significant and growing markets
- Patent protection to 2030-2039, worldwide rights for all product candidates

** = Orphan Drug Designation by FDA; Dashed lines indicate planned clinical studies*

Worldwide Dementia Cases Projected to Grow to Over 130M by 2050

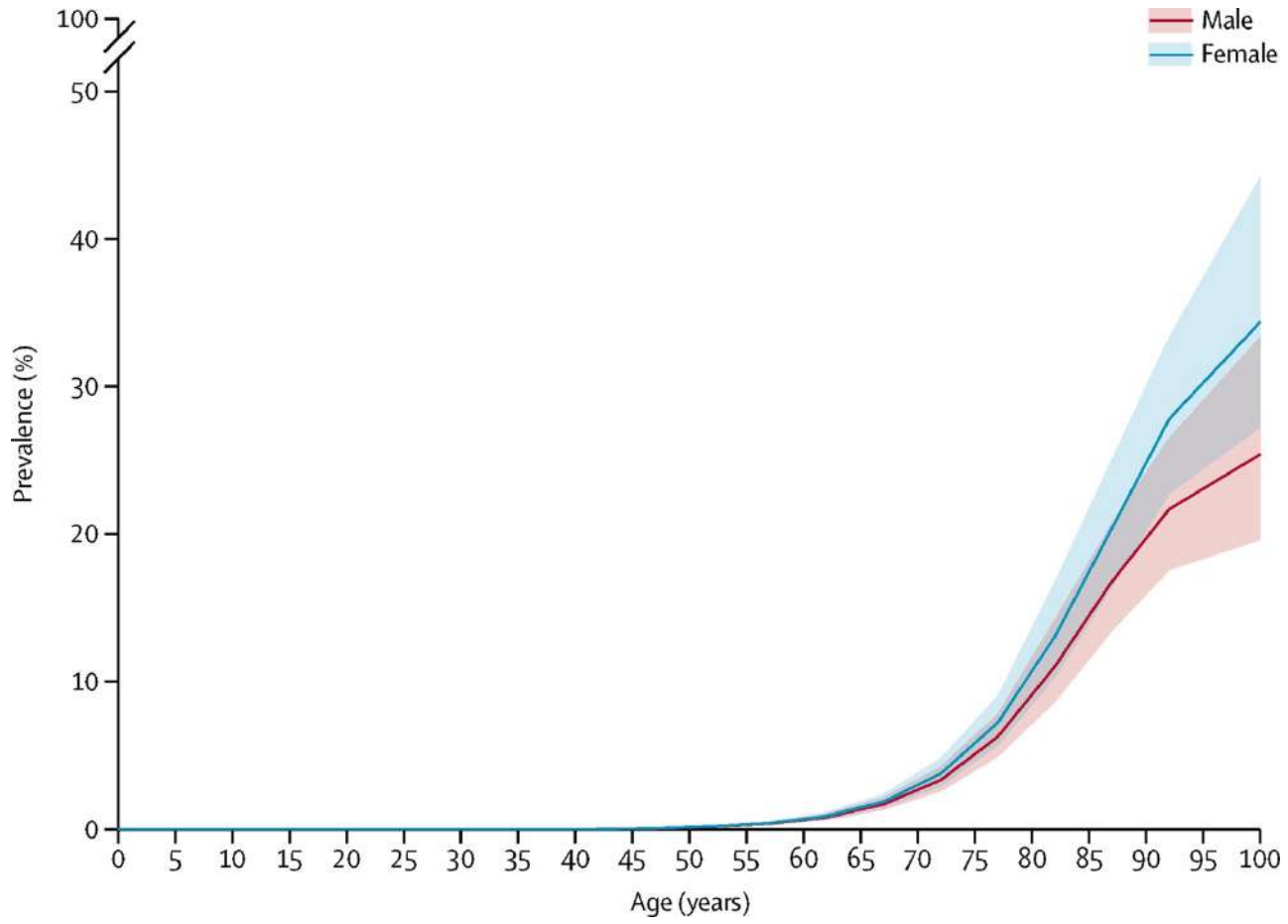
Targeting Large Market: Global Dementia



Source: World Alzheimer's Report

Costs Associated with Alzheimer's Treatment and Care in the U.S. are Unsustainable

Age Prevalence of Global Alzheimer's Disease and Dementias



>$20 trillion

Cumulative costs of Alzheimer's and dementia care from 2015 to 2050

1 in 3

Medicare dollars will be spent on people living with Alzheimer's and other dementias in 2050

>11 million

The number of Americans providing unpaid care for people with Alzheimer's or other dementias

Source: GBD 2016 Dementia Collaborators. Global, regional, and national burden of Alzheimer's disease and other dementias, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016. Lancet Neurol. 2019 Jan;18(1):88-106; www.alz.org

Targeting Large Market Opportunities with Significant Unmet Medical Need

U.S. and Global Patient Numbers

Indication	USA	Europe	Asia	Global
Alzheimer's Disease (AD)[1,2]	~5,700,000	~7,800,000	~23,000,000	~35,000,000
Parkinson's Disease (PD)[3,4]	~1,000,000	~1,400,000	~3,000,000	~10,000,000
Frontotemporal Dementia (FTD)[5]	~60,000	~65,000	~500,000	~800,000
Schizophrenias[6,7*]	~1,500,000	~3,000,000	~6,000,000	~20,000,000
Rett Syndrome (RTT)[8*]	~11,000	~13,000	~37,000	~350,000
Fragile X Syndrome (FXS)[9,10*]	~62,500	~150,000	~900,000	~1,400,000

1) *Alzheimer's Disease Facts and Figures. Alzheimers Dement 2018;14(3):367-429*
2) *Dementia in the Asia Pacific Region. Alzheimer's Disease International 2014; 10*
3) *Marras C et al 2018. npj Parkinson's Disease volume 4, Article number: 21*
4) *GBD 2016 Parkinson's Disease Collaborators. The Lancet 2018 Volume 17, Issue 11, P3939-953*
5) *Knopman & Roberts 2011. J Mol Neurosci 2011;45(3):330-335*
6) *National Alliance on Mental Illness, 2019*
7) *Fasseh et al., 2018. Eur J Public Health. 2018 Dec 1;28(6):1043-1049*
8) *Rettsyndrome.org, 2016*
9) *National Fragile X Foundation, 2022*
10) *Hunter et al., 2014. Am J Med Genet A. 2014 Jul;164A(7):1648-5*

** Patient estimates derived from the published prevalence estimate range for the regional population.*

Anavex's Transformative Precision Medicine Platform

- ANAVEX®2-73 (*Blarcamesine*) Rett Syndrome Program Received Fast Track Designation and is Eligible for Pediatric Priority Review Voucher
- Pursuing Large Markets with High Unmet Need by Applying Genetic Precision Medicine
- Novel Upstream CNS Mechanism of Action for both Neurodevelopment and Neurodegeneration
- Compelling Human Patient Data in Rett Syndrome (RTT), Parkinson's Disease Dementia (PDD) and Alzheimer's Disease (AD)
- Sufficient Cash for >5 Years To Achieve Key Milestones – Including non-dilutive Cash from Michael J Fox Foundation, International Rett Syndrome Foundation and Australian Government

Continued Significant Value-creating Pipeline Expansion Opportunities for ANAVEX®2-73:

- Novel approach of targeting SIGMAR1 using precision medicine with potential for biomarker-focused pivotal Fragile X and Parkinson's disease dementia clinical trials

Catalysts to Drive Value

The company has multiple clinical milestones

- ✅ Complete data ANAVEX®2-73 U.S. Rett syndrome Phase 2 study
- ✅ Complete data ANAVEX®2-73 Parkinson's disease dementia (PDD) Phase 2 study
- ✅ Complete top-line data Phase 1 ANAVEX®3-71 clinical trial
- 〉 Top-line data AVATAR: Potentially pivotal Phase 2/3 adult RTT clinical trial – expected YE 2021
- 〉 Top-line data EXCELLENCE: Potentially pivotal Phase 2/3 pediatric RTT clinical trial – expected 1H 2022
- 〉 Top-line data ANAVEX®2-73-AD-004: Potentially pivotal Phase 2b/3 AD clinical trial – expected 2H 2022
- 〉 Initiation of ANAVEX®2-73 imaging-focused Parkinson's disease clinical trial – expected 2022
- 〉 Initiation of potentially pivotal ANAVEX®2-73 Phase 2/3 Fragile X clinical trial – expected 2022
- 〉 Initiation of potentially pivotal ANAVEX®2-73 Phase 2/3 clinical trial for the treatment of a new, rare disease indication – expected 2022
- 〉 Initiation of ANAVEX®3-71 Phase 2 clinical trial for FTD, schizophrenias and Alzheimer's disease – expected 2022

ANAVEX®2-73 Clinical Trials
Mechanism of Action (MoA) and Clinical Data:

- Rett Syndrome (RTT)
- Parkinson’s Disease Dementia (PDD)
- Alzheimer’s Disease (AD)

SIGMAR1 Activation has been Shown to Modulate Multiple Aspects of Neurodegenerative Processes

Sigma-1 receptor agonists have been shown to restore neuronal functions in neurodegenerative processes

Journal of Pharmacological Sciences

Critical review

Role of sigma-1 receptors in neurodegenerative diseases

Linda Nguyen, Brandon P. Lucke-Wold, Shona A. Mookerjee, John Z. Cavendish, Matthew J. Robson, Anna L. Scandinaro, Rae R. Matsumoto

ANAVEX®2-73 enhances autophagy and alleviates Tau pathology in neurodegenerative disease models

cells

MDPI

Article

Sigma-1 Receptor Activation Induces Autophagy and Increases Proteostasis Capacity In Vitro and In Vivo

Maximilian G. Christ, Heike Huesmann, Heike Nagel, Andreas Kern and Christian Behl

Blockade of Tau Hyperphosphorylation and $A\beta_{1-42}$ Generation by the Aminotetrahydrofuran Derivative ANAVEX2-73, a Mixed Muscarinic and σ_1 Receptor Agonist, in a Nontransgenic Mouse Model of Alzheimer's Disease

Sigma-1 receptor agonists have a neuroprotective effect in neurodegenerative disease models

