

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human APP695 ⁺¹ and human APP770 in direct ELISAs and Western blots. This antibody recognizes a common epitope present on APP695 ⁺¹ and APP770 found within the segments Leu18 - Arg288 or Pro365 - Arg411 of APP770 (Accession P05067).
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human APP 695 ⁺¹ frameshift mutant Leu18-Arg336 Accession # NP_958817
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

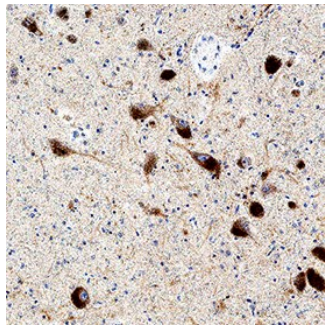
APPLICATIONS

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 APP ⁺¹ Western Blot Standard (Catalog # WBC012)
Immunohistochemistry	1-15 µg/mL	Immersion fixed paraffin-embedded sections of human Alzheimer's disease brain

DATA

Immunohistochemistry



APP/Protease Nexin II in Human Brain.
APP/Protease Nexin II was detected in immersion fixed paraffin-embedded sections of human brain (Alzheimer's disease cortex) using Goat Anti-Human APP/Protease Nexin II Pan Specific Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1168) at 1 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte™ HRP Polymer Antibody (Catalog # [VC004](#)). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # [CTS013](#)). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to neuronal cell bodies. Staining was performed using our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

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. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 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.

BACKGROUND

Amyloid precursor protein (APP) is a type I membrane protein with several human isoforms due to alternative splicing. APP-770, -751, and -733 contain a Kunitz protease inhibitor (KPI) domain (residue 291 - 342) and APP-695 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 (A β 40 and A β 42), 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 anti-amyloidogenic due to its benign character and the prevention of the A β 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.