Super-sensitive detection of Alzheimer's disease biomarkers

SensApp

What is SensApp

Research project funded by the European Union's Horizon 2020 Programme, FET- Open Action. SensApp seeks to develop a bench-top "super-sensor" able to detect biomarkers of Alzheimer's disease in plasma.

Why

The detection of biomarkers in body fluids is of great importance for the early diagnosis of Alzheimer's disease. The clinical practice uses typically immunoassay methods, for biomarker determination. Unfortunately, these techniques fail dramatically in a wide variety of cases where the concentration of biomarkers falls below the limit of detection.

Aims

The aim of our project is to develop a very sensitive sensor that will allow us to detect biomarkers of Alzheimer's disease through a simple blood test, for very early and non-invasive diagnosis in routine clinical practice.

How

SensApp develops an outstanding innovative technology that will be involved in those clinical studies where the detection of low abundant biomarkers is of vital importance for the welfare of society. In particular,

- An integrated micro-system in polar materials will split the mother drop of the plasma sample in tiny droplets through electric fields and will accumulate them on a microscale site, while an innovative integrated optical system that will detect the fluorescence signal directly on the reaction support.
- The super-sensor will be fully automated and cost-effective.

Who

SensApp is an interdisciplinary collaboration across Europe.

Coordinator: CNR-ISASI
Consortium: 6 EU partners
Timeframe: 3 Years (Jan 2019 - Dec 2021)
Budget: ~ 3,3 M€
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