Evaluation of a plasma protein panel as a compound biomarker for Alzheimer's disease

https://neurodegenerationresearch.eu/survey/title-of-pievaluation-of-a-plasma-protein-panel-as-a-compound-biomarker-for-alzheimers-disease/

Title of project or programme

Title of PI Evaluation of a plasma protein panel as a compound biomarker for Alzheimer's disease

Principal Investigators of project/programme grant

Title	Forname	Surname	Institution	Country
Professor	Simon	Lovestone	King's College London	UK

Address of institution of lead PI

Institution	King's College London
Street Address	Institute of Psychiatry, De Crespigny Park
City	London
Postcode	SE5 8AF

Country

- United Kingdom

Source of funding information

Medical Research Council

Total sum awarded (Euro)

824648.87

Start date of award

16-02-2009

Total duration of award in months

36

The project/programme is most relevant to

- Alzheimer's disease and other dementias

Keywords
Research abstract in English

Using gel based proteomics we have identified a panel of potential plasma biomarkers for Alzheimer's disease. These proteins have been replicated in moderately large subject populations of 200-500 subjects and subsequently the same proteins or closely related proteins have been identified in similar, independent studies, including those of our collaborators. These proteins together show

promise as a compound marker for Alzheimer's disease – for example a sub-set of just five of the proteins predict brain volume, a marker of disease, in 80% of subjects. Having replicated, or partially validated, this set of proteins we now need to develop a stable and fully quantitative and sensitive assay and to test this on very large numbers of subjects, including population based cohorts. We plan to develop dual immunocapture and mass spectrometry based multiplexed assays and in a staged design determine the characteristics of the resulting compound assay as a marker of diagnosis, prediction and progression. We have, through this collaborative group, assembled a very large set of well characterised subjects for such studies including the main US and European AD Biomarker collections and population based sample sets including the MRC CFAS study. The study led by the MRC Centre for Neurodegeneration brings together expertise in Alzheimer's disease, in assay design and development, in population based analyses and in statistics. The set of markers we have developed to date are, to our knowledge, the best characterised set developed through proteomics and are ready for further development and translation to clinical utility.

Lay summary
In which category does this research fall?

- Clinical research