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Product Information

Anti-APP (N-terminal region)
produced in rabbit, IgG fraction of antiserum

Catalog Number **SAB4200536**

Product Description

Anti-APP (N-terminal region) is produced in rabbit using as immunogen a synthetic peptide corresponding to an N-terminal region of human Amyloid Precursor Protein (APP) (GeneID: 351), conjugated to KLH. The corresponding sequence is highly conserved (single amino acid substitution) in rat and mouse APP. Whole antiserum is purified using protein A immobilized on agarose to provide the IgG fraction of antiserum.

Anti-APP (N-terminal region) specifically recognizes human, rat and mouse APP. The antibody may be used in various immunochemical techniques including immunoblotting (~130 kDa) and immunofluorescence. The antibody may be suitable for immunohistochemistry. An additional band (~80 kDa) may be observed in some cell/tissue extracts. Detection of the APP band by immunoblotting is specifically inhibited by the APP immunizing peptide.

Amyloid precursor protein (APP) is a transmembrane glycoprotein widely distributed in many tissues. APP exists as multiple isoforms (100-140 kDa) including APP695, APP751 and APP770 that are derived from alternative mRNA splicing.[1] Alzheimer's disease pathology is characterized by formation of senile plaques (SPs) and neurofibrillary tangles (NTs). Senile plaques consist of extracellular deposits of Aβ4, a 4kDa peptide derived from proteolytic cleavage of APP by β-site APP cleavage enzyme 1 (BACE1) and the presenilin (PS)-containing γ-secretase complex.[2-3] APP undergoes extensive post-translational modifications including phosphorylation, glycosylation, tyrosine-sulfation and nitration. APP has been reported to be phosphorylated at several sites that may affect its processing and secretion. Phosphorylation of APP at Thr^{688} by cdk5 has been shown to play a critical role in the proteolytic cleavage of APP.[4] The APP Thr^{688} phosphorylated form is found in the adult brain and it correlates with neuronal differentiation.[5] Mutations in the APP gene are linked with rare forms of autosomal dominant familial AD (FAD). These mutations result in increased production of Aβ indicating a central role of Aβ peptide in the neuropathology of AD.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working dilution of 1:1,000 is recommended using lysates of rat and mouse brain (S1 fraction)

Immunofluorescence: a working dilution of 1:250-1:500 is recommended using SH-SY5Y cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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2. Thinakaran, G., and Koo, E.H., *J.Biol. Chem.*, **283**, 29615-29619 (2008).
3. Huang, Y., and Mucke, L., *Cell*, **148**, 1204-1222 (2012).
4. Liu, F., et al., *FEBS Lett.,* **547**, 193-196 (2003).
5. Ijima, K.I., et al., *J. Neurochem.,* **75**, 1085-1091 (2000).

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