Rebuilding Connections, Restoring Lives

FORWARD-LOOKING STATEMENTS

This presentation contains “forward-looking statements” that involve substantial risks and uncertainties for purposes of the safe harbor provided by the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, included in this presentation regarding strategy, future operations, future financial position, future prospects, plans and objectives of management are forward-looking statements. Examples of forward-looking statements include, but are not limited to, the approach we are taking to discover and develop therapeutics for patients with life altering neurodegenerative diseases and developmental disorders; statements regarding Phase 2 study and further studies, and continued development of use of Bryostatin-1 for Alzheimer’s Disease and other cognitive diseases; the expected timing of our anticipated clinical trial initiations and availability of clinical data; our ability to successfully initiate and complete clinical trials; and the difficulty in predicting the time and cost of development of our product candidates. There can be no assurance that the clinical program for Bryostatin-1 will be successful in demonstrating safety and/or efficacy, that we will not encounter problems or delays in clinical development, or that Bryostatin-1 will ever receive regulatory approval or be successfully commercialized. Actual results could differ materially from those contained in any forward-looking statement as a result of various factors, including, without limitation: continued business impact from the COVID-19 global pandemic; weakening of economic conditions; legislative and regulatory actions; our inability to obtain adequate financing; the significant length of time associated with drug development and related insufficient cash flows and resulting illiquidity; our patent portfolio; our inability to expand our business; significant government regulation of pharmaceuticals and the healthcare industry; lack of product diversification; availability of our raw materials; existing or increased competition; stock volatility and illiquidity; and our failure to implement our business plans or strategies. You should not place undue reliance on these forward-looking statements. Additional information concerning these and other factors is contained in our filings with the U.S. Securities and Exchange Commission. These forward-looking statements are made based upon our current expectations and we undertake no duty to update them or any of the information contained in this presentation.

Pioneers of Restorative Therapeutics

Executive Summary

OUR MISSION

Discovering restorative, novel therapeutics for patients with life altering neurodegenerative diseases and developmental disorders.

- Clinically meaningful restoration of cognitive function
- Regeneration of cerebral connections
- Two Phase II pilot study trials completed
- Biomarkers track cognitive improvement
- Extensive toxicity safety profile
- Partnerships with National Cancer Institute, National Institute of Health, and National Institute of Aging

Who We Are

- Management team has 30+ years of experience with the development of Bryostatin and Platform Drugs
- Pilot Phase II studies met pre-specified endpoints
- Greater than $200M of funding from the Blanchette Rockefeller Neurosciences Institute and the National Institutes of Health (NIH)
- Successful translation of decades of pre-clinical work to the clinic
- Working on indications:
  - Alzheimer's disease
  - Fragile X Syndrome / Autism
  - Multiple Sclerosis
  - Parkinson's Disease
  - Traumatic Brain Injury
  - Stroke

Partnerships

Blanchette Rockefeller Neurosciences Institute at West Virginia University.

NIH National Institutes of Health

NIH National Cancer Institute

NIH National Institute on Aging

SYNAPTOGENIX

What are Synapses?

(And Why Are They So Important?)

- Synapses are tiny connectors that permit a neuron (or nerve cell) to pass an electrical or chemical signal to another neuron. Trillions of synapses form networks in the brain.
- When abundant and working correctly, synapses allow neurons to communicate with each other effectively. This means our nervous system is performing well and with sharp cognitive functioning (i.e. reasoning, attention, memory, and language).
- Fewer or defective synapses means less connectivity in the brain, a weaker nervous system, and ultimately impaired cognition.[1]

