

# A Leader in Therapeutics for the Treatment of Misfolded Protein and Amyloid Diseases





### OVERVIEW

ProteoTech, Inc. 12040 115<sup>th</sup> Ave., NE Kirkland, WA 98034 Office: 425.823.0400 Fax: 425.823.8508

www.proteotech.com

### TYPE OF COMPANY

Pharmaceuticals: Therapeutics and Diagnostics for Amyloid Diseases

# DATE FOUNDED

June 1996

### **LEGAL COUNSEL**

Fenwick & West, LLP Seattle, WA

Ryan, Swanson & Cleveland Seattle, WA

### **INTELLECTUAL PROPERTY**

200+ Patents 130 Issued(US/International)

# **BOARD OF DIRECTORS**

Alan D. Snow, PhD, Chairman, President and CSO Steve Runnels, MBA, CEO Dennis McCurley, MBA, PhD, COO & CFO William T. Frantz

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# Targeting Misfolded Proteins and Amyloid Diseases



- ProteoTech, Inc. is a drug research and development Company that utilizes Proteoglycan and Amyloid <u>Tech</u>nologies to discover and develop new therapeutics and diagnostics for human amyloid diseases.
- Over 12 years of innovative research and development has led ProteoTech to develop and generate a unique library of small molecule and small peptide compounds. These proprietary

compounds specifically target different misfolded proteins that accumulate in various amyloid disorders including the AA, AL, and TTR amyloid proteins of systemic amyloidosis, the beta-amyloid and tau protein of Alzheimer's disease, the alphasynuclein of Parkinson's disease, and the islet amyloid polypeptide of type 2 diabetes.

# Therapeutic and Diagnostic Technologies

ProteoTech was founded in 1996 by Dr. Alan D. Snow, a former Research Associate Professor of Pathology at the University of Washington in order to accelerate new discoveries pertaining to proteoglycan and amyloid technologies with the goal of developing novel therapeutics and diagnostics for protein misfolding diseases and amyloid disorders—including Systemic AA Amyloidosis, Alzheimer's disease, Parkinson's disease, and type 2 diabetes. The Alzheimer's and Parkinson's disease field of drug development has yet to identify disease-modifying solutions to these serious global health issues. ProteoTech has been successful in discovering proprietary classes of compounds that inhibit and disrupt amyloid protein fibril formation, accumulation and persistence in a variety of amyloid diseases.

# Systemic AA Amyloidosis Therapeutic-SystebryI<sup>™</sup>

# Systemic AA Amyloidosis Therapeutic—Systebryl™

ProteoTech has designed and identified a novel small molecule compound (known as Systebryl™) that following oral treatment markedly prevents and reduces AA amyloid deposits (in systemic organs including kidney, liver, and spleen) in a relevant animal model of systemic AA amyloidosis. Systebryl™ has completed a Phase 1 human clinical trial and in the next year will be recruiting patients for "proof-of-concept" phase 2a clinical trials. In future studies, ProteoTech intends to demonstrate this drug's ability to regress AA amyloid deposits in patients while showing improvements in kidney dysfunction.



### SYSTEBRYI<sup>™</sup> PROGRAM

Small molecule in development for orphan drug indication, Systemic AA Amyloidosis, that has been shown to be safe for human use in phase 1 human safety clinical trials.

### SYNUCI FRF™ PROGRAN

Synuclere™ disaggregates and causes removal of toxic alpha-synuclein aggregates—a key disease-modifying target for Parkinson's disease. Potentially the first-in-class compound developed for the treatment of Parkinson's disease.

### FXFRRYI -1° PROGRAM

Studies have shown that Exebryl-1° may be the first Alzheimer's treatment in development that affects both disease targets—beta-amyloid and tau protein.

## PEPTICLERE<sup>™</sup> PROGRAM

Small peptide in development showing promise as a treatment for Alzheimer's disease.

# TYPE 2 DIABETES PROGRAM

ProteoTech has identified small molecule candidates that markedly disrupt islet amyloid polypeptide aggregates, key to treatment of the disease.

# Alzheimer's Disease Therapeutics

# Exebryl-1°

One of ProteoTech's primary compounds for the treatment of Alzheimer's disease is Exebryl-1°, a proprietary small molecule that possesses potent beta-amyloid protein inhibitory activity for the treatment of Alzheimer's, at all stages of the disease. For Alzheimer's disease animal model testing, the company's research studies used genetically engineered transgenic mice that mimic many of the neuropathological hallmarks of Alzheimer's disease. Exebryl-1° markedly inhibits the formation of brain amyloid plaques, and causes a marked clearance/removal of pre-existing brain beta-amyloid protein deposits. In addition, studies utilizing transgenic mice models to study Alzheimer's disease demonstrate a marked improvement in spatial learning and memory following Exebryl-1° treatment. Initial studies also demonstrate Exebryl-1° inhibits tau protein aggregation and disrupts pre-formed tau aggregates. Human Phase 1 clinical trials for Exebryl-1° are ongoing.

