

A novel biomarker platform for dementia research with single molecule sensitivity.

<https://neurodegenerationresearch.eu/survey/a-novel-biomarker-platform-for-dementia-research-with-single-molecule-sensitivity/>

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A novel biomarker platform for dementia research with single molecule sensitivity.

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1

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Research Abstract

Identification of biomarkers is increasingly important in diagnosis and therapeutic decision making in most areas of medicine and particularly so in neurological conditions due to difficulties of direct visualisation and tissue sampling of the central nervous system. Biomarkers are also critically important for clinical trial inclusion criteria and as outcome measures. Sensitive methods to measure markers are constantly sought and in clinical neuroscience cerebrospinal fluid (CSF) is one of the most promising biomarker matrices, although CSF volumes are often limited and not easily resampled. Biomarkers in CSF are at low concentration and so are not easily measured. A key objective is to develop novel biomarkers for core neuropathological

changes in neurological diseases using ultrasensitive Simoa technology. The equipment requested is a fully automated analyser manufactured by Quanterix , the Simoa HD-1. Simoa (single molecule array) technology is based on standard immunochemical techniques and uses paramagnetic beads and standard reagents but is able to achieve much greater sensitivity than standard techniques due to the ability to trap single molecules in femtolitre volume wells allowing for a digital readout. measuring at the single molecule level. This can lead to up to 1000-fold better analytical sensitivity, compared to traditional ELISA techniques.

Further information available at:

Types:

Investments < €500k

Member States:

United Kingdom

Diseases:

N/A

Years:

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