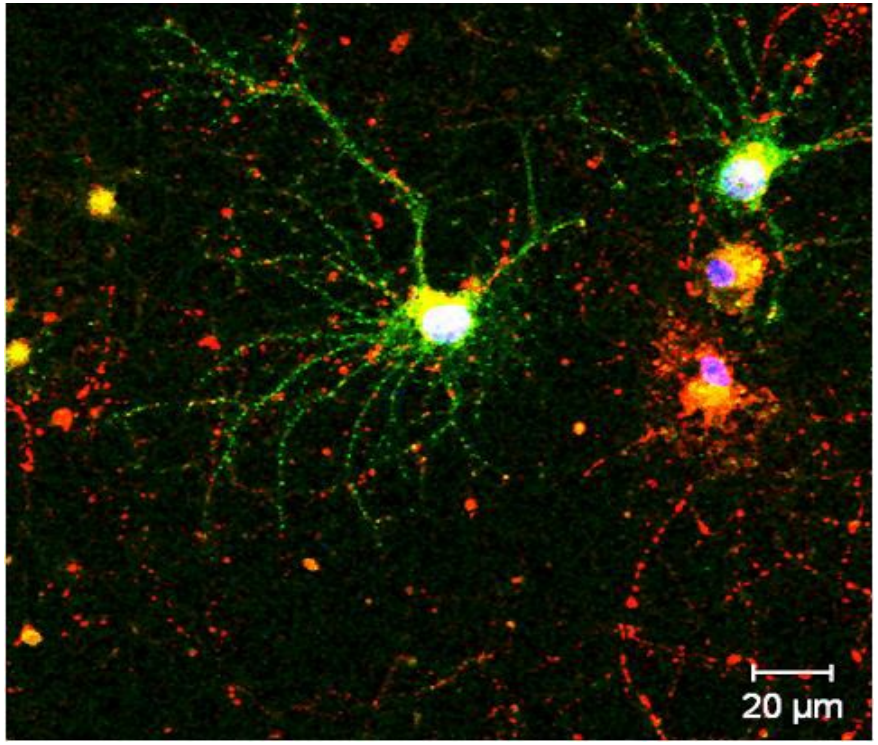
Synaptic loss is the major pathologic correlate of Alzheimer's disease and other dementias, and has been shown to occur in very early stages of such diseases.[2]

1. Terry RD, Masliah E, Salmon DP, et al. Synapse Loss is the Major Correlate of Cognitive Impairment Ann Neurol. 1991 Oct; 30 (4): 572-80.

2. Scheff SW, Price DA. Alzheimer's disease-related alterations in synaptic density: neocortex and hippocampus. J Alzheimers Dis. 2006;9 (3 Suppl): 101-15.

