

Biotin anti- β -Amyloid, 17-24 Antibody (Previously Covance catalog# SIG-39240)

Catalog# / Size	800704 / 200 μ L 800705 / 500 μ L 800706 / 1 mL
Clone	4G8
Regulatory Status	RUO
Workshop	HCDM listed
Other Names	AAA, ABETA, ABPP, AD1, APPI, CTFgamma, CVAP, PN-II, PN2, Amyloid beta A4 protein, preA4, protease nexin-II, peptidase nexin-II, beta-amyloid peptide, alzheimer disease amyloid protein, cerebral vascular amyloid peptide, APP, Amyloid Precursor Protein
Previously	Signet Catalog# 9240-02 Signet Catalog# 9240-05 Signet Catalog# 9240-10 Covance Catalog# SIG-39240
Isotype	Mouse IgG2b, κ
Description	Alzheimer's disease is characterized by the accumulation of aggregated A β peptides in senile plaques and vascular deposits. A β peptides are derived from amyloid precursor proteins (APP) through sequential proteolytic cleavage of APP by β -secretases and γ -secretases generating diverse A β species. A β can aggregate to form soluble oligomeric species and insoluble fibrillar or amorphous assemblies. Some forms of the aggregated peptides are toxic to neurons.

Product Details

Verified Reactivity	Human, Mouse
Antibody Type	Monoclonal
Host Species	Mouse
Formulation	Phosphate-buffered solution (no preservatives or carrier proteins).
Preparation	The antibody was purified by affinity chromatography.
Concentration	1 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C. Please note the storage condition for this antibody has been changed from -20°C to between 2°C and 8°C. You can also check your vial or your CoA to find the most accurate storage condition for this antibody.
Application	IHC-P - Quality tested Direct ELISA - Verified
Recommended Usage	Each lot of this antibody is quality control tested by formalin-fixed paraffin-embedded immunohistochemical staining. For immunohistochemistry, a concentration range of 1.0 - 2.0 μ g/ml is suggested. For Direct ELISA applications, a concentration range of 0.5 - 2.0 μ g/mL is recommended. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	This antibody is reactive to amino acid residues 17-24 of β amyloid. The epitope lies within amino acids 18-22 of β amyloid (VFFAE). 4G8 β -amyloid antibody reacts to abnormally processed isoforms, as well as precursor forms. This antibody clone has been reported for use on IHC of free-floating sections in PBS containing 1% Triton incubated with 0.1 M citrate buffer (4). Additional reported applications (for the relevant formats) include: immunohistochemical staining on frozen tissue sections (IHC-F) and immunocytochemistry (ICC)
Additional Product Notes	View more applications data for this product in our Scientific Poster Library .

Application References

(PubMed link indicates BioLegend citation)

1. Poduslo JF, *et al.* 2004. *Biochem.* 43:6064. **(IHC-F)** [PubMed](#)
2. Forny-Germano L, *et al.* 2014. *J Neurosci.* 34:13629. **(IHC-Other)** [PubMed](#)
3. Vallino Costassa E, *et al.* 2016. *J Alzheimers Dis.* 51: 875-87. **(IHC-P)** [PubMed](#)
4. Chen X, *et al.* 2013. *Neurobiol Aging.* 34:2370. **(ICC)** [PubMed](#)
5. Hatami A, *et al.* 2016. *J Alzheimers Dis.* 50:517. **(IHC-P)** [PubMed](#)
6. Kawarabayashi T, *et al.* 2001. *J Neurosci* 21:372 **(IP)**
7. Fonte V, *et al.* 2002. *PNAS.* 110:4853 **(IP)**

Product Citations

1. Lam S, *et al.* 2022. *Acta Neuropathol Commun.* 10:112. [PubMed](#)
2. Townsend M, *et al.* 2010. *J Pharmacol Exp Ther.* 333:110:119. [PubMed](#)
3. Jung ES, *et al.* 2022. *Aging Cell.* 21:e13623. [PubMed](#)
4. Chen J, *et al.