Novel Point-of-Care Diagnostic Techniques for Dementia

https://www.neurodegenerationresearch.eu/survey/novel-point-of-care-diagnostic-techniques-for-dementia/

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Country

United Kingdom

Title of project or programme

Novel Point-of-Care Diagnostic Techniques for Dementia

Source of funding information

EPSRC

Total sum awarded (Euro)

€ 1,339,673

Start date of award

01/02/2015

Total duration of award in years

3.0

The project/programme is most relevant to:

Alzheimer's disease & other dementias

Keywords

Neurodegenerative disease in general

Research Abstract
The aim of this proposal is to create a new way, using multiplex graphene-based biosensors, for
the detection of biomarkers found in biological fluids (e.g. blood, CSF, urine and saliva)
in the early stages of dementia (with emphasis on Alzheimer's disease) and changes in levels

with disease progression.

A generic, Point-of-Care (POC) biosensor technology, based on graphene transducers, has already been developed by one of the project partners and demonstrated for
the detection of several disease biomarkers. Unlike existing analytical approaches, the sensor is a rapid diagnostic platform, yielding real-time data and a conclusive test
result within minutes of the sample being taken. The idea is to combine this with novel electronic multiplex techniques and large area graphene to create a multiplexed
biosensor array technology to enable the detection of multiple biomarkers of dementia simultaneously with the potential to significantly increase throughput.
An objective of the project is to demonstrate a novel, low-cost, reliable, POC diagnostic platform, based on multiplex graphene biosensors, for early detection of
dementia and following its progression from biological fluid such as blood.

The development of a low cost, point-of-care biosensing technology that makes it possible to detect dementia, objectively, in the early stages and to
monitor disease progression, rapidly, from a simple blood test would revolutionise diagnosis of dementia and have a huge positive impact on the selection of
subjects for clinical trials for new drugs and for monitoring response to treatment.

Lay Summary
Further information available at:

Types:
Investments > €500k

Member States:
United Kingdom

Diseases:
Alzheimer's disease & other dementias

Years:
2016

Database Categories:
N/A

Database Tags:
N/A