

Datasheet: AHP538

BATCH NUMBER 148508

Description:	RABBIT ANTI AMYLOID PRECURSOR PROTEIN (C-TERMINAL)
Specificity:	AMYLOID PRECURSOR PROTEIN (C-TERMINAL)
Other names:	APP
Format:	Purified
Product Type:	Polyclonal Antibody
Isotype:	Polyclonal IgG
Quantity:	0.1 mg

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry			▪	
Immunohistology - Frozen			▪	
Immunohistology - Paraffin (1)	▪			
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting	▪			1/500 - 1/1000

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

(1) This product requires antigen retrieval using heat treatment prior to staining of paraffin section

Species Cross Reactivity

Reacts with: Human, Rat, Mouse
N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

Product Form Purified IgG - liquid

Antiserum Preparation Antisera to APP were raised by repeated immunisation of rabbits with highly purified

antigen. Purified IgG was prepared by affinity chromatography.

Buffer Solution	Phosphate buffered saline
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Preservative Stabilisers	0.02% Sodium Azide
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Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
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Immunogen	Synthetic peptide corresponding to amino acids 737-751 of human APP.
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External Database Links	UniProt: P05067 Related reagents Entrez Gene: 351 APP Related reagents
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Synonyms	A4, AD1
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RRID	AB_321972
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Specificity	<p>Rabbit anti Amyloid Precursor Protein antibody recognizes both intact Amyloid Precursor Protein (APP), and also the C99 fragment generated by beta-secretase. The sequence recognized by this antibody corresponds to amino acids 85-99 of the C99 fragment. The C99 fragment itself is a substrate for gamma-secretase to generate the 4 kDa beta amyloid peptide, found in the brains of Alzheimer's disease patients.</p> <p>APP also inhibits Notch signaling through it's interaction with NUMB (Roncarati et al. 2002). Rabbit anti Amyloid Precursor Protein antibody has been used successfully for the detection of the ~14 kDa β C-terminal fragment of APP, produced as a result of cleavage by BACE1 using western blotting -in rat retinal lysates (Huang et al.2012).</p>
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References	<ol style="list-style-type: none">1. Yan, X.X. <i>et al.</i> (2007) beta-Secretase expression in normal and functionally deprived rat olfactory bulbs: inverse correlation with oxidative metabolic activity. J Comp Neurol. 501: 52-69.2. Zhang, H. <i>et al.</i> (2011) IGF-1 reduces BACE-1 expression in PC12 cells via activation of PI3-K/Akt and MAPK/ERK1/2 signaling pathways. Neurochem Res. 36: 49-57.3. Désiré, L. <i>et al.</i> (2005) RAC1 inhibition targets amyloid precursor protein processing by gamma-secretase and decreases Abeta production <i>in vitro</i> and <i>in vivo</i>. J Biol Chem. 280: 37516-25.4. Huang JF <i>et al.</i> (2012) Timosaponin-BII inhibits the up-regulation of BACE1 induced by ferric chloride in rat retina. BMC Complement Altern Med. 12: 189.5. Xiong, K. <i>et al.</i> (2007) Mitochondrial respiratory inhibition and oxidative stress elevate beta-secretase (BACE1) proteins and activity <i>in vivo</i> in the rat retina. Exp Brain Res. 181: 435-46.6. Zhang, X.M. <i>et al.</i> (2010) Functional deprivation promotes amyloid plaque pathogenesis in Tg2576 mouse olfactory bulb and piriform cortex. Eur J Neurosci. 31: 710-21.
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7. Cai, Y. *et al.* (2010) β -Secretase-1 elevation in aged monkey and Alzheimer's disease human cerebral cortex occurs around the vasculature in partnership with multisystem axon terminal pathogenesis and β -amyloid accumulation. [Eur J Neurosci. 32: 1223-38.](#)
8. Marcade, M. *et al.* (2008) Etazolate, a neuroprotective drug linking GABA(A) receptor pharmacology to amyloid precursor protein processing. [J Neurochem. 106: 392-404.](#)
9. Cai, Y. *et al.* (2012) BACE1 elevation is involved in amyloid plaque development in the triple transgenic model of Alzheimer's disease: differential A β antibody labeling of early-onset axon terminal pathology. [Neurotox Res. 21: 160-74.](#)
10. Zhang, H. *et al.* (2015) Hydrogen sulfide-induced processing of the amyloid precursor protein in SH-SY5Y human neuroblastoma cells involves the PI3-K/Akt signaling pathway. [Cell Mol Neurobiol. 35 \(2\): 265-72.](#)
11. Xue, Z.Q. *et al.* (2015) Non-neuronal and neuronal BACE1 elevation in association with angiopathic and leptomenigeal β -amyloid deposition in the human brain. [BMC Neurol. 15: 71.](#)
12. Belichenko, P.V. *et al.* (2016) An Anti- β -Amyloid Vaccine for Treating Cognitive Deficits in a Mouse Model of Down Syndrome. [PLoS One. 11 \(3\): e0152471.](#)
13. He, X.L. *et al.* (2016) Hydrogen sulfide down-regulates BACE1 and PS1 via activating PI3K/Akt pathway in the brain of APP/PS1 transgenic mouse. [Pharmacol Rep. 68 \(5\): 975-82.](#)

Further Reading	<ol style="list-style-type: none"> 1. Ponte, P. <i>et al.</i> (1988) A new A4 amyloid mRNA contains a domain homologous to serine proteinase inhibitors. Nature 331: 525-527. 2. Selkoe, D.J. (1994) Cell biology of the amyloid beta-protein precursor and the mechanism of Alzheimer's disease. Annu Rev Cell Biol. 10: 373-403.
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Storage	<p>Store at +4°C or at -20°C if preferred.</p> <p>This product should be stored undiluted.</p> <p>Storage in frost free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.</p>
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Guarantee	12 months from date of despatch
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Health And Safety Information	<p>Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/AHP538</p> <p>10040</p>
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Regulatory	For research purposes only
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Related Products

Recommended Secondary Antibodies

- Goat Anti Rabbit IgG (Fc) (STAR121...) [Biotin](#), [FITC](#), [HRP](#)
- Goat Anti Rabbit IgG (H/L) (STAR124...) [HRP](#)
- Sheep Anti Rabbit IgG (STAR35...) [RPE](#)

Recommended Useful Reagents

[ANTIGEN RETRIEVAL BUFFER, pH8.0 \(BUF025A\)](#)

[TidyBlot WESTERN BLOT DETECTION REAGENT:HRP \(STAR209P\)](#)

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