NeuroQuest
Developing Biomarkers for the Accurate Diagnosis of Alzheimer’s and ALS (Lou Gehrig’s Disease)

BACKGROUND
Despite intensive efforts by the scientific and pharmaceutical communities, neurodegenerative diseases remain unpreventable, incurable, and largely untreatable. Today, diagnosis is typically carried out through psychiatric examination at advanced stages of the disease when the damage is significant and the potential for delaying disease progression is low. There is an urgent need for rapid, low-cost, accurate diagnostic tests for Alzheimer’s disease (AD) and ALS (Lou Gehrig’s disease) early in their course when therapy is most effective, allows for better disease management, and enables earlier financial planning.

THE OPPORTUNITY
One in eight people over the age of 65 have AD. In the U.S., 5.1 million patients represent a diagnostic market of up to $5 billion. Incorporating an accurate diagnostic capable of monitoring disease progression will greatly ease the burden of later-stage diagnosis on families and the health system at large. The U.S. Surgeon General and the UK’s NHS recognize this milestone as a top priority in the treatment of Alzheimer’s. Further, partnering with pharmaceuticals in therapeutic trials could increase the homogeneity of patients through improved diagnosis, establish surrogate outcome measures for drug efficacy, test pharmacogenetic bases of drug response, and verify proposed mechanisms of drug action — leading to more effective treatment.

THE SOLUTION
NeuroQuest has discovered blood-based immune biomarkers in AD and ALS patients. Peripheral blood samples measure unique aspects of the immune system that reflect the disease pathology and, as such, can be used for diagnosis, prognosis, and monitoring disease progression. NeuroQuest’s biomarkers may lead to a better understanding of the mechanism of neurodegenerative disease, which in turn could open new directions for improved therapeutics.

THE TECHNOLOGY
NeuroQuest’s patent-pending technology is based on the award-winning research of Professor Michal Schwartz of the Weizmann Institute of Science, who arrived at a completely original understanding of the pathology of neurodegenerative diseases. Prof. Schwartz showed that key cellular immunological components in the blood are needed for normal brain function, and that the malfunctioning of these specific cells allows diseases to develop and progress. NeuroQuest measures these cellular immunological components in the blood and uses them as biomarkers for diagnosing neurodegenerative diseases.

DEVELOPMENT STATUS
In cooperation with Sheba, Rambam, and Abarbanel medical centers in Israel and Methodist Neurological Institute in Houston, Texas, NeuroQuest has completed a first-in-human feasibility trial showing the diagnostic accuracy and potency in AD and ALS patients in mild to moderate stages versus healthy controls. Partnerships with international Alzheimer’s research and care centers are being formed to expedite the next stage validation clinical trial.

ROAD MAP
NeuroQuest is preparing for validation studies for admittance to large ongoing clinical studies of AD and is seeking to collaborate with pharmaceutical companies in therapeutic development.

FUNDING
NeuroQuest seeks to raise $700,000 for an AD biomarker validation clinical trial and developing partnerships with pharma companies for therapeutic development.

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