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ProductInformation

Anti-Amyloid Peptide b, Cleavage Site 42
Developed in Rabbit, Affinity Isolated Antibody

Product Number **A 1976**

Product Description

Anti-Amyloid Peptide β, Cleavage Site 42 (Aβ42) is developed in rabbit using as immunogen a synthetic peptide of approximately 10 amino acid residues at the C-terminus of Aβ42. The antibody is cleavage site specific and its binding to the Aβ peptide requires the presence of the free carboxyl group at the C- terminus of the peptide. It does not bind to Amyloid Precursor Protein (APP), which lacks this free carboxyl group. The rabbit serum is affinity purified using epitope-specific affinity chromatography. The antibody is preabsorbed to remove any reactivity towards full-length Aβ40 (1-40 amino acids) and amyloid peptide Aβ43 (1-43 amino acids).

Anti-Aβ42 specifically recognizes Aβ, cleavage site 42. The antibody detects human, mouse and rat Aβ42. It has been used in RIA, ELISA[1,2], dot blots, immuno-precipitation[3] and immunohistochemistry applications.[4]

Alzheimer's Disease (AD) is characterized by the deposition of extracellular plaques and intracellular neurofibrillary tangles (NFTs) in the brain. The major component of these senile extracellular plaques is the amyloid β peptide (Aβ peptide), a 4 kDa peptide of 39-42 amino acid residues. This peptide is cleaved by caspases from amyloid precursor protein (APP) during apoptosis. Mutations in APP are the key triggers for the pathogenesis of AD. Increased amyloid β peptide formation leads to the elevated extracellular concentrations of the "longer forms" of Aβ peptide, Aβ42 or Aβ43, a common effect of the mutations of genes in Alzheimer's disease. These peptides have a greater tendency to aggregate than Aβ40 and, therefore, are considered to be pathological.[4,5] The increased release of Aβ42/Aβ43 leads to the abnormal deposition of Aβ and the associated neurotoxicity in the brains of affected individuals.[6]

Reagent

Anti-Amyloid Peptide β42 is supplied as a solution in phosphate buffer, pH 7.4. One vial contains approximately 25 µg of antibody.

Storage/Stability

Store at –70 °C. For extended storage, upon initial thawing, freeze in working aliquots. Do not store in frost-free freezers. Avoid repeated freezing and thawing to prevent denaturing the antibody. Samples at working dilution should be discarded if not used within 12 hours. The antibody is stable for at least 6 months when stored appropriately.

Product Profile

A recommended working concentration of 0.05 to 1.0 µg/ml is determined by dot blot. In ELISA a 1:200 working dilution is recommended.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

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4. Borchelt, D.R., et al. Accelerated amyloid deposition in the brains of transgenic mice coexpressing mutant presenilin 1 and amyloid precursor proteins. Neuron, **19,** 939-945 (1997).
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