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NUS scientists design blood test to detect Alzheimer's

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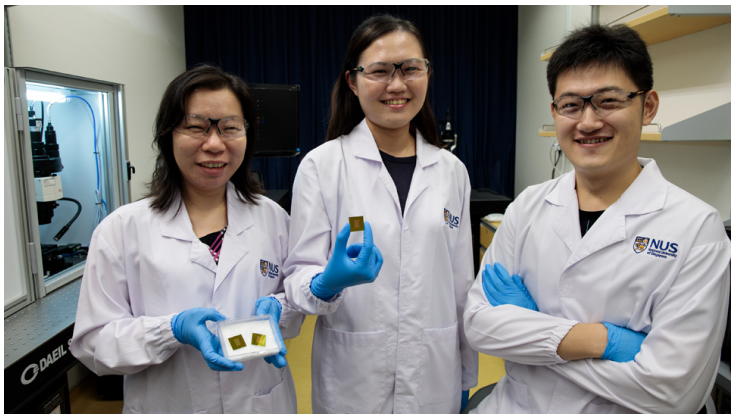
Groundbreaking new blood test for Alzheimer's disease



Doctors may one day be able to diagnose Alzheimer's disease (AD), the most common cause of severe dementia, and monitor a patient's response to treatment by doing a simple blood test. This could be made possible using the APEX (Amplified Plasmonic EXosome) system invented by researchers from the National University of Singapore (NUS).

Designed to pick up an early-stage molecular marker of AD, the aggregated amyloid beta (A?), the APEX system could potentially diagnose AD even before clinical symptoms appear.

This novel technology is highly sensitive and provides an accurate diagnosis — comparable to brain positron emission tomography (PET) imaging, the current gold standard for AD diagnosis — at about $30 per test, which is less than 1 per cent of the cost of PET imaging.

The current design could test 60 samples simultaneously, with the results available in less than one hour. As the APEX system uses native blood plasma without additional sample processing, it conducts direct measurement and is very simple to use in clinical settings.

Led by Assistant Professor Shao Huilin from the NUS Institute for Health Innovation & Technology (NUS iHealthtech), the 12-member research team spent two years developing APEX.

Asst Prof Shao and her team are currently in discussions with industry partners to commercialise this technology. The device is expected to reach market within the next 5 years.

In the next phase of research, the team hopes to employ the technology in areas of AD disease management, as well as for evaluation of AD therapeutics under development.