A Novel Diagnostic Tool For Alzheimer’s Disease Detection
RU 1179

Technology Summary

Alzheimer's disease (AD) is a progressive neurodegenerative disease that is characterized by accumulation of the β-amyloid peptide and chronic inflammation. A major roadblock to treatment of AD is a lack of easy to use diagnostic tools for early detection. Current methods of diagnosis that allow early detection of AD, such as brain imaging to detect amyloid-beta (Aβ) deposits and measurement of cerebrospinal fluid levels of Aβ, are expensive, invasive, and have limited availability. Our scientists have identified a potential plasma biomarker that may provide AD diagnosis at early stages of the disease.

Our scientists demonstrated that AD patients have increased activation of a set of proteins known as Contact Activation System in their circulation that leads to cleavage of high molecular weight kininogen (HK) to produce cleaved HK and bradykinin. Bradykinin promotes potentially chronic inflammation in many disease states and might play a role in AD patients. Our scientists developed a sensitive assay to determine levels of uncleaved HK and cleaved HK in human plasma to potentially diagnose risk of AD in humans.

Application

Diagnostics. These reagents are useful for diagnostic identification of Alzheimer's disease.

Advantages:

- Highly sensitive and rapid detection method for AD diagnosis.

Stage of Development

- Discovery

Lead Inventors

Dr. Sidney Strickland and Dr. Daria Zamolodchikov

Patent Information

- PCT patent application WO2016/081413 pending

References

- Zamolodchikov et al., PNAS (2015)