

Datasheet: AHP538

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.

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

Preservative Stabilisers

0.02% Sodium Azide

Approx. Protein Concentrations

IgG concentration 1.0 mg/ml

Immunogen

Synthetic peptide corresponding to amino acids 737-751 of human APP.

**External Database
Links**

UniProt:

[P05067](#) [Related reagents](#)

Entrez Gene:

[351](#) APP [Related reagents](#)

Synonyms

A4, AD1

Specificity

Rabbit anti Amyloid Precursor Protein antibody recognizes both intact Amyloid Precursor Protein (APP), and also the C99 fragment generated by Beta-secretase. The sequence recognised 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.

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](#)).

References

1. Yan, X.X. *et al.* (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. *et al.* (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. *et al.* (2005) RAC1 inhibition targets amyloid precursor protein processing by gamma-secretase and decreases Abeta production *in vitro* and *in vivo*. [J Biol Chem. 280: 37516-25.](#)
4. Huang JF *et al.* (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. *et al.* (2007) Mitochondrial respiratory inhibition and oxidative stress elevate beta-secretase (BACE1) proteins and activity *in vivo* in the rat retina. [Exp Brain Res. 181: 435-46.](#)
6. Zhang, X.M. *et al.* (2010) Functional deprivation promotes amyloid plaque pathogenesis in Tg2576 mouse olfactory bulb and piriform cortex. [Eur J Neurosci. 31: 710-21.](#)
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

1. Ponte, P. *et al.* (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.](#)

Storage

Store at +4°C or at -20°C if preferred.

This product should be stored undiluted.

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.

Shelf Life

18 months from date of despatch.

Health And Safety Information

Material Safety Datasheet documentation #10040 available at:
10040: <https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf>

Regulatory

For research purposes only

Related Products

Recommended Secondary Antibodies

Sheep Anti Rabbit IgG (STAR34...) [FITC](#)
Sheep Anti Rabbit IgG (STAR35...) [RPE](#)
Goat Anti Rabbit IgG (H/L) (STAR124...) [HRP](#)
Goat Anti Rabbit IgG (Fc) (STAR121...) [Biotin](#), [FITC](#), [HRP](#)
Sheep Anti Rabbit IgG (2AB02...) [Biotin](#)
Sheep Anti Rabbit IgG (STAR36...) [DyLight@488](#), [DyLight@549](#), [DyLight@649](#),
[DyLight@680](#), [DyLight@800](#)

Recommended Useful Reagents

[ANTIGEN RETRIEVAL BUFFER, pH8.0 \(BUF025A\)](#)
[ANTIGEN RETRIEVAL BUFFER, pH8.0 \(BUF025C\)](#)
[TidyBlot™ WESTERN BLOT DETECTION REAGENT:HRP \(STAR209P\)](#)

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