Bryostatin: Promotes Neuronal Health & Synaptic Regeneration

Treated Without Bryostatin



Treated With Bryostatin

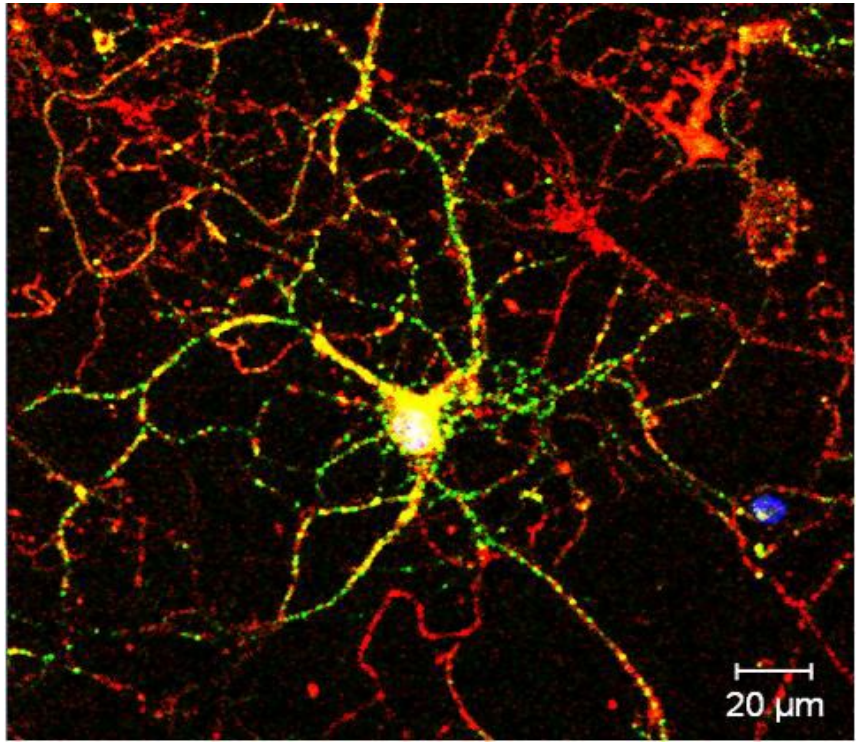
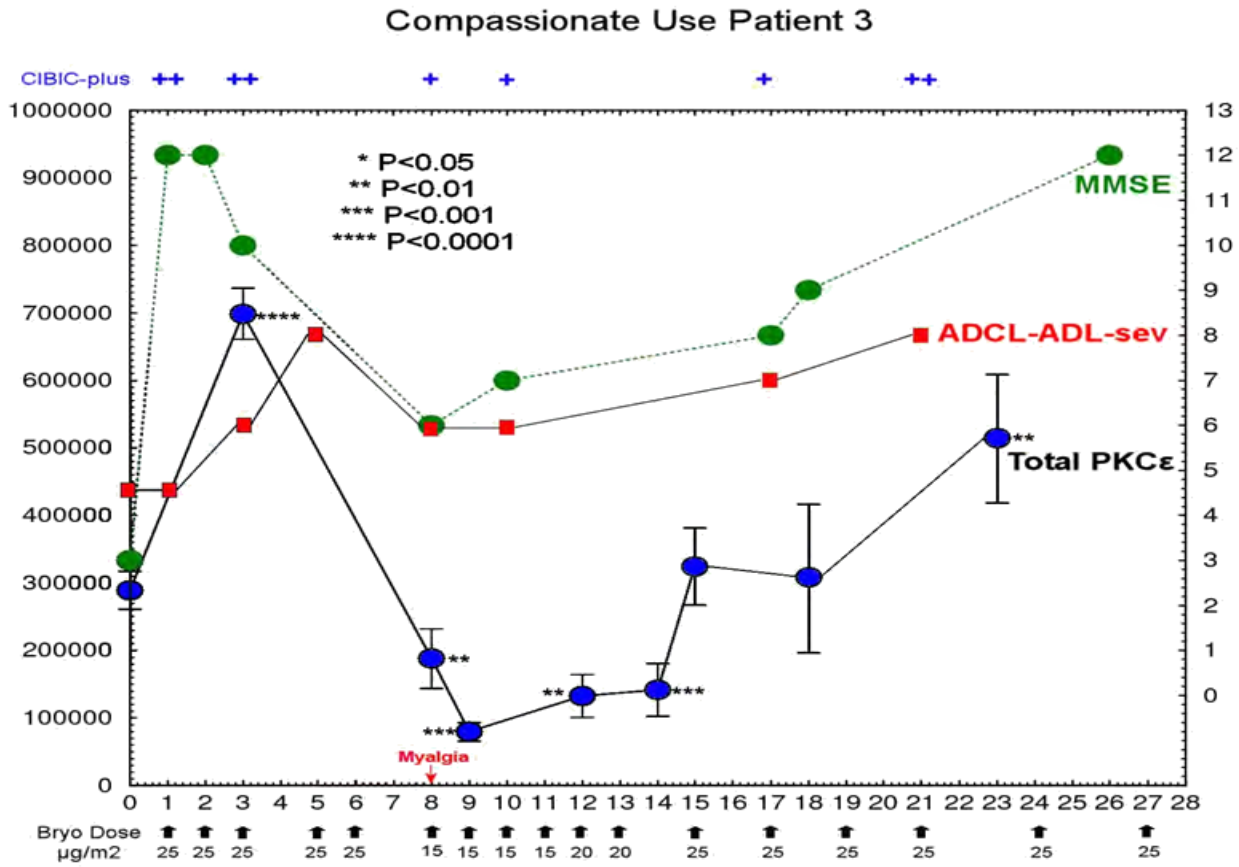


