GliaCure is currently conducting clinical trials in Alzheimer’s disease
Opportunity

Despite years of research and clinical trials, many neurological and neuropsychiatric disorders are still poorly understood. While current therapies may treat symptoms, the underlying pathologies remain unaddressed. New, effective treatments will have significant societal and financial benefits.

An estimated 5 million Americans over age 65 have Alzheimer’s disease, a number that is projected to reach 13.8 million by 2050. Alzheimer’s disease is the sixth leading cause of death. Current FDA-approved drugs merely ameliorate or delay some of the symptoms displayed by patients and are efficacious only for about 6 to 12 months.

Approximately 60,000 Americans are diagnosed with Parkinson’s disease each year. Medications and surgery are available to treat the symptoms of the disease but there is currently no cure.

Psoriasis is the most common autoimmune disease in the United States, affecting as many as 7.5 million Americans. Topical and injectable medications are available to treat the symptoms of the disease but do not effect a cure.

While there is a range of treatments available for depression, these take weeks to achieve onset of action and are not effective for up to 40% of the patient population. 70 million US citizens suffer from chronic sleep disturbances. There are sleep aids that promote the onset of sleep, but no medications that promote a night of consolidated sleep.

GliaCure’s Approach

GliaCure’s primary focus is on glial targets that have been overlooked by other drug development companies; consequently, there is a rich array of glial targets available for the development of new therapeutics.

The company has developed a small molecule clinical candidate - GC021109 - for a glial target that has two primary actions downstream of target engagement: the stimulation of phagocytosis and anti-inflammatory actions in which levels of pro-inflammatory cytokines are reduced.

GliaCure is a pioneer in the development of novel therapeutics aimed at treating neurological and neuropsychiatric disorders of the brain. The company’s approaches are based on glial targets, a cell type in the brain that has previously been overlooked in drug discovery.
Opportunity

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GC021109 is currently being developed primarily as a disease modifying treatment of Alzheimer’s disease; however, its dual phagocytosis and anti-inflammatory actions have the potential to affect other disorders.

Stimulating phagocytosis has the potential to clear alpha-synuclein, a known disease-causing molecule that accumulates in the brains of Parkinson’s patients. Recent studies also point to the importance of inflammation contributing to Parkinson’s disease. Anti-inflammatory effects of GC021109, or related compound on the P2Y6 receptor provide an opportunity to treat conditions including asthma, due to reductions in IL-13, and psoriasis, due to reductions in IL-17.

Evidence suggests that the application of the endogenous ligand for GliaCure’s target to the cornea reduces intraocular pressure. This provides a new therapeutic opportunity in glaucoma. Drusen accumulation in dry macular degeneration, for which there is currently no treatment, also contains amyloid β, raising the potential for an additional indication for GliaCure’s small molecule family.

In addition to its programs using GC021109, GliaCure has a pipeline program for the development of therapeutics for astrocytic targets related to neurological and neuropsychiatric disorders.

GliaCure is building on its existing discoveries on the role of astrocytes as a critical conduit for mediating fast-acting antidepressive effects and identify targets for the development of an entirely new class of antidepressive therapy.

The development of ligands that stimulate the astrocytic release of adenosine will have the potential to become a new class of sleep aid.

Development Strategy

GliaCure will continue to leverage its unique approach to the development of drugs for neurological, neuropsychiatric and inflammatory diseases by:

- Entering corporate partnerships for the continued development of GC021109 as a therapy for Alzheimer’s disease
- Developing strategic partnerships to develop GC021109 and related molecules for other indications
- Entering collaborations to move forward its discovery programs focused on astrocytic pathways

As a virtual company, GliaCure has the ability to promote a fast-moving drug development program with low overhead to maximize investment.
Management and Organization

Philip Haydon, Ph.D., President, co-Founder and CSO, is also Chair of the Department of Neuroscience at Tufts University and has a worldwide reputation for his research into the role of glia in neurological and neuropsychiatric disorders.

Rudy Schreiber, VP, Translational Research & Development, is a seasoned life sciences executive, and has held positions at Roche, Sepracor and Evotec.

Alan Barber, CFO, has spent 12 years as the CFO of various venture-backed emerging life science and software companies, including Ergo Science and Medical Foods.

GliaCure is a virtual drug discovery company, a cutting edge approach in life sciences that allows it to work with expert consultants on an as-needed basis to allow rapid decision-making and to maximize investment. The company has raised approximately $8.5 million to date from private investors and has received a $1 million award from the Alzheimer’s Drug Discovery Foundation (ADDF).