

# CSF test can pick up Alzheimer's early

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Analysis of the cerebrospinal fluid can detect whether a person has Alzheimer's disease before symptoms appear. Researchers at the Sahlgrenska Academy at the University of Gothenburg, Sweden, have studied biomarkers that offer more reliable diagnosis and, in the longer term, the possibility of effective new treatments.

In Alzheimer's disease, a [protein fragment](#) called beta-amyloid forms [clumps](#) between the [nerve cells](#) of the brain, causing the disease's characteristic effects on memory and function. The nerve fibres also become tangled, causing certain proteins to be released into the [cerebrospinal fluid](#) (CSF).

## Leading Alzheimer's expert

Led by Kaj Blennow, one of the world's leading Alzheimer's experts, researchers at the University of Gothenburg's Sahlgrenska Academy have developed a way of measuring these proteins and protein fragments in the CSF so that they can be used as biomarkers – substances that reflect biological processes in the body and allow more reliable diagnoses in people with cognitive disorders.

## Detect at early stage

"We found that levels of these proteins change in the CSF even with early symptoms, and we will probably be able to detect changes in the brain at a very early stage of the disease," says doctoral student Niklas Mattsson, whose thesis builds on the results.

## International programme

To promote wider use of these new biomarkers, the researchers in Gothenburg have established an international quality control programme for these measurements. Besides facilitating diagnosis, the biomarkers could also be used when new drugs for Alzheimer's are tested. "We hope that a better knowledge about biomarkers will help improve the future care of neurological and psychiatric patients," says Mattsson.

**More information:** The thesis "CSF biomarkers reflecting beta-amyloid and axonal pathology in Alzheimer's disease and related conditions" was defended on 9 December.

Provided by University of Gothenburg

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