



A Predictive Blood Test for Evaluation of Neurodegenerative Diseases: Practical and Cost Effective

At A Glance

Company Profile

Founded: 2014

www.nanosomix.com

Disease Focus: Neurologic Disorders

Technology: Plasma neuron-derived exosome enrichment and biomarker assays

Products: NSX Direct™, NSX Enrich™

IP: Patents Pending

Funding: Founders, Angel Investors

Management:

CEO: John Osth

Principle Scientist: Ed Goetzl, MD

CTO: Masato Mitsuhashi, PhD, MD

CFO: Amin Khalifa

VP Marketing: Vicki Clements, EdD

Company: NanoSomiX, Inc. will be offering blood-based biomarker assays for neurodegenerative, neuroinflammatory and neurotraumatic diseases performed in a federally regulated clinical (CLIA) laboratory.

Technology: NanoSomiX uses a proprietary method to detect and enrich neuronal exosomes from blood plasma. Exosomes are tiny membrane-encased vesicles released from cells that serve as a method of cell-to-cell communication. Small enough to cross the blood-brain barrier, neuron-derived exosomes contain active proteins and other cargo, which provide a unique and direct observation of brain function. The membrane surrounding the exosome protects the proteins encapsulated inside, preventing exposure to enzymes in the blood that can alter their structure. In the case of p-tau, for example, exosomes preserve the phosphorylation structure of the protein.

Product Offering: When commercially available our **NSX Direct™** assay panel will include the only blood-based test for the measurement of p-tau. Newly published data show that the assay can detect p-tau up to 10 years prior to diagnosis of AD and can differentiate between normal cognitive controls, AD and frontotemporal dementia¹. The assay panel includes tests for P-T181-tau, P-S396-tau, total tau and amyloid β 1-42. NanoSomiX will also offer an exosome enrichment service, **NSX Enrich™**, to researchers who are interested in exploring their own neurologic protein biomarkers in plasma. Using plasma samples provided by the researcher, the company will identify and enrich neuron-derived exosomes using our proprietary process and then return an exosome enriched solution for further investigation into possible protein biomarkers.

Applications: The biomarker assays may potentially be used for patient qualification and enrollment in clinical trials, monitoring of disease progression and therapeutic response. The exosome enrichment service can provide researchers with a new biomarker discovery approach.

Future Opportunities: The high level of interest in blood-based biomarkers is being driven by the need to easily identify and monitor early-stage patients, particularly for clinical trials. Future biomarker assays are under development utilizing the same proprietary neuron-derived exosome technology for diagnosis, disease monitoring, and differential diagnosis of various neurodegenerative, neuroinflammatory and neurotraumatic diseases.

¹ Fiandaca MS, Kapogiannis D, Mapstone M, et al. Identification of preclinical Alzheimer's disease by a profile of pathogenic proteins in neurally derived blood exosomes: a case-control study. *Alzheimers Dement* 2015, in press; doi 10.1016/j.jalz.2014.06.008.