

## **Alzheimer's disease: Newly found peptide** offers hope of early test and better treatment

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Researchers in Japan have detected a peptide in cerebrospinal fluid (CSF) that can show whether a person is developing Alzheimer's disease. Measuring the level of this peptide could show that the disease process has started, long before any serious damage is done to the brain.

This research, published in the journal *EMBO Molecular Medicine*, raises new opportunities for combating Alzheimer's <u>disease</u>. Currently treatments can only be started after considerable structural damage has occurred in the person's <u>brain</u>. However, if this finding is broadly used as a clinical test, treatment may be possible before too much damage is present, offering the hope of much better outcomes.

"This novel peptide is the long-sought surrogate marker for Alzheimer's disease," says lead researcher Masayasu Okochi, who works in the Department of Neuropsychiatry at Osaka University Graduate School of Medicine, Japan.

Treating Alzheimer's disease is complex for a number of reasons. First, there are few or no signs that a person has the disease until the destructive process has been active in the person's brain for many months or years. Second, once the damage is done in the brain, it is difficult to restore lost function.

Consequently, many people are trying to find ways of detecting the onset of Alzheimer's disease long before any symptoms appear. In addition, they want to use a sampling method that does not involve costly scanning



equipment.

The multi-centre Japanese team analysed CSF and brain tissue samples from people with and without diagnosis of Alzheimer's disease. They discovered that increases in levels of their newly identified peptide (APL1beta28) reflected increased production of Abeta42 in the brain. While Abeta42 is always produced in the brain, this peptide is one of the key constituents of the senile plaques that play a critical role in Alzheimer's disease, and increased production is associated with plaque formation.

"Many pharmaceutical companies are developing Abeta-targeting compounds that could prevent some of the brain damage associated with <u>Alzheimer's disease</u>, but their use will be limited if given after symptoms appear. Our new test allows early diagnosis, giving patients the chance of getting maximum benefit from these new drugs," says Okochi.

Source: Wiley-Blackwell

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