REVIEW ARTICLE

Front. Neurosci. | doi: 10.3389/fnins.2019.00862

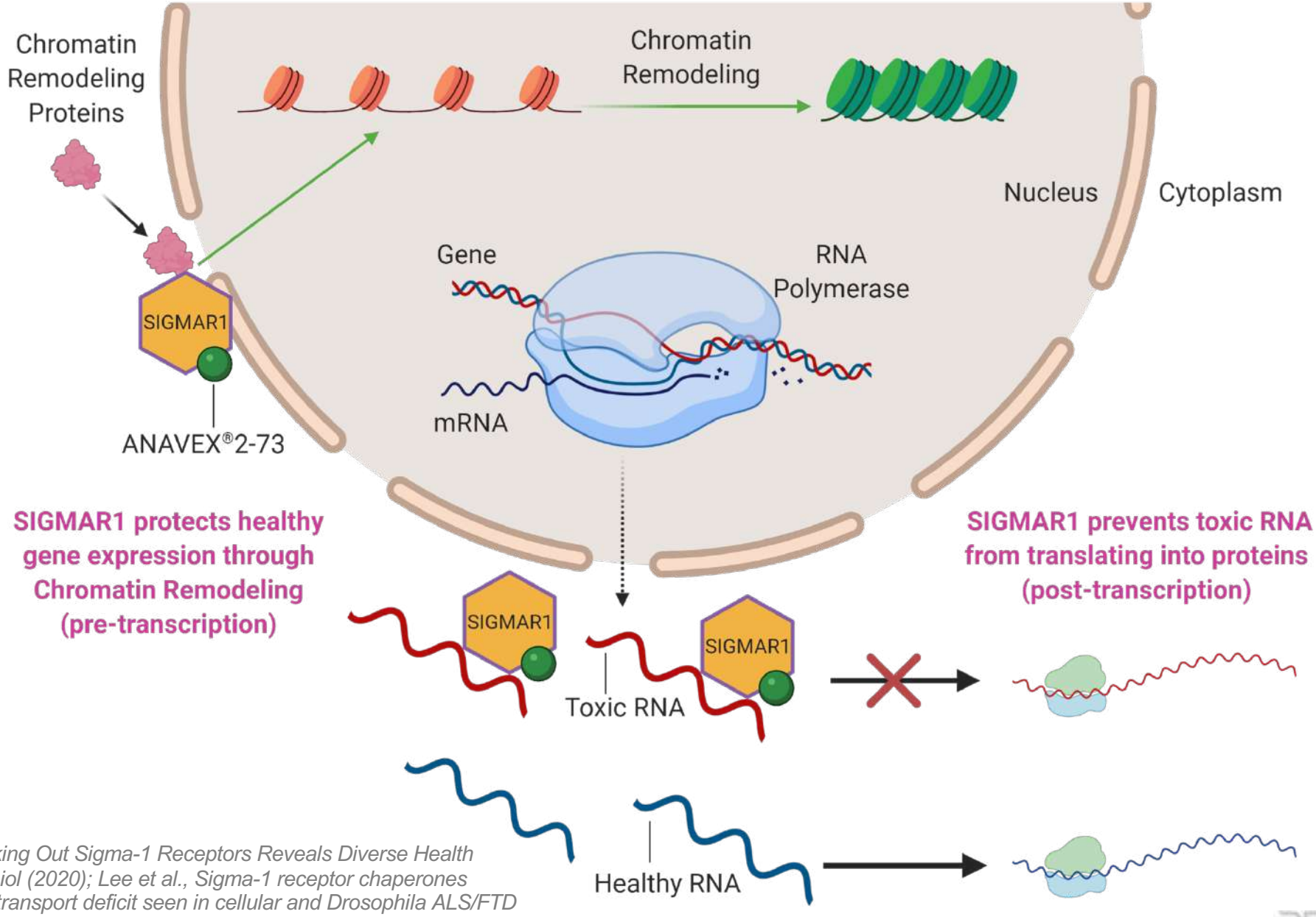
Neuronal Sigma-1 receptors: signaling functions and protective roles in neurodegenerative diseases

Daniel A. Ryskamp, Svetlana Korban, Vladimir Zhemkov, Nina Kraskovskaya and Ilya Bezprozvanny

Neuroprotective effects of sigma-1 receptor agonists against beta-amyloid-induced toxicity

Agostino Marrazzo, Filippo Caraci, Elisa Trovato Salinaro, Teung-Ping Su, Agata Copani and Giuseppe Ronsisvalle

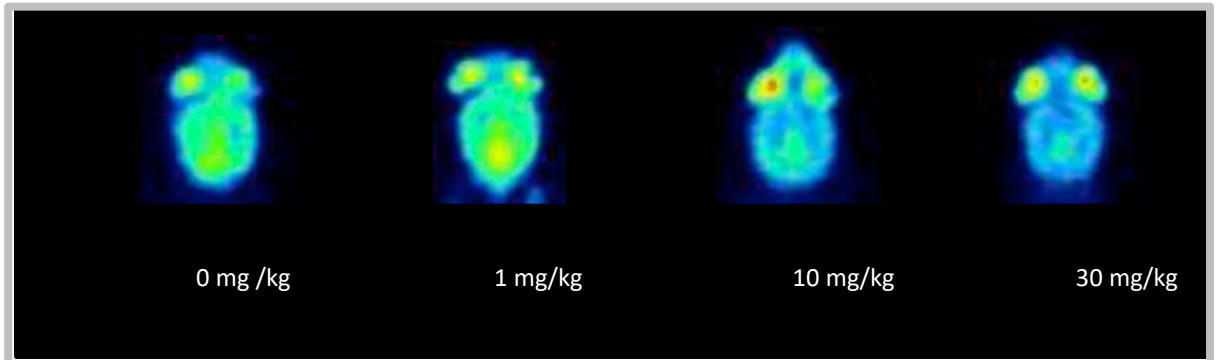
ANAVEX®2-73 MoA: SIGMAR1 Activation Prevents Cellular Stress Before *and* After RNA Gene Transcription

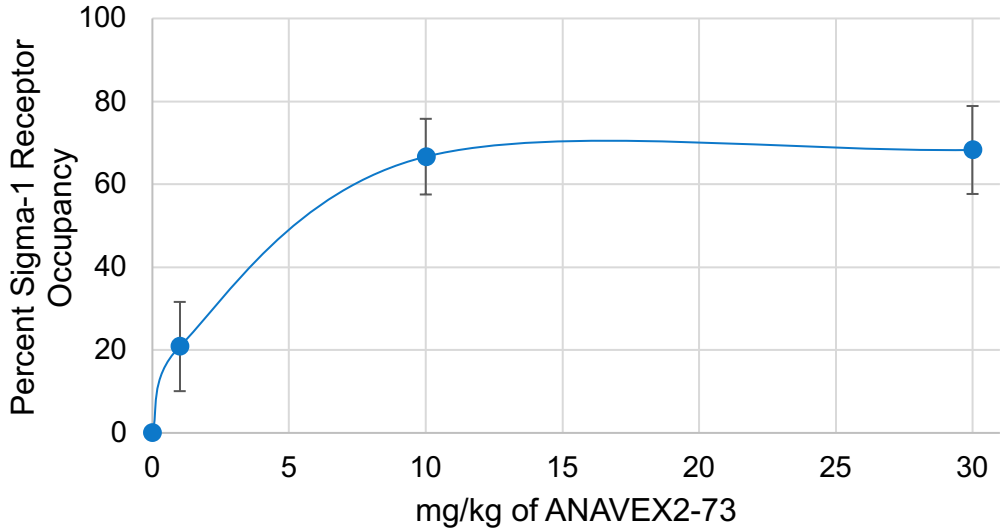


Source: Couly et al., Knocking Out Sigma-1 Receptors Reveals Diverse Health Problems. Cell Mol Neurobiol (2020); Lee et al., Sigma-1 receptor chaperones rescue nucleocytoplasmic transport deficit seen in cellular and Drosophila ALS/FTD models. Nat Commun. 2020 Nov 4;11(1):5580

ANAVEX®2-73 Establishes Proof-of-Concept and SIGMAR1 Target Occupancy

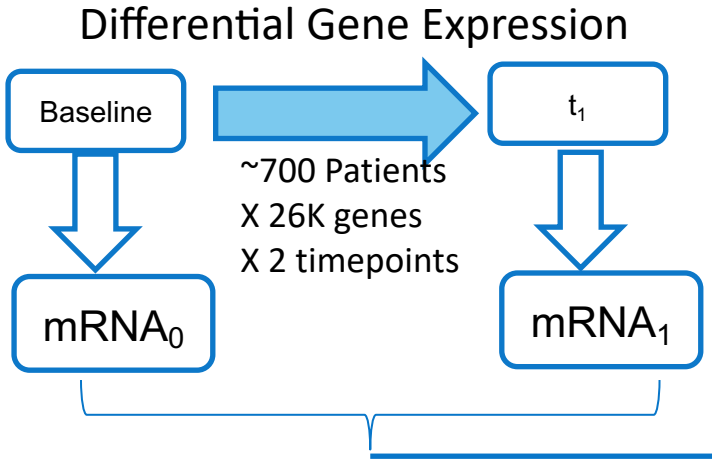
2D [18F]FTC-146-PET imaging of ANAVEX®2-73: Dose-dependent ANAVEX®2-73 Target Engagement



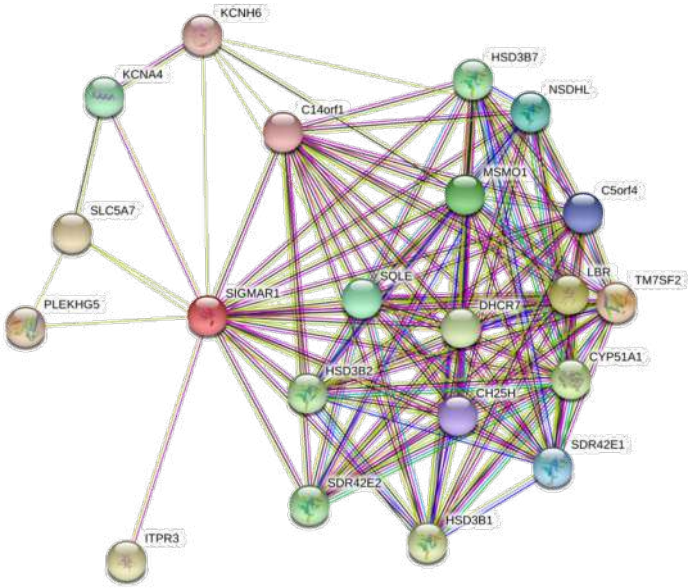


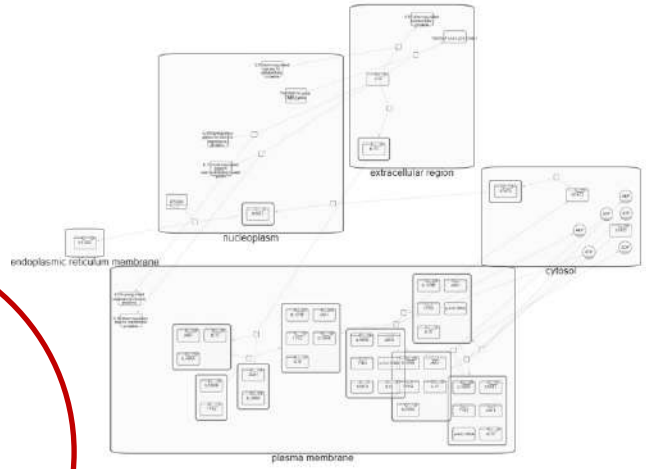
Source: Reyes S et al., Sci Rep. 2021 Aug 25;11(1):17150

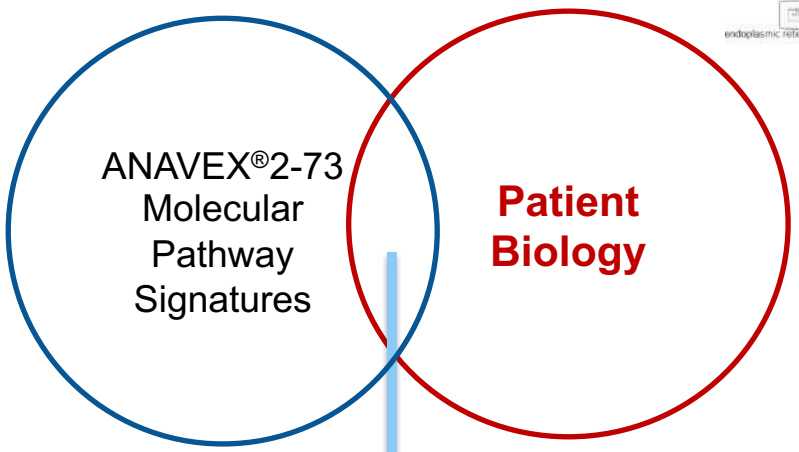
Interface of ANAVEX®2-73-activated Pathway Analysis and Disease Biology Using mRNA Differential Gene Expression with Focus on SIGMAR1 Pathway



Genes of interest







- Mechanism of Action
- Patient Selection Biomarker
- Surrogate Endpoints
- Optimal Indications

What is Rett Syndrome?

