

Product Specification Sheet

Amyloid Precursor Protein (APP) Antibodies

Cat. # APP14-S	Goat Anti-Human Amyloid Precursor Protein (APP) Antisera #4	SIZE: 100 ul
Cat. # APP14-P	Human Amyloid Precursor Protein (APP) control peptide #4	SIZE: 100 ug

Alzheimer's Disease (AD) is a neurodegenerative disorder characterized by progressive loss of memory and cognition in the elderly. One of the most important and initial step involves proteolytic cleavage of amyloid precursor protein (APP, chromosome 21) releasing short 40, 42 & 43 aa peptides (beta amyloid1-40, 1-42, and 1-43; approx. 4.5 kDa). Polymerization of β -amyloid (Ab) and subsequent neuronal deposit (amyloid) leads to the degeneration of neurons involved in memory and cognition. Ab deposits have also been found to contain 2 additional proteins termed α -synuclein and β -synuclein.

APP gene has 19 exons (1). At least 8 different types of APP (APP695, APP751, and APP770 are the major ones) are produced as a result of alternative splicing of exons 7, 8, and 15. Exons 7 codes for a 57-aa domain that is analogous to Kunitz protease inhibitors (KPI). Exon 8 codes for a 19-aa residue domain with homology to the MRC OX-2 antigen found on the membrane of neurons, while exon 15 codes for an 18-aa domain, 16 aa proximal to the A β region. APP695 lacks exons 7 and 8, whereas APP770 and APP751 represents the full length and the exon 8 lacking isoform. Beta amyloid A4 protein represents 597-638 aa of APP695 (28 aa from the extracellular domain and 14-15 aa from the extracellular domain). APP695 is predominantly expressed in the brain while APP751 and APP770 are also found in other tissues.

Source of Antigen and Antibodies

Antigen	15aa peptide of Human APP695 ; Designated (APP14-P or control peptide) . Epitope location ~ C-terminal
Ab Host/type	Goat, Polyclonal, Antiserum (cat #APP14-S)
2ab	Anti-Goat (cat #302220 IgG) (H+L chain sp.)-HRP conjugate
-ve control	# 20011-1, goat (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG

100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C..

Long-term: at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20°C or below.

Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting 1:1K for neat serum using Chemiluminescence technique).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of 1:50 using formalin-fixed paraffin embedded tissues or 4% paraformaldehyde fixed frozen sections.

Specificity & Cross-reactivity

The human APP14-P peptide sequence is found in all major APP isoforms (APP695, APP751, and APP770). It is 100% conserved in human, g. pig, pig, sheep, rabbit, and chicken. There is just 1 aa change in mouse and rat APP proteins. Antibody crossreactivity in various species is not established. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at: the web site)

General References

1. Kang J et al (1987) Nature 325, 733; Kang J et al (1989) Nucleic Acid Res. 17, 2130; Shivers BD et al (1988) EMBO J. 7; 1365-1370; Ponte P et al (1988) Nature 3, 31, 525-527; Schilling J et al (1991) Gene 98, 225-230; Yoshikai S et al (1987) Gene 87, 257-263; Neve R et al (1992) PNAS 89, 3448; Goldgaber D et al (1987) Science 235, 877; Yankner B et al (1989) Science 245, 417; Golde T et al (1992) Science 255, 728.

*This product is for In vitro research use only.

Related material available from ADI

Ant-Beta amyloid 1-40, 1-42, APP, Parkin, Synucleins (α , β , γ), Presenilins 1, 2

Study distribution of proteins with pre-made brain blots representing 12 distinct region of the mouse and rat brain.

Recycle your blot in Just 5-10 min. (use the same strip for various Dopamine receptors) New formulation will strip antibodies in just a few minutes at room temp. (no boiling or pungent mercaptoethanol).

APP14-S-P

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