Human APP695^{+1} Antibody

Antigen Affinity-purified Polyclonal Goat IgG

Catalog Number: AF890

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human APP695^{+1} in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*S. frugiperda* insect ovarian cell line *Sf* 21-derived recombinant human APP695^{+1} frameshift mutant Met1-Arg336 Accession # NP_958817
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

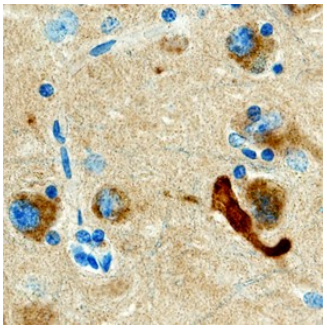
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human APP695^{+1}
Immunohistochemistry	5-15 µg/mL	See Below

DATA

Immunohistochemistry



APP695^{+1} in Human Brain. APP695^{+1} was detected in immersion fixed paraffin-embedded sections of human Alzheimer's brain using Goat Anti-Human APP695^{+1} Antigen Affinity-purified Polyclonal Antibody (Catalog # AF890) at 10 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # Catalog # CTS013). Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Amyloid precursor protein (APP) is a type I membrane protein with several human isoforms due to alternative splicing. APP770, 751, and 733 contain a Kunitz protease inhibitor (KPI) domain (residue 291-342) and APP695 does not. APP is a cell surface molecule with many functions. It can be processed proteolytically in two different pathways. In one pathway, β- and γ-secretase cleave at the β site between residue 670 and 671 and the γ site between residue 711 and 714 to produce β-amyloid peptide (Aβ40 and Aβ42), a major component in plaques found in brains of patients with Alzheimer's disease (1). The other pathway involves α-secretase that cleaves residues between 687 and 688. It is antiamyloidogenic due to its benign character and the prevention of the Aβ peptide formation (2). Soluble APP containing the KPI domain, also referred to as protease nexin II, is a potent inhibitor of serine proteases and may have additional functions. For example, it may regulate the contact face of blood coagulation and limit thrombosis specially in brain due to its localization and coagulation factor XI inhibiting activity (3, 4).

References:

1. Haass, C. (2004) EMBO J. **23**:483.
2. Lichtenthaler, S. F. and C. Haass (2004) J. Clin. Invest. **113**:1384.
3. Badellino, K.O. and P.N. Walsh (2000) Biochemistry **39**:4769.
4. Xu, F. *et al*. (2005) Proc. Natl. Acad. Sci USA. **102**:18135.

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