Devastating neuro-developmental disease in girls with both movement impairment and cognitive impairment

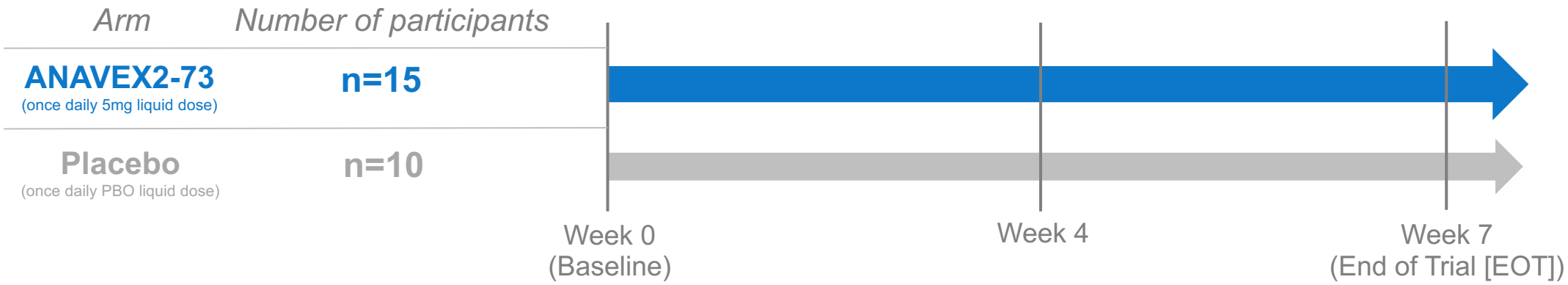
Rett Syndrome (RTT)

- **Non-inherited genetic postnatal disorder caused by mutations in the MECP2 gene**
  - Occurs almost exclusively in girls
  - Leads to severe impairments, affecting nearly every aspect of the child's life
  - Impairment includes ability to speak, walk, eat and even breathe easily
  - Hallmark of RTT is near constant repetitive hand movements while awake
  - Occurs worldwide in approximately one in every 10,000 to 15,000 live female births
  - The population of patients with Rett syndrome is estimated to be ~11,000 patients in the U.S.
  - There is currently no cure for Rett syndrome

Source: https://www.rettsyndrome.org/about-rett-syndrome

Rett Syndrome U.S. ANAVEX®2-73-RS-001 Phase 2 Trial Design Overview

Randomized, Double-blind, Placebo-controlled Clinical Trial



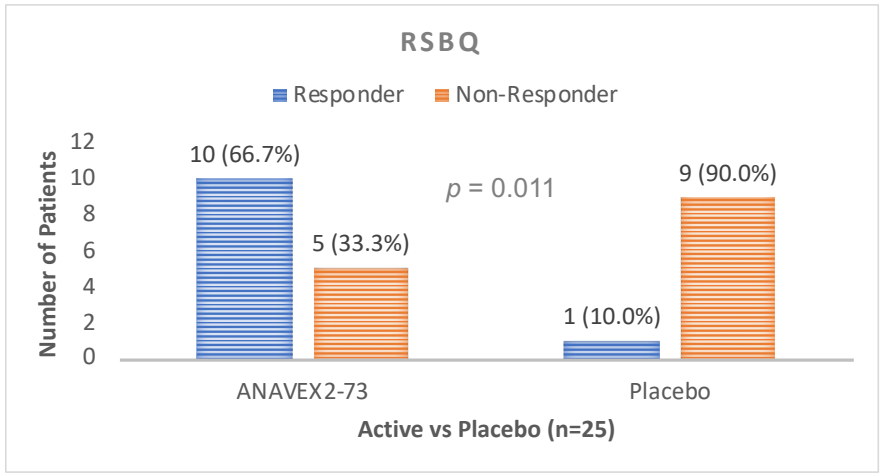
Efficacy Assessments:

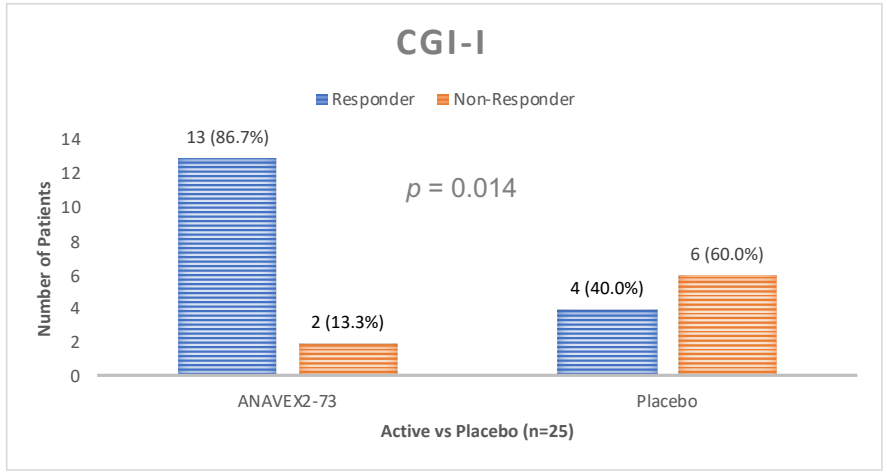
- Primary: RSBQ (Rett Syndrome Behaviour Questionnaire), CGI-I (Clinical Global Impression – Improvement)
- Secondary: Behavior (ADAMS), Sleep (CSHQ), VAS (top caregiver concerns), Seizure diary
- Biomarkers of response and/or surrogate endpoints: Genomic biomarker: DNA & mRNA profiles; Glutamate, GABA
- *SIGMAR1* variants: Prespecified analyses of population with wild type (WT) variant (n = 14)

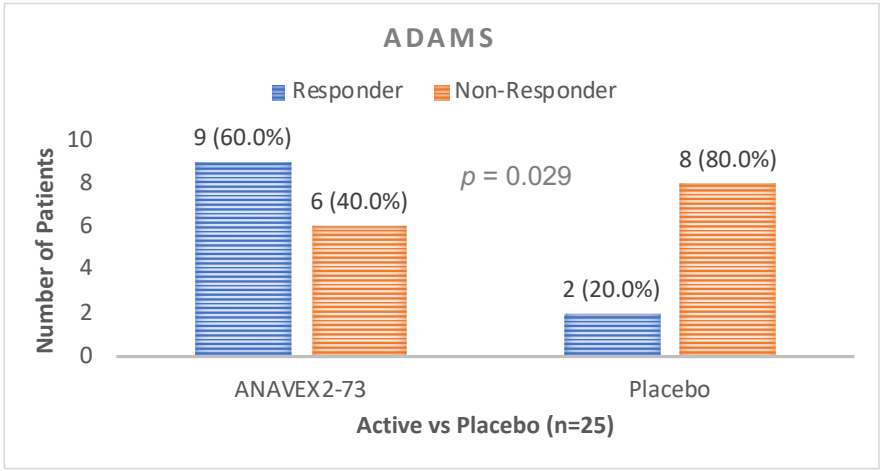
ClinicalTrials.gov: NCT03758924
Separate patient cohort (n=6) underwent a 7-week intensive pharmacokinetic (PK) assessment with safety, tolerability, pharmacokinetic and efficacy evaluation of ANAVEX®2-73
Open-label-extension after End of Trial for at least 36 weeks

Phase 2: Improvement in All Key Domains

ANAVEX®2-73 Treatment Resulted in a Statistically Significant Improvement for All Patients with Rett Syndrome in the RTT-Relevant Endpoints RSBQ, CGI-I, ADAMS







All participants ITT (n = 25: 15 on ANAVEX2-73 and 10 on Placebo)
Responder analysis capturing the progression of the disease and treatment effect over the course of the study
Improvements in this adult population with Rett syndrome are considered clinically meaningful according to published criteria applied to neurodevelopmental disorders (Chatham et al. Adaptive behavior in autism, Autism Res. 2018;11(2):270-283; Luu et al. Response to Placebo in Fragile X Syndrome Clinical Trials, Brain Sci. 2020 Sep 11;10(9):629

Favorable Efficacy Already at Low ANAVEX®2-73 Doses

	Estimated Difference between Active and Placebo	Age, y median	Weight, kg median
	RSBQ Total Score		
ANAVEX2-73 *low* dose (5 mg)*	-14.5	24.00	45.10
trofinetide *high* dose (400 mg/kg)**	-4.4	9.41	23.05

ANAVEX®2-73 Phase 2 RSBQ Total Score compares favorably with other published historical trial – despite lower dose and older patient cohort

** Prespecified WT SIGMAR1 population (n = 14)*

*** Glaze DG, Neul JL, Kaufmann WE, Berry-Kravis E, Condon S, Stoms G, Oosterholt S, Della Pasqua O, Glass L, Jones NE, Percy AK; Rett 002 Study Group. Double-blind, randomized, placebo-controlled study of trofinetide in pediatric Rett syndrome. Neurology. 2019 Apr 16;92(16):e1912-e1925. doi: 10.1212/WNL.0000000000007316. Epub 2019 Mar 27. PMID: 30918097; PMCID: PMC6550498*

Favorable Adverse Event Profile of ANAVEX®2-73

	Adverse Events (>10%)		
	Diarrhea	Vomiting	Fever (Pyrexia)
ANAVEX2-73 (5 mg)*	0%	0%	0%
trofinetide (400 mg/kg)**	56%	22%	11%

ANAVEX®2-73 Phase 2 Adverse Event profile compares favorably with other published historical trial