**Image courtesy of Daniel L. Alkon, MD.*

Biomarker Correlates with Cognitive Outcomes in AD

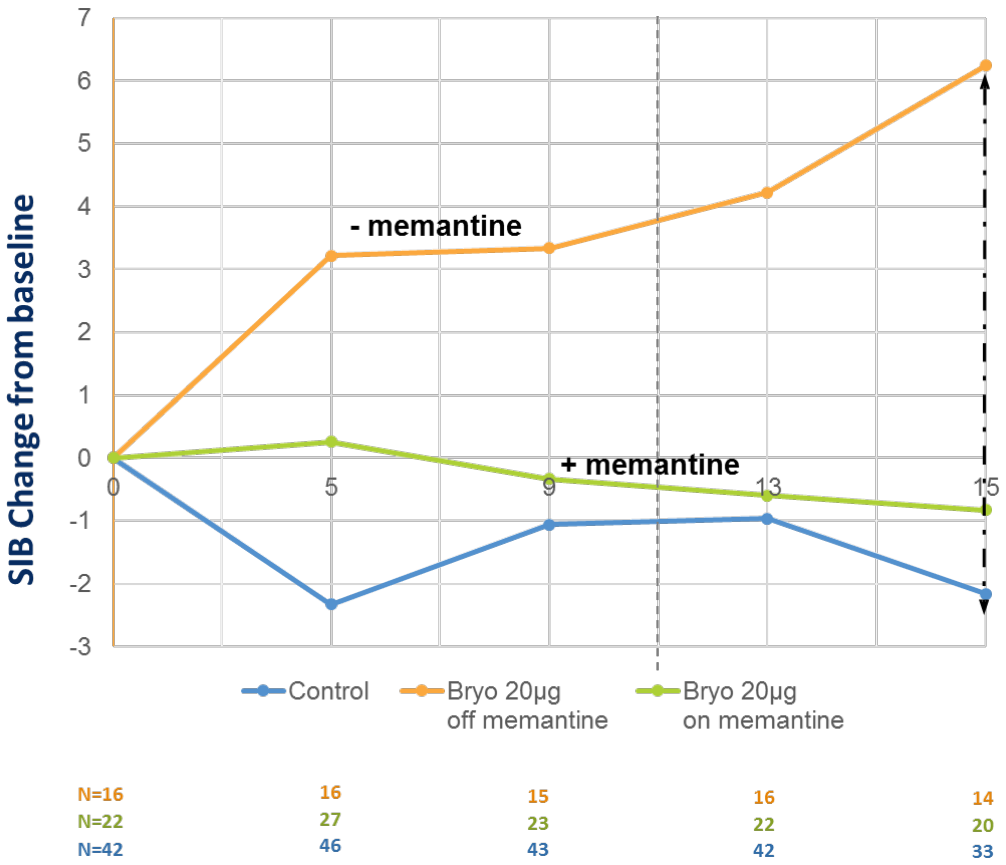
Published in the Journal of Alzheimer's Disease, 2017

- Bryostatin drug target Protein Kinase C (PKC) Epsilon tracks the cognitive benefit of the patient
- Clinically meaningful improvement in cognition MMSE and ADL-severe correlates with an increase in PKC Epsilon
- Bryostatin is activating and engaging the target (PKC epsilon) causing cognitive improvement and improving the patient



