ProductInformation

ANTI-PRESENILIN-2 (C-TERMINAL)
Developed in Rabbit,
Affinity Isolated Antibody

Product Number **P0482**

Product Description

Anti-Presenilin-2 (C-Terminal) is developed in rabbit using a synthetic peptide as immunogen. This sequence corresponds to amino acids 324-335 from the C-terminus of the human presenilin-2 protein (EEDSYDSFGEPS). This amino acid sequence is identical to presenilin-2 from mouse and rat.

Anti-Presenilin-2 (C-Terminal) reacts specifically with a C-terminal proteolytic fragment (20 kDa) by immunoblotting using a brain tissue extract and a HeLa cell extract. Additional bands are also observed which likely correspond to aggregated, modified or intact PS-2, depending upon extraction conditions. Anti-presenilin-2 (C-terminal) can detect pressenilin-2 using immunoblotting and immunohistochemistry (frozen sections). The antibody recognizes human, mouse and rat pressenilin-2.

The majority of early onset familial Alzheimer's disease cases are associated with mutations in two genes, presenilin-1 (PS-1) located on chromosome 14[1] and presenilin-2 (PS-2) on chromosome 1.[2,3] Mutations in the presenilins have shown to alter the processing of β-amyloid precursor protein (βAPP), resulting in increased extracellular concentrations of the longer neurotoxic β-amyloid peptide Aβ 1-42 relative to Aβ 1-40.[4-6]

The presenilin-1 and presnilin-2 proteins are integral transmembrane proteins which share an overall 67% homology and are localized to the endoplasmic reticulum and early golgi.[7,8] Presenilin-1 and presenilin-2 also display significant homology to the C. elegans gene products sel-12 and spe-4, respectively. Several reports suggest that the presenilin proteins may play roles in the Notch and Wingless signaling pathways, in part based upon this homology.[9-12] Presenilin-1 has a predicted molecular weight of 53 kDa, while presenilin-2, a 448 amino acid protein, has a predicted molecular weight of 50 kDa. The majority of native protein, however, undergoes endoproteolytic processing and subsequent oligomerization.[8] It has been suggested that mutations in the presenilin proteins may also lead to the generation of an alternatively cleaved form of the protein.[13] Using a domain of presenilin-2 in a two-hybrid screen, a calcium-binding protein designated calsenilin was demonstrated to interact with the presenilin proteins and regulate levels of a proteolytic product of presenilin-2.[14] Calsenilin and other interacting proteins may serve to mediate the effects of wild type and mutant presenilin proteins on β-amyloid formation and apoptosis.

Components

Anti-Presenilin-2 (C-terminal) is supplied in 0.25 ml of 0.05 M sodium phosphate buffer containing 0.1% sodium azide and 0.2% gelatin.
Antibody concentration is approximately 0.1 mg/ml.

Precautions and Disclaimer

This product contains sodium azide. A material safety data sheet (MSDS) has been sent to the attention of the safety officer at your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

Store at 2-8°C. **Do Not Freeze.** If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

The recommended concentration for immunoblotting is 1-2 µg/ml using rat or mouse brain tissue extracts or a HeLa cell extract with chemiluminescence detection. The recommended concentration for immunohistochemistry is 2 µg/m using frozen, floating mouse brain sections fixed in 4% paraformaldehyde with DAB detection. Staining is completely abolished by preincubating the affinity purified antibody with control peptide at 10^{-6} M.

Note: In order to obtain best results and assay sensitivities to different techniques and preparations,

we recommend determining optimal working dilutions by titration test.

References

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