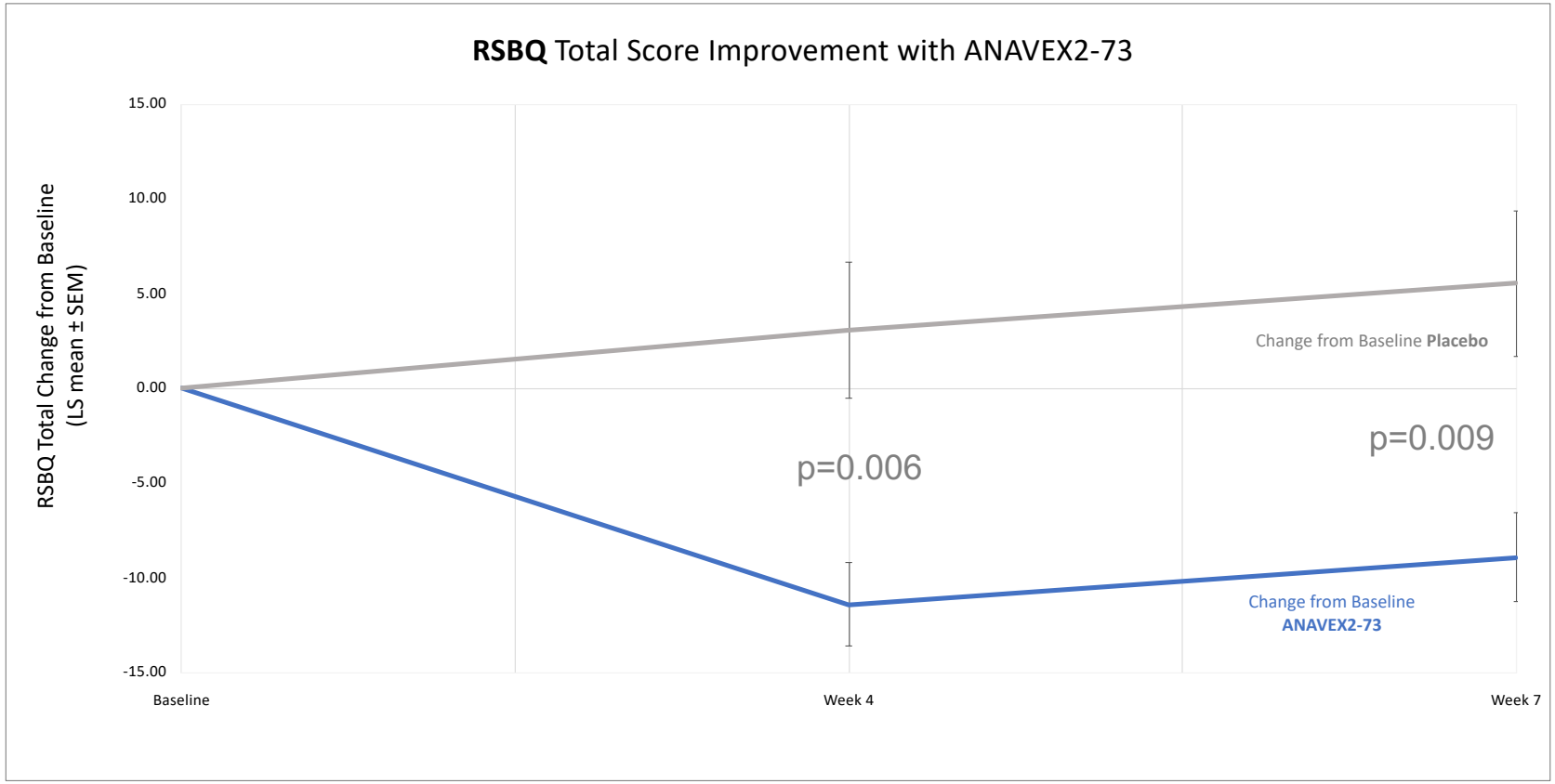
** All participants ITT*

*** Glaze DG, Neul JL, Kaufmann WE, Berry-Kravis E, Condon S, Stoms G, Oosterholt S, Della Pasqua O, Glass L, Jones NE, Percy AK; Rett 002 Study Group. Double-blind, randomized, placebo-controlled study of trofinetide in pediatric Rett syndrome. Neurology. 2019 Apr 16;92(16):e1912-e1925. doi: 10.1212/WNL.0000000000007316. Epub 2019 Mar 27. PMID: 30918097; PMCID: PMC6550498*

Rett Syndrome Behaviour Questionnaire (RSBQ) Total Score

Prespecified Primary Efficacy Endpoint

Improvement



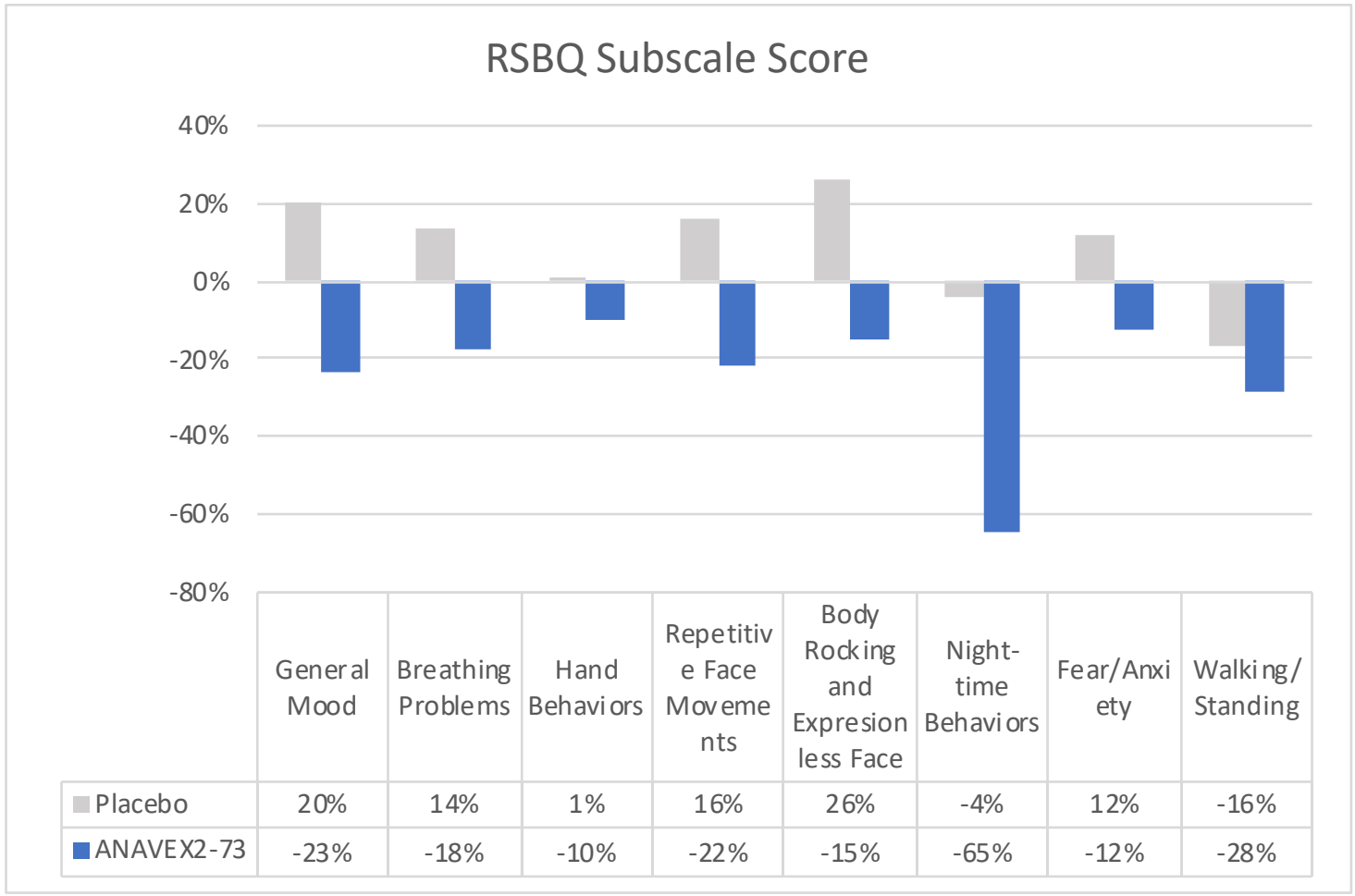
- Clinically meaningful and statistically significant Improvement for ANAVEX®2-73 treated adult patients with Rett syndrome vs placebo
- 14.5-point improvement at Week 7 with p=0.009 (-8.92 ANAVEX®2-73 vs. 5.56 placebo)
- Statistical separation at every assessed time point

Prespecified WT SIGMAR1 population

RSBQ Subscale Scores

Significant and Balanced Improvements across all Subscales (observed at End of Trial)

Improvement



	General Mood	Breathing Problems	Hand Behaviors	Repetitive Face Movements	Body Rocking and Expresionless Face	Night-time Behaviors	Fear/Anxiety	Walking/ Standing
Placebo	20%	14%	1%	16%	26%	-4%	12%	-16%
ANAVEX2-73	-23%	-18%	-10%	-22%	-15%	-65%	-12%	-28%

