

## High-Sensitive Surface Plasmon Resonance Immunosensor for $\beta$ -amyloid (1-40)

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Numerous studies have identified  $\beta$ -amyloid (1-40) in cerebrospinal fluid as a potential biomarker for Alzheimer's disease. It is of particular interest to establish the diagnosis before reaching the clinical severity. The present work reports a novel surface plasmon resonance (SPR) based ultrasensitive detection method of  $\beta$ -amyloid (1-40). The sensitivity enhancements of the SPR based immunosensor for  $\beta$ -amyloid (1-40) is done by using gold (Au) nanoparticle-antibody conjugates. The signal enhancing effects of Au-nanoparticle antibody conjugates. The signal enhancing effects of Au-nanoparticle antibody conjugate was found directly proportional with the concentration of the antibody having a detection limit of 1fg/ml.

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