# **PeptiClere**<sup>™</sup>

ProteoTech has also identified and developed a small peptide (known as PeptiClere<sup>TM</sup>) that markedly reduces brain amyloid load in Alzheimer's transgenic mice and causes marked improvements in spatial acquisition and memory following peripheral administration. PeptiClere<sup>TM</sup> is being developed by ProteoTech as a potential treatment of mild-to-moderate Alzheimer's disease.

# Other Therapeutics in Development Pipeline

# Parkinson's Disease Therapeutic—Synuclere™

Previously, ProteoTech has been funded by the Michael J. Fox Foundation for Parkinson's Disease Research with a prestigious LEAPS (Linked Efforts to Accelerate Parkinson's Solutions) award to develop a novel small molecule compound for the treatment of alpha-synuclein aggregation and accumulation in Parkinson's disease. ProteoTech has identified and developed a small molecule compound (known as Synuclere<sup>TM</sup>) and related back-up analogs that significantly reduce alpha-synuclein aggregates in brains of alpha-synuclein transgenic mice following peripheral administration. In addition, Synuclere<sup>TM</sup>- treated animals demonstrate marked improvements in motor deficits observed in older alpha-synuclein transgenic mice. This program is partnered with <u>GlaxoSmithKline</u> to develop a clinical candidate targeting alpha-synuclein aggregates.

# **Type 2 Diabetes Therapeutics**

For type 2 diabetes amyloid, ProteoTech has identified novel small molecules (representing new chemical entities) that markedly disrupt islet amyloid polypeptide (IAPP) fibrils that accumulate in the islets of Langerhans (in pancreas) in 90% of patients with type 2 diabetes. Lead compounds are being developed for testing in transgenic animal models of islet amyloid accumulation in pancreas. It is believed that IAPP amyloid accumulation in pancreas leads to beta-cell (i.e. insulin producing cells) death and is an important, neglected target for the treatment of diabetes.



Alan Snow



Steve Runnels



For more information on ProteoTech's technologies and drug discovery programs, please visit our website at www.proteotech.com

# Management Team

Alan D. Snow, PhD (President & CSO) is the Founder and Chairman of the Board. He served as a Research Associate Professor of Pathology at the University of Washington and is a world-recognized authority on the role of proteoglycans in Alzheimer's and amyloid diseases, with over 20 years of experience in this area of research. At the University of Washington, Dr. Snow was the first to identify and demonstrate specific proteoglycans in amyloid deposits in Alzheimer's disease. Dr. Snow has co-authored several publications with Nobel laureate, Dr. Stanley Prusiner and was the first to identify specific proteoglycans in the brain amyloid deposits in a variety of prion diseases. He is the author of more than 50 scientific publications, has presented his research on amyloid disease and proteoglycans at over 120 scientific meetings, and is an inventor of 141 issued patents. Dr. Snow holds a BS in Chemistry/Biology from Bowling Green State University in Ohio, an MS in Anatomy from University of Western Ontario (London, Ontario, Canada) and a PhD in Pathology from Queen's University (Kingston, Ontario, Canada).

Steve Runnels, MBA (CEO) has more than 26 years of international management experience in the healthcare industry. He has held the position of President and CEO of several start-up biopharmaceutical companies, executive vice president and Board member of publicly traded NeoTherapeutics, Inc. (NEOT: NASDAQ) and Vice President of Marketing and Business Development at Sigma-Aldrich, a Fortune 500 company. He has led drug discovery and *in vitro* diagnostic product development activities in the therapeutic areas of Central Nervous System, Oncology, Clinical Cytogenetics, Assisted Reproductive Technologies, Immunohematology and Diseases of Bone and Cartilage. He is a Senior Industry Advisor for the National Institutes of Health - Capitalization Assistance Program. Mr. Runnels holds a BS in Cell Biology and certification from the American Society of Clinical Pathology as a specialist in Immunohematology and is a PhD candidate in Management.

**Dennis L. McCurley, MBA, PhD** (COO & CFO) is responsible for the daily operations at ProteoTech. He has held various senior management positions over the past 30 years including VP-Franchising, VP-Regional Manager with First Interstate Bancorp and CEO of Capital Access One. He earned his MBA from the University of Southern California in finance and holds a PhD in Management and Organizational Behavior. Dennis is very involved in the community having served on several nonprofit boards. He has been a guest lecturer at the University of Washington in Organizational Behavior and Business Ethics. Dr. McCurley was also a founding member of several start-up companies before joining ProteoTech in 1997.

**Rebecca Eagen, PhD,** (Director of Intellectual Property) is responsible for managing the extensive and growing IP portfolio of ProteoTech. Dr. Eagen is a Registered Patent Agent in the US and Canada and has specialized in pharmaceutical and biotechnology patents. She holds a PhD in Molecular Biology and Biochemistry from the University of British Columbia, Vancouver, BC.



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