Pilot Phase II AD Study Overview

Persistent Benefit 30 Days Post-Dosing



Key Findings

- Patients improve with more doses
- Trend analysis **reveals** statistical significance of P < .001 for Bryostatin with no memantine. P = NS for the other two groups
- The effect is the difference between Bryostatin with no memantine vs. the placebo with no memantine, and vs. Bryostatin on memantine

Key Accomplishments of Clinical Development Plan

Safety Profile

- Bryostatin demonstrated a favorable safety profile across both completed Phase II Pilot Alzheimer's disease trials
- Current trial has reported no safety issues to date
- Drug has been safely administered in over 1,600 patients

Cognitive improvement over baseline, not just a slowing of the rate of decline

Effect is persistent at least one month after dosing

Program Goals Achieved:

NIH Supported Phase II Clinical Trial Enhancements

- "Namenda is now an exclusion criteria”

  Bryostatin works through NMDA Receptors

- NIH Grant Supported Full Trial;

  Six months and 2x doses, to allow for full Bryostatin effect, Eliminate Placebo effect

- We are now using patients who have moderate and moderately severe AD patients

  Eliminates Variability with Most Severe AD patients

PKC Epsilon Activator — Development Pipeline

Market Comparison

HEADING	SYNAPTOGENIX	Athira PHARMA	CASSAVA sciences
Market Capitalization	$30M	$800M	$1.75B
Preclinical	Multiple studies on AD and many other models of neurodegeneration	Limited testing on models of neurodegeneration	Testing on Alzheimer's Disease model
Safety Data	Large # of patients dosed with no significant side effects	Limited # of patients dosed with no significant side effects	Limited # of patients dosed; No placebo; No significant side effects
Specificity of PKC Epsilon Site of Action	Directly activates PKC epsilon	Indirectly activates PKC epsilon with other interactions	Some secondary effect on PKC epsilon
Clinical Confirmation of Activity	Showed SIB (Severe Impairment Battery) improvement over baseline	Showed EEG improvement over Placebo	Showed small ADAS-Cog improvement over baseline

Management

Alan Tuchman, M.D.
Chief Executive Officer

Dr. Alan Tuchman, M.D. was previously Chief Medical Officer of Oncolytic Biotech Inc. He received his MD from the University of Cincinnati, trained in Neurology at The Mt Sinai School of Medicine in New York and completed a Fellowship in Multiple Sclerosis at The Albert Einstein College of Medicine. He is a past President of the Epilepsy Society of Southern New York and is currently Clinical Professor of Neurology at New York Medical College and in clinical practice in Manhattan. He received an MBA from Columbia University School of Business and has published and lectured extensively.

Daniel Alkon, M.D.
President & Chief Scientific Officer

Dr. Daniel Alkon, M.D. has spent the past 30 years directing programs on the molecular and structural basis of associative memory at the National Neurologic Institute of NIH and is a Founding Scientific Director of the Blanchette Rockefeller Neuroscience Institute. He and his teams developed neurorestorative therapeutics for degenerative disorders of the central nervous system, as well as non-invasive Biomarkers for Alzheimer's Disease. Dr. Alkon has also served as the Toyota Chair of Neurodegenerative Diseases, Professor of Neurology at West Virginia University, and was a Research Professor at Johns Hopkins University. Dr. Alkon received his B.A. from the University of Pennsylvania, his M.D. at Cornell University, and was trained in Medicine at Mount Sinai Hospital in New York.

Summary

Synaptogenix is a clinical-stage biotech company leveraging Bryostatin-1 and its analogues to discover and develop targeted, novel **regenerative** therapeutics for neurodegenerative diseases and developmental disorders.

Our experience and passion for novel drug therapies have enabled us to develop a pipeline that includes synaptogenic treatment approaches for serious and difficult-to-treat diseases such as Alzheimer's disease, Fragile X Syndrome, MS, Parkinsons, Traumatic Brain Injury, Stroke, and Autism Spectrum Disorders.

CONTACT US

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