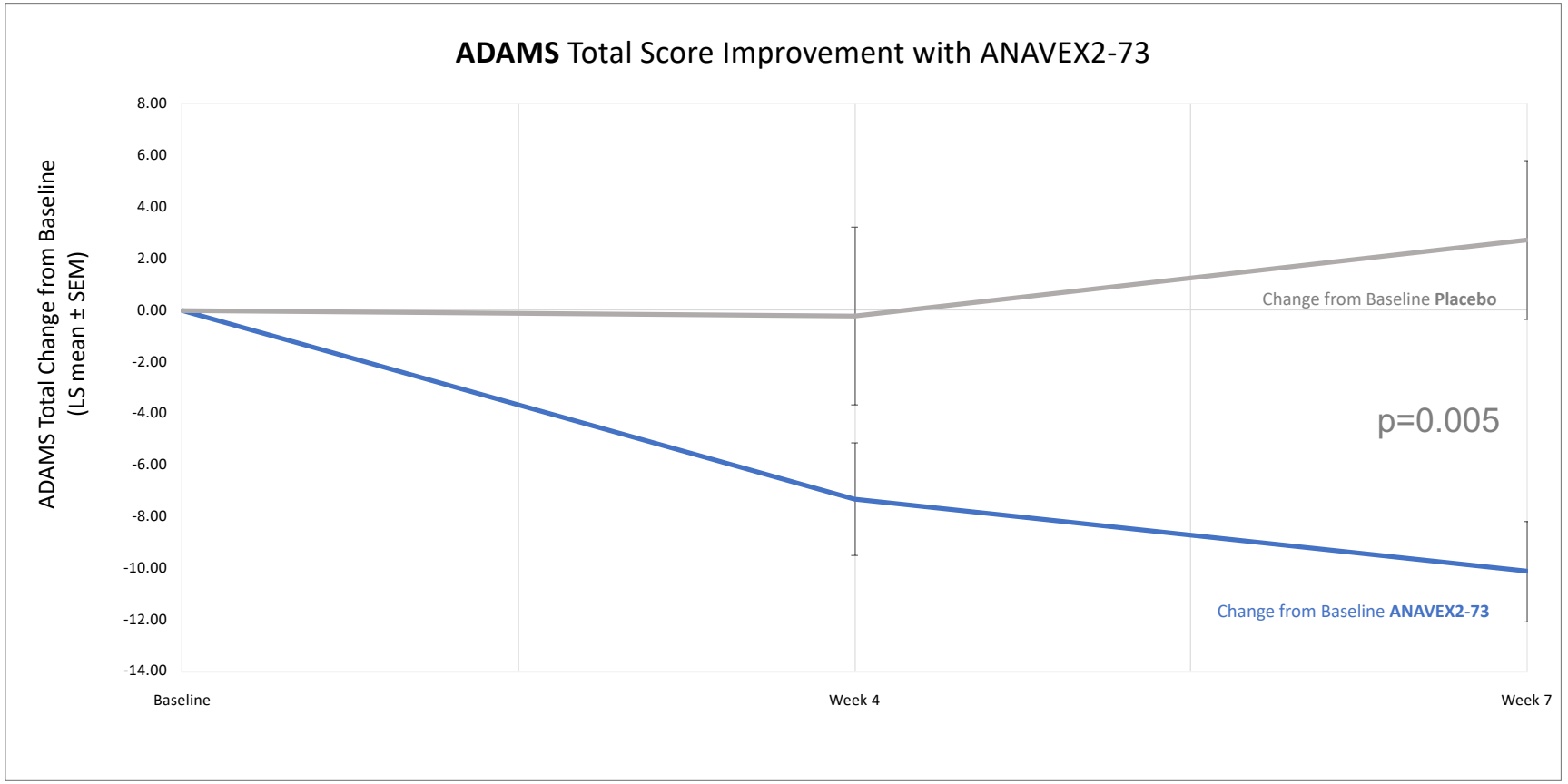
- Cohen's d effect size of 1.11

Prespecified WT SIGMAR1 population

ADAMS Total Score

Clinically Validated Efficacy Endpoint

Improvement



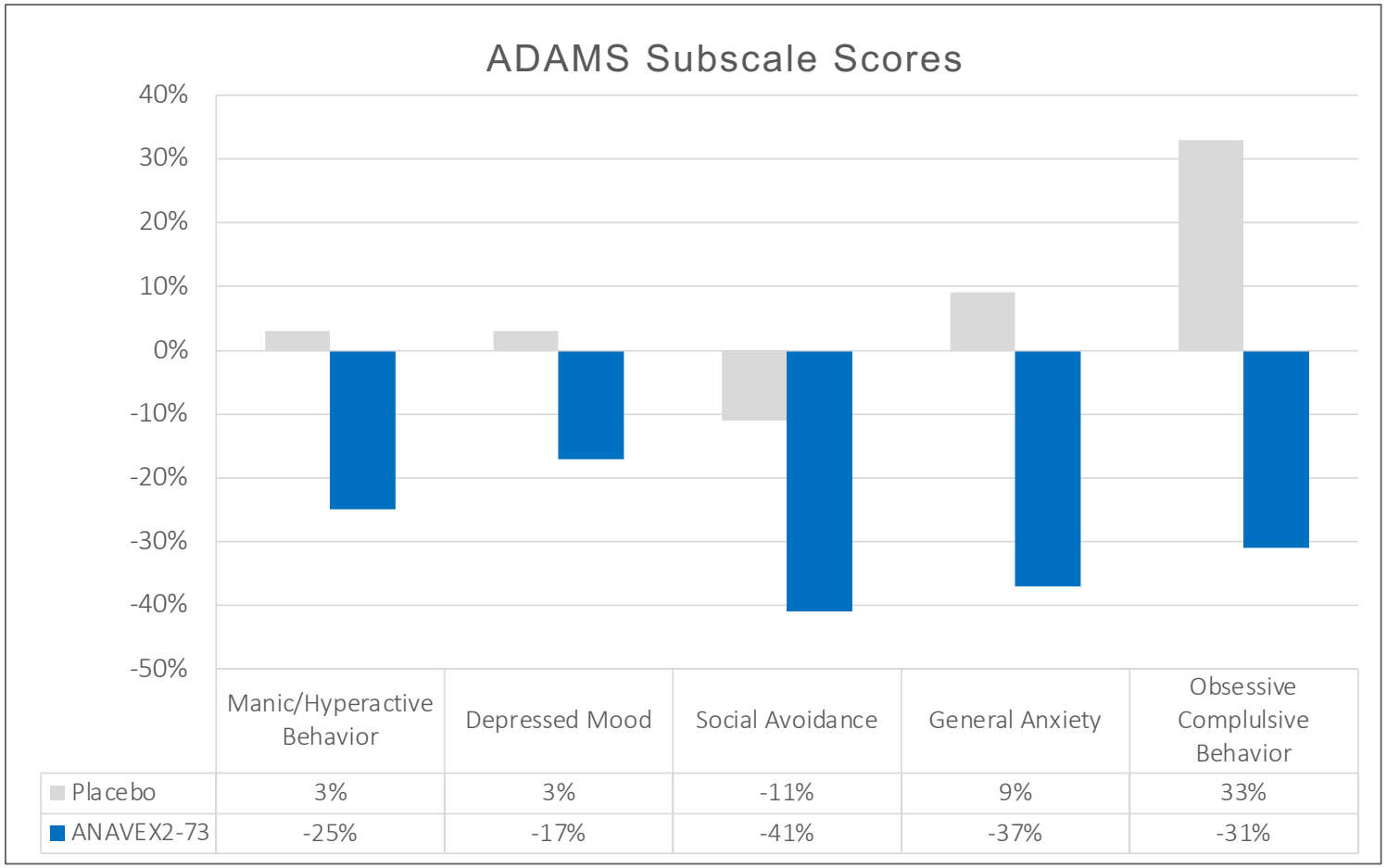
- Clinically meaningful and statistically significant Improvement for ANAVEX®2-73 treated adult patients with Rett syndrome vs placebo
- 12.9-point improvement at Week 7 with p=0.005 (-10.10 ANAVEX®2-73 vs. 2.75 placebo)

Prespecified WT SIGMAR1 population

ADAMS Subscale Scores

Significant and Balanced Improvements across all Subscales (observed at End of Trial)

Improvement



	Manic/Hyperactive Behavior	Depressed Mood	Social Avoidance	General Anxiety	Obsessive Complulsive Behavior
Placebo	3%	3%	-11%	9%	33%
ANAVEX2-73	-25%	-17%	-41%	-37%	-31%

- Cohen's d effect size of 1.31

Prespecified WT SIGMAR1 population

ANAVEX®2-73-RS-002 Phase 2/3 Rett Syndrome AVATAR Study

N=33*

7 WEEK STUDY

… and Open Label Extension (OLE) **48 weeks**

RTT patient population

- Diagnosis of confirmed RTT
- Patients age >18
- DNA and RNA sequencing

Randomization 3:2

ANAVEX®2-73 **Active dose#**

Placebo

ClinicalTrials.gov: NCT03941444

Primary and Secondary Endpoints

- RSBQ, CGI-I
- ADAMS, Sleep function
- Seizure activity
- Safety and tolerability of ANAVEX®2-73
- Glutamate biomarker

Pre-specified Analysis

- Excluding genetic variants SIGMAR1 (rs1800866), COMT (rs113895332/rs61143203) with influence on treatment effect

* Includes a 3 patient cohort undergoing a 3-week pharmacokinetic (PK) assessment with safety, tolerability, pharmacokinetic and efficacy evaluation of ANAVEX®2-73

 # Oral liquid solution once daily; Dose restricted to maintain complete blinding

ANAVEX®2-73-RS-003 Phase 2/3 Rett Syndrome EXCELLENCE Study

N=84

12 WEEK STUDY

… and Open Label Extension (OLE) **48 weeks**

RTT patient population

- Diagnosis of confirmed RTT
- Patients age 5-18
- DNA and RNA sequencing

Randomization 2:1

- ANAVEX®2-73 **Active dose#**
- Placebo

ClinicalTrials.gov: NCT04304482

Primary and Secondary Endpoints

- RSBQ, CGI-I
- ADAMS, Sleep function
- Seizure activity
- Safety and tolerability of ANAVEX®2-73
- Glutamate biomarker

Pre-specified Analysis

- Excluding genetic variants SIGMAR1 (rs1800866), COMT (rs113895332/rs61143203) with influence on treatment effect

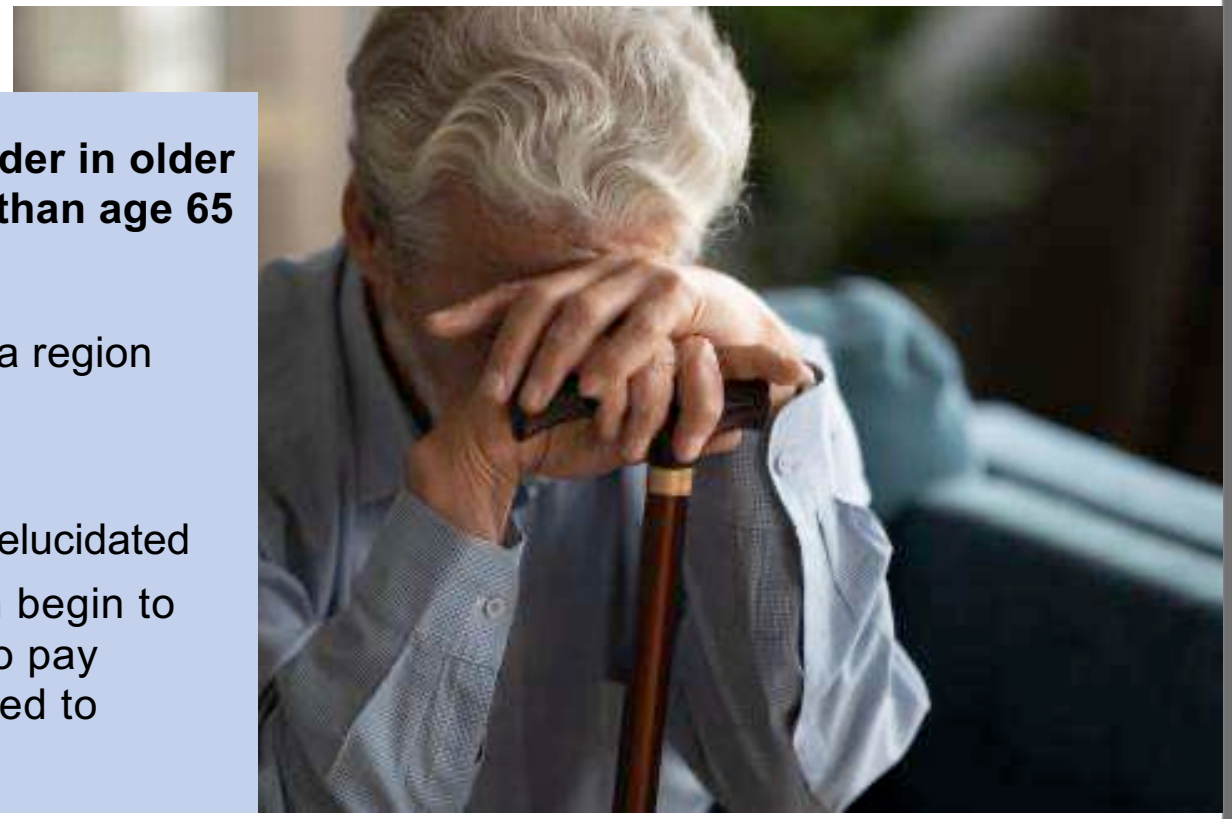
 # Oral liquid solution once daily; Dose restricted to maintain complete blinding

Parkinson's Disease Dementia (PDD)

Up to 80 percent of those with Parkinson's disease eventually experience Parkinson's disease dementia

Parkinson's Disease Dementia

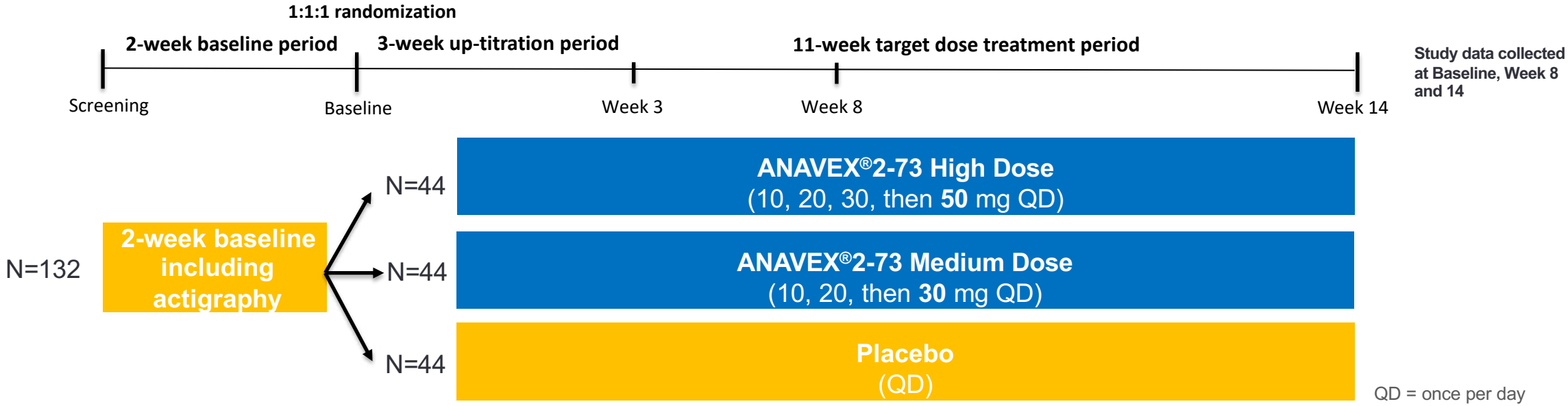
- **Parkinson's disease is a fairly common neurological disorder in older adults, estimated to affect nearly 2 percent of those older than age 65**
  - PD prevalence in US:~1,000,000
  - The brain changes caused by Parkinson's disease begin in a region that plays a key role in movement
  - Highly heterogeneous multisystem disorder
  - Etiology of cognitive impairment in PD has not yet been fully elucidated
  - As Parkinson's brain changes gradually spread, they often begin to affect mental functions, including memory and the ability to pay attention, make sound judgments and plan the steps needed to complete a task



Source: Aarsland D, Creese B, Politis M, Chaudhuri KR, Ffytche DH, Weintraub D, Ballard C. Cognitive decline in Parkinson disease. Nat Rev Neurol. 2017 Apr;13(4):217-231. doi: 10.1038/nrneurol.2017.27. Epub 2017 Mar 3. PMID: 28257128; PMCID: PMC5643027; www.alz.org/alzheimers-dementia/what-is-dementia/types-of-dementia/parkinson-s-disease-dementia

ANAVEX®2-73 PoC Phase 2 PDD Study Design

A Phase 2 trial to Assess the Safety, Tolerability and Efficacy of ANAVEX®2-73 (*blarcamesine*) Oral Capsules in the Treatment of Parkinson's Disease Dementia

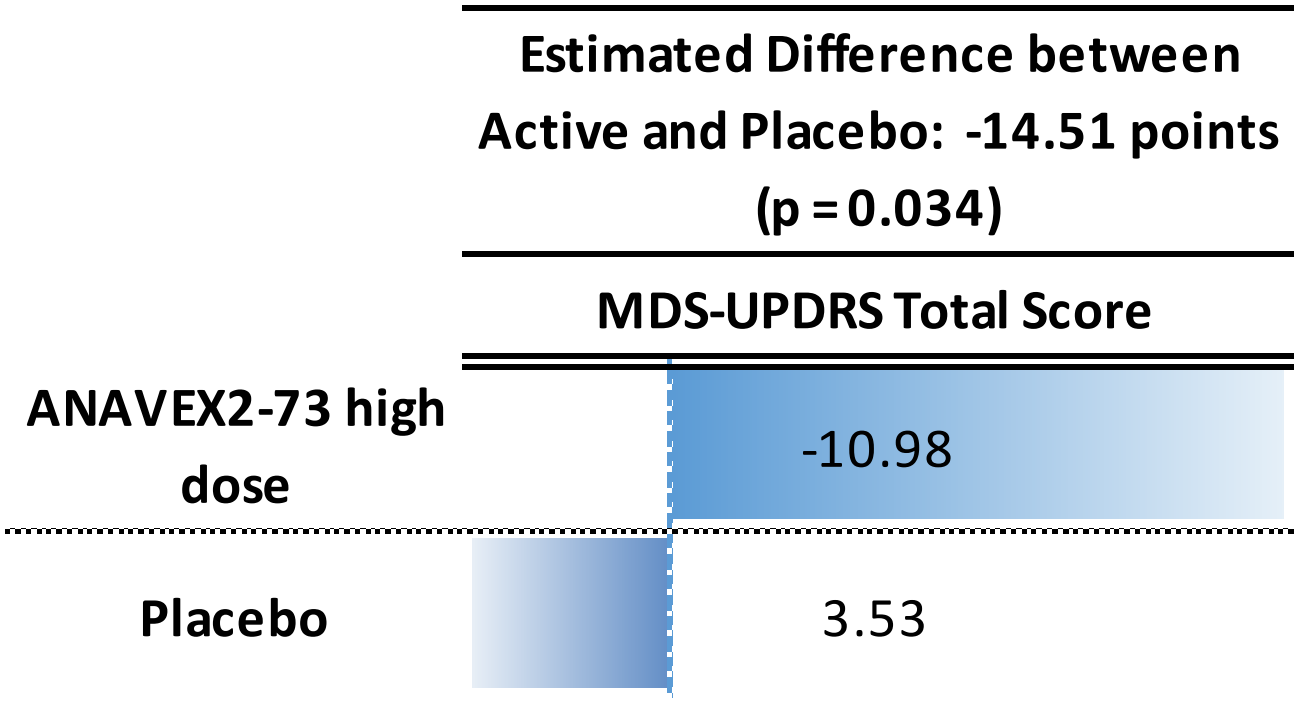


- **PDD Patient Population**
  - Diagnosis of probable Parkinson's disease dementia
  - Diagnosis of idiopathic Parkinson's disease
  - Patients aged ≥ 50 years
  - MoCA score 13-23
- **Key Primary and Secondary Endpoints**
  - Safety and tolerability
  - CDR Cognitive Domain of Attention
  - Sleep function
  - MDS-UPDRS
  - Actigraphy (24-hour monitoring)
  - Entire DNA and RNA sequencing
- **Pre-specified Endpoints**
  - Genetic variants SIGMAR1 (rs1800866),
  - COMT(rs113895332/rs6114320 3) with influence on treatment effect

ANAVEX®2-73-PDD-001 is a Proof of Concept (PoC) Phase 2, multicenter, randomized, double-blind, placebo-controlled, parallel-group, 3-arm, 14-week study

ANAVEX®2-73 Improved MDS-UPDRS Total Score in Placebo-Controlled Parkinson's Disease Dementia Phase 2 Study

MDS-UPDRS Total score -14.51 improvement is clinically relevant and corresponds to a relative improvement of 18.9 % over 14 weeks



- Randomized, double-blind, placebo-controlled Phase 2 trial that randomized 132 patients with Parkinson's disease dementia equally (ratio of 1:1:1) to target doses of 30mg (medium), 50mg (high) ANAVEX®2-73 or placebo

Key Cognitive Domains

Key cognitive features addressed by ANAVEX®2-73 (*blarcamesine*)

The criteria from the National Institute on Aging and Alzheimer's Association (NIA-AA) workgroup mention the following five cognitive domains when diagnosing MCI-AD:

(a) Episodic memory

(b) Attention

(c) Language

(d) Visuospatial skills

(e) Executive functions

Related CDR system domains

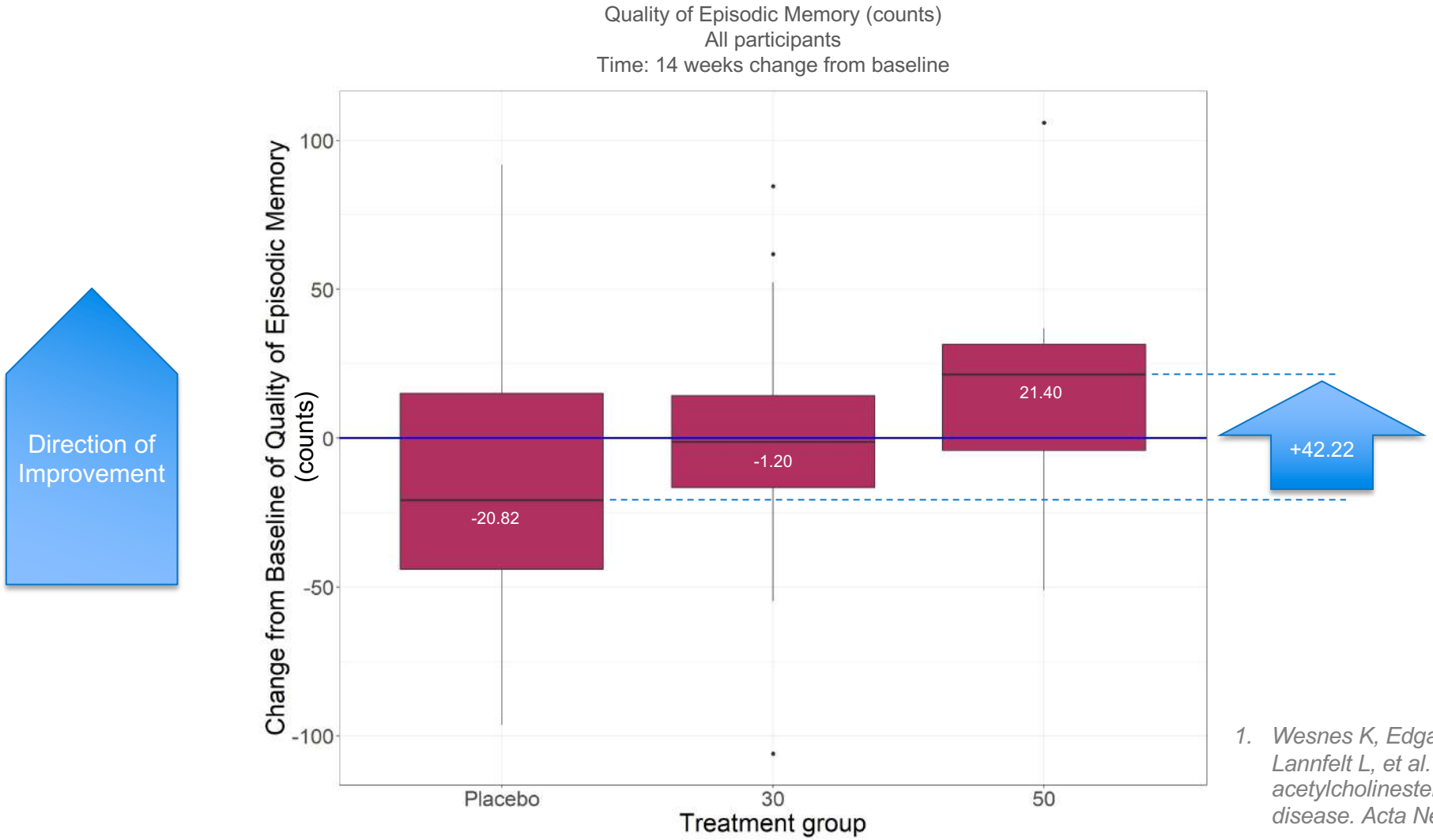
Addressed in PoC Phase 2 PDD Study

Episodic memory	✅
Choice reaction time	✅
Word recognition	✅
Picture recognition	✅
Numeric working memory	✅

Source: Albert MS, DeKosky ST, Dickson D, Dubois B, Feldman HH, Fox NC, Gamst A, Holtzman DM, Jagust WJ, Petersen RC, Snyder PJ, Carrillo MC, Thies B, Phelps CH. The diagnosis of mild cognitive impairment due to Alzheimer's disease: recommendations from the National Institute on Aging-Alzheimer's Association workgroups on diagnostic guidelines for Alzheimer's disease. Alzheimers Dement. 2011 May;7(3):270-9. doi: 10.1016/j.jalz.2011.03.008. Epub 2011 Apr 21. PMID: 21514249; PMCID: PMC3312027.

Significant Improvements in Episodic Memory with Increased Dose

ANAVEX®2-73-PDD-001 Study: Dose-dependent, statistically significant improvement of Quality of Episodic Memory with ANAVEX®2-73 (*blarcamesine*)



- A high score reflects ability to store, hold and retrieve information of an episodic nature (e.g., an event or name)
- CDR system Quality of Episodic Memory highly correlated (70%) with ADAS-Cog (r = 0.7)[1]

1. *Wesnes K, Edgar C, Andreasen N, Annas P, Basun H, Lannfelt L, et al. Computerized cognition assessment during acetylcholinesterase inhibitor treatment in Alzheimer's disease. Acta Neurol Scand 2010; 122:270–7*

All participants; ANAVEX2-73 = Active 30 mg, Active 50 mg vs Placebo
J-T test based on actual maintenance dose: p = 0.003

Summary of Topline Results:

Broad and Significant Effects with ANAVEX®2-73 (*blarcamesine*) in PDD Patients

- ANAVEX®2-73 (*blarcamesine*): a novel, oral, investigational sigma-1 receptor (Sig-1R / SIGMAR1) agonist with multimodal activity
- Data confirm SIGMAR1 as gene "signature" biomarker of response to ANAVEX®2-73 (*blarcamesine*) confirming SIGMAR1 activation as mechanism of action
- Broad and statistically significant improvements in CDR system Cognitive Domain of Attention assessed by Choice Reaction Time ($p = 0.039$) and Digital Vigilance ($p = 0.008$) and CDR system Episodic Memory ($p = 0.047$), representing complex cognitive tasks with impact on quality of life such as making a choice between similar objects and remembering daily personal experiences, which are mostly impaired in both PD and AD[1]
- Statistically significant dose-dependent ($p = 0.003$) improvement of CDR system Episodic Memory, which has been shown to be highly correlated (70%) with the Alzheimer's Disease Assessment Scale–Cognitive score (ADAS-Cog; $r = 0.7$)[2]
- ANAVEX®2-73 (*blarcamesine*) does not impair sleep and has a positive effect on REM sleep behavior disorder
- ANAVEX®2-73 (*blarcamesine*) was generally safe, well tolerated, and improved safety profile compared to dementia drugs associated with typical adverse effects
- These results support continued development in PDD / PD as well as currently ongoing Phase 2 and Phase 2/3 clinical studies with ANAVEX®2-73 (*blarcamesine*) in Rett syndrome[3] and Alzheimer's disease[4]
- Data will be submitted to the U.S. Food and Drug Administration to seek regulatory guidance

1. *Mahurin, R. K., & Pirozzolo, F. J. (1993). Application of Hick's law of response speed in Alzheimer and Parkinson diseases. Perceptual and Motor Skills, 77(1), 107–113*
2. *Wesnes K, Edgar C, Andreasen N, Annas P, Basun H, Lannfelt L, et al. Computerized cognition assessment during acetylcholinesterase inhibitor treatment in Alzheimer's disease. Acta Neurol Scand 2010; 122:270–7*
3. *ClinicalTrials.gov Identifiers: NCT03758924, NCT03941444, NCT04304482*
4. *ClinicalTrials.gov Identifiers: NCT03790709, NCT02756858*

Alzheimer's Disease (AD)

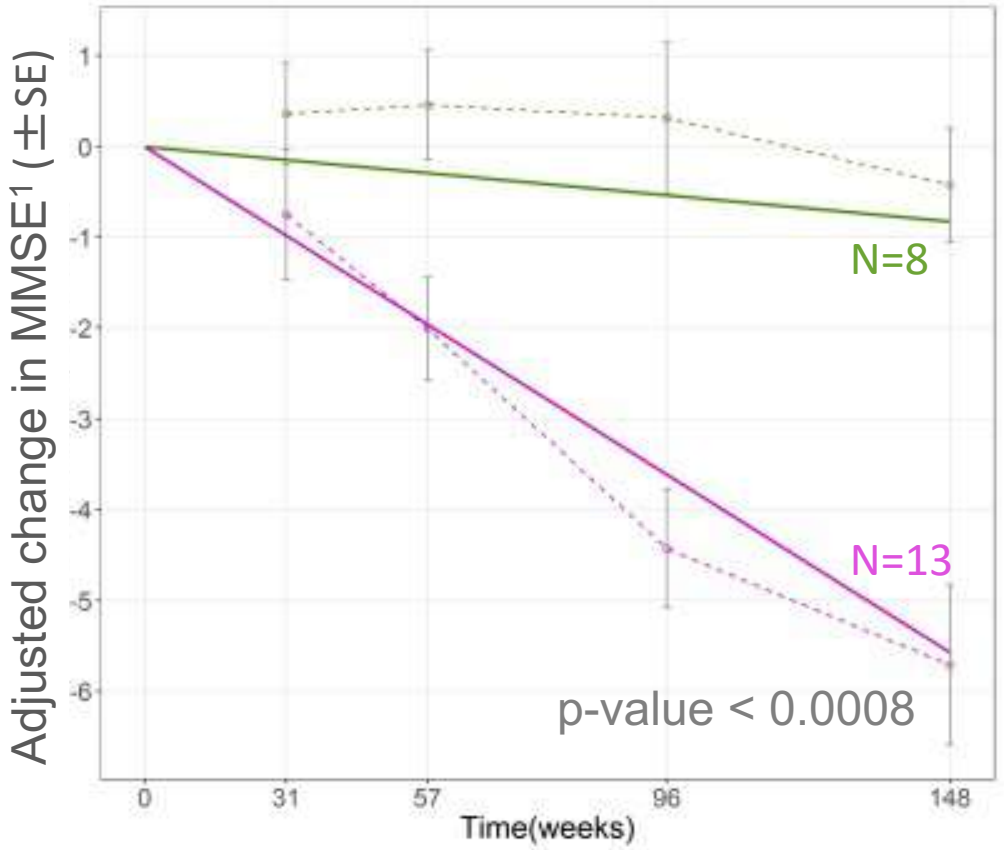
Alzheimer's disease is a progressive, irreversible neurological disease and the most common cause of dementia

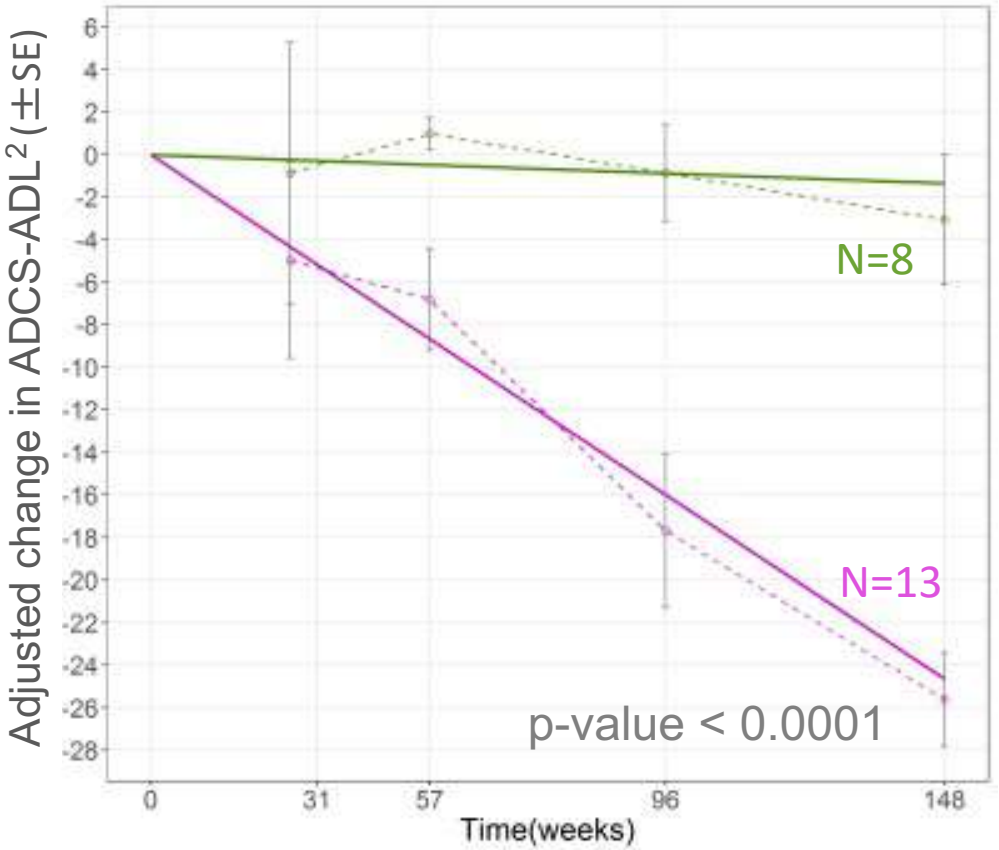
Alzheimer's Disease (AD)

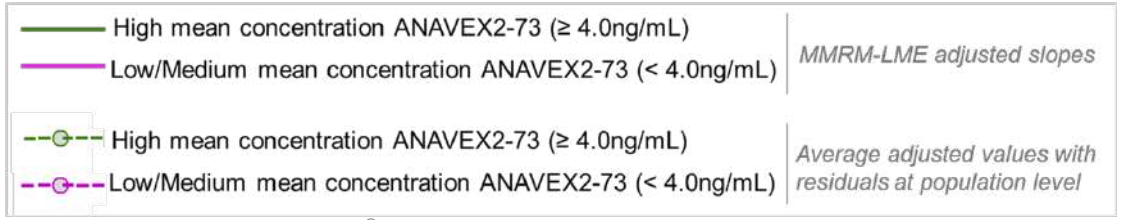
- **Alzheimer's disease incidence highly correlates with age**
  - AD prevalence in US:~5,700,000
  - Estimated 50 million people live with dementia worldwide
  - Today, there are no commercially available therapies to address the underlying cause of Alzheimer's
  - The current annual cost of dementia is estimated at $1 trillion, a figure set to double by 2030

Source: www.alz.org/alzheimers-dementia/what-is-dementia/types-of-dementia/parkinson-s-disease-dementia

ANAVEX®2-73 Demonstrated Improved MMSE[1] and ADCS-ADL[2] Scores in Phase 2a AD Study through 148 Weeks







Dose range 10mg-50mg ANAVEX®2-73 oral once daily.

Source: *Hampel et al. A precision medicine framework using artificial intelligence for the identification and confirmation of genomic biomarkers of response to an Alzheimer's disease therapy: Analysis of the blarcamesine (ANAVEX2-73) Phase 2a clinical study. Alzheimer's Dement. 2020;00:1–14*

[1] *Mini Mental State Examination (MMSE)*

[2] *Alzheimer's Disease Cooperative Study Group - Activities of Daily Living Inventory (ADCS-ADL)*

ANAVEX®2-73 Biomarker Driven Development Strategy in Alzheimer's Disease

Patient Clinical Data

- Cognitive Scores
- Sleep Questionnaires
- Other Scores
- Dose, PK

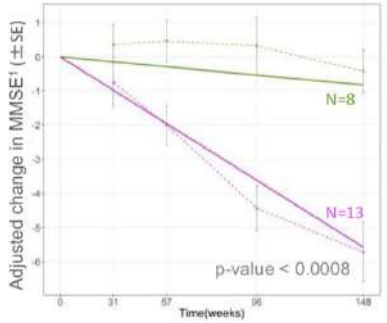
Genomic Data

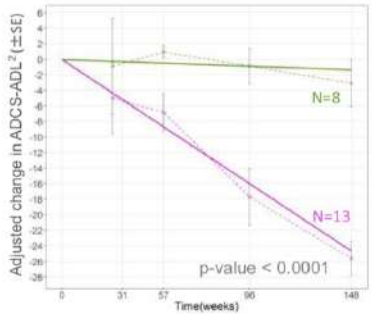
- DNA
- RNA
- Microbiota

Real World Evidence Data (~ 7,000 patients)

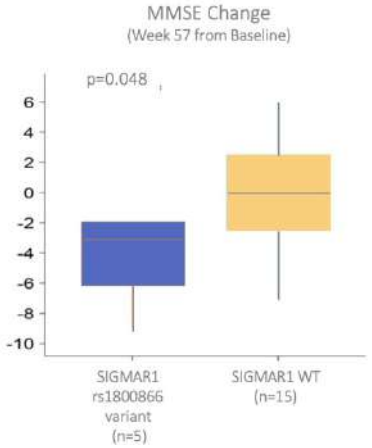
KEM® Integrative AI

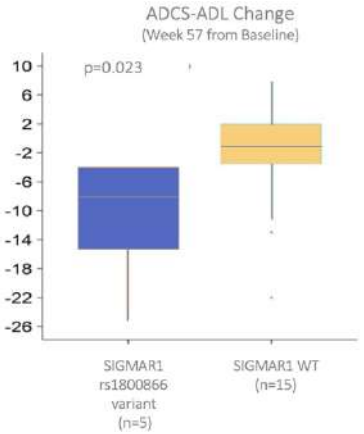
Demonstrated Improved MMSE and ADCS-ADL through 148 weeks for *all* patients





Novel Genomic Biomarkers of Response Identified in Phase 2a AD study -> *Pre*-specified Efficacy Endpoints in *all* ANAVEX®2-73 studies (AD, PDD, RTT)





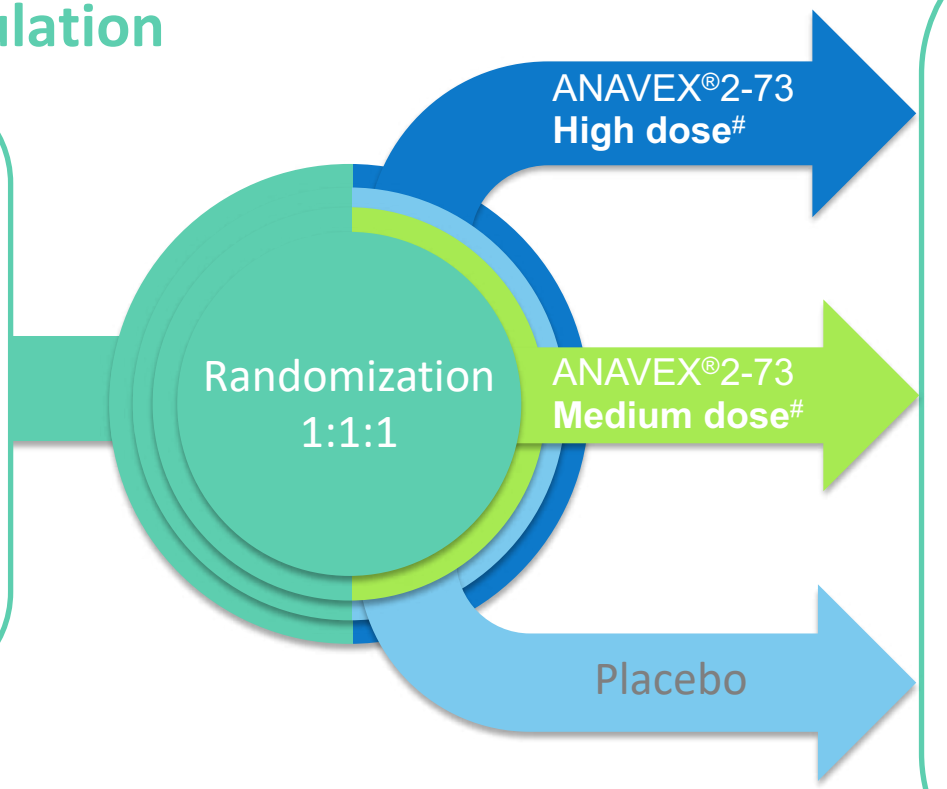
Applied to Phase 2b/3 Alzheimer's disease (AD) study and other indications: Parkinson's disease dementia (PDD) and Rett syndrome (RTT)

ANAVEX®2-73 Phase 2b/3 Alzheimer's Disease and ATTENTION-AD OLE Study

N=509

Early AD patient population

- Confirmed amyloid pathophysiology (CSF/amyloid PET)
- Patients aged 60 to 85 years
- MMSE score 20-28
- Entire DNA and RNA sequencing



48 WEEK STUDY

… and Open Label Extension (OLE) **96 weeks**

ClinicalTrials.gov: NCT03790709

Primary Endpoints
- ADAS-Cog
- ADCS-ADL
- Safety and tolerability

Key Secondary Endpoints
- CDR-SB
- Structural and functional MRI
- Biomarkers: $Abeta_{40}$/$Abeta_{42}$, T-tau, P-tau, NFL, YKL-40, neurogranin, BACE1

Pre-specified Analysis
- Excluding genetic variants SIGMAR1 (rs1800866), COMT (rs113895332/rs61143203) with influence on treatment effect

 # Oral capsule once daily; Dose restricted to maintain complete blinding

ANAVEX®3-71 Phase 1 Clinical Trial Data

Mechanism of Action (MoA) and Clinical Opportunity:

- Frontotemporal Dementia (FTD)
- Schizophrenias
- Alzheimer’s Disease (AD)

ANAVEX®3-71 Completion and AE Rates Similar to Placebo

Results suggest potentially therapeutic doses of ANAVEX®3-71 can be administered while maintaining a favorable tolerability profile

- The number of TEAEs was equal in each treatment group
- All AEs were mild or moderate in severity and did not lead to any discontinuations

Adverse Events and Safety During the Treatment Period		
	ANAVEX®3-71 (n=16) number (%)	**Placebo (n=14)** number (%)
Patients with any TEAE	10 (62.5%)	8 (57.1%)
Patients with a serious TEAE	0 (0%)	0 (0%)
Patient with a severe TEAE	0 (0%)	0 (0%)
Patients with a TEAE leading to withdrawal	0 (0%)	0 (0%)
AEs ≥ 10%		
Headache	4 (18.2%)	2 (15.4%)
Dizziness	2 (9.1%)	1 (7.7%)
Nasal congestion	2 (9.1%)	1 (7.7%)
Somnolence	0 (0%)	2 (15.4%)

Next steps: Biomarker-driven clinical development dementia program of ANAVEX®3-71 for the treatment of FTD, schizophrenias and Alzheimer's disease

TEAE = treatment-emergent adverse event; AE = adverse event

Anavex is pursuing Large Markets by Applying Precision Medicine Platform to Develop Treatments for *both* Global Aging CNS diseases (Alzheimer's, Parkinson's), as well as catastrophic Orphan Genetically caused diseases, Rett Syndrome with High Unmet Needs

$ 277B

Economic burden

2018 Alzheimer's Association

OVERARCHING MESSAGE

A novel platform approach to address the totality of CNS diseases

PRECISION MEDICINE PLATFORM IMPROVES CHANCE OF CLINICAL SUCCESS

Testing for biomarkers demonstrated improved clinical response to ANAVEX®2-73 in Rett syndrome, Parkinson's and Alzheimer's patients correlated with mRNA SIGMAR1 gene expression

NOVEL CNS MECHANISM OF ACTION

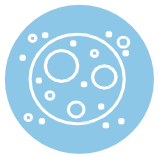
ANAVEX®2-73, an orally available SIGMAR1 agonist, is upstream of neurodevelopment and neurodegeneration and has been shown to restore homeostasis

COMPELLING INITIAL HUMAN DATA

ANAVEX®2-73 Phase 2 in Rett syndrome, Phase 2 in Parkinson's disease dementia and Phase 2a trial in Alzheimer's with favorable safety and initial efficacy results through 148 weeks

WORLDWIDE COMMERCIAL RIGHTS AND STRONG IP FOUNDATION

We retain global commercial rights to all of our product candidates and our lead product candidate, ANAVEX®2-73, including patent protection to 2030-2039



SUFFICIENT CASH TO ACHIEVE KEY MILESTONES

Sufficient cash for >5 years to achieve key milestones, including non-dilutive cash from Michael J Fox Foundation, International Rett Syndrome Foundation, Australian government

Anavex Life Sciences Expertise

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Edward R Hammond, MD, MPH, PhD - Chief Medical Officer

Walter E Kaufmann, MD - Chief Scientific Officer

Emmanuel O Fadiran, RPh, PhD - SVP of Regulatory Affairs

Daniel Klamer, PhD - VP of Business Development & Scientific Strategy

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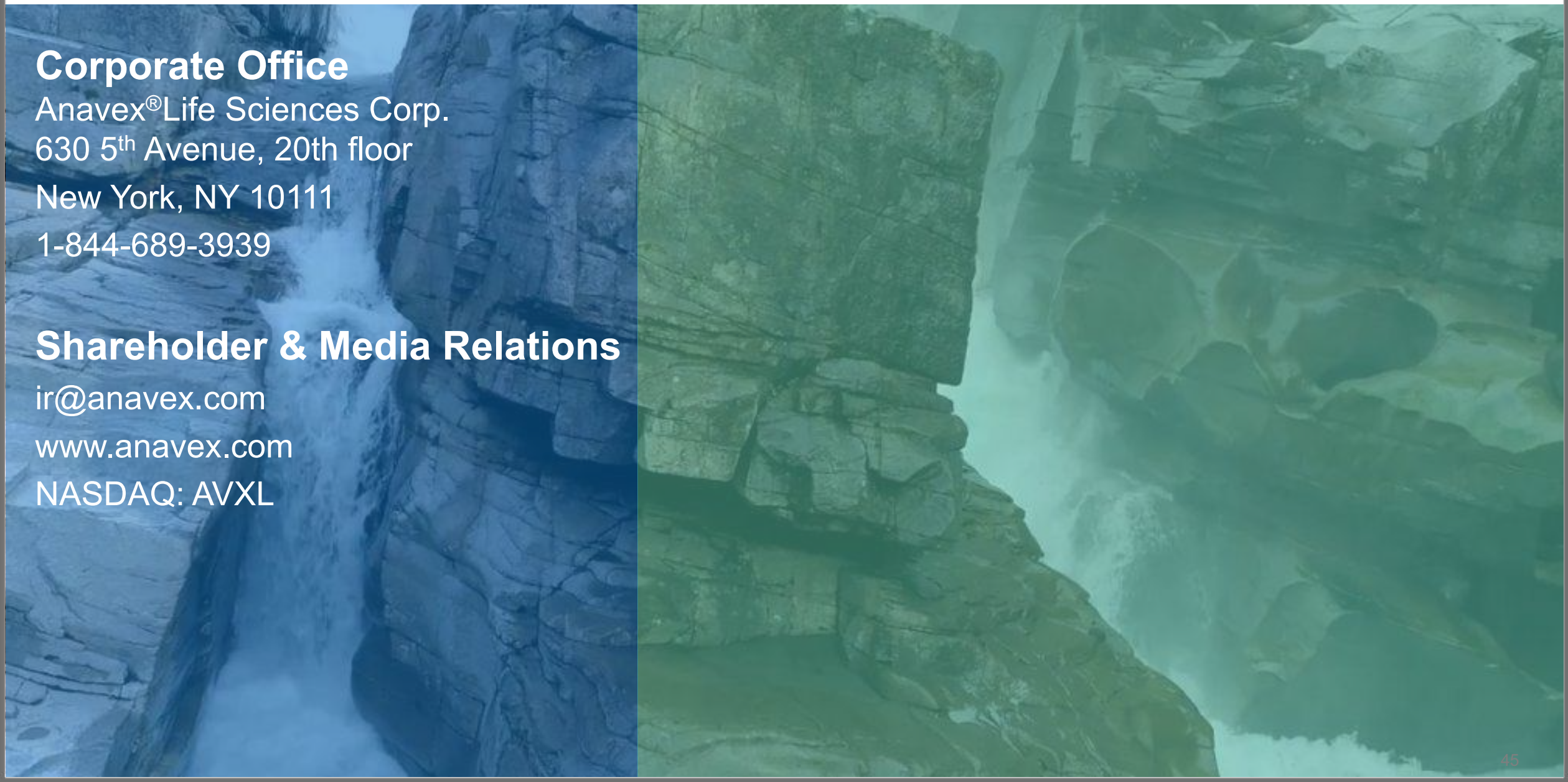

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