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Research field

Electrochemical Biosensors

PhD title

Nano-Biosensors for early-stage diagnosis of neurodegenerative diseases

Keywords

- Biosensors
- Nanomaterials
- Immunosensors
- Alzheimer's disease

Summary

Alzheimer's disease is a progressive degenerative brain disorder. An increase in the levels of Aβ-42 and P-tau proteins (biomarkers) has been found in the serum of Alzheimer's disease patients, which has shown promise in detecting the disease. Currently, there is a need for affordable and non-invasive methods to monitor these biomarkers. Therefore, the goal of this research is to develop a nano-biosensors array to predict and diagnose Alzheimer's at an early stage, potentially improving quality of lives. We then plan to create a specialized sensing platform by using disposable sensor chips that can accurately detect the target biomarkers. Ultimately, we aim to validate and market these sensor chips along with a digital device to enable early diagnosis and screening of Alzheimer's disease.

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