New Biomarker Class for Multiple Sclerosis: Precision Medicine in Brain Disease

**VALUE PROPOSITION**

With the discovery of a new class of non-protein, blood-borne biomarkers for multiple sclerosis (MS), early events in autoimmune disease become traceable by the presence of specific shedding patterns in biological fluids.

At present, no pathognomonic biomarker for MS exists and thus, disease and treatment monitoring relies on access to in-hospital, golden standard MRI techniques.

Translating our knowledge into complementary diagnostic tools will create value by tracking disease progression and drug efficacy, reducing the use of inadequate medications and directing expensive new treatments to those who will benefit the most. Furthermore, improved disease tracking and subtyping will streamline drug development, reducing costs and improving prioritization of drug pipelines.

From a patient’s view, such a precision medicine approach limits side effects and improves treatment.

**BUSINESS OPPORTUNITY**

With the estimated market for MS therapeutics reaching 24.8 billion USD by 2024, a science-based cost-benefit approach is in demand. Furthermore, the increasing need for improved diagnostic and complementary tools is projected to reach a marker value of 16 billion USD for diagnostic tools alone.

With a kit encompassing these biomarkers of interest, clinicians and drug developers can improve subtyping of patients, monitor disease progression and efficacy of drug therapy.

We are looking for a commercial partner interested in developing the technology with us. We offer opportunity for an option agreement towards a potential license for the patent.

**TECHNOLOGY SUMMARY**

Globally, MS affects 2.5 million people, often those in the prime of life.

State-of-the-art diagnosis and monitoring in MS are expensive, invasive, and monitor late-stage damage from disease activity.

With the discovery of a new class of non-protein, blood-borne biomarkers for multiple sclerosis (MS), early events in autoimmune disease become traceable by the presence of specific shedding patterns in biological fluids.

We envision the use of the technology in improving patient monitoring, predicting treatment response, prognosis, and development of new and improved therapies based on precision medicine principles.

**CURRENT STATE OF DEVELOPMENT**

We have produced proof-of-concept from both rodent and human studies and are looking to develop the technology through collaborations with biobanks and clinical trials in order to further strengthen the data and IP position. Furthermore, we are interested in partnerships for development of a sellable kit for pharmaceutical and clinical use.

**INTELLECTUAL PROPERTY RIGHTS**

The IP is co-ownership by Aarhus University (70%) and Technical University of Denmark (30%) and is protected via a European Priority application filed December 2017 (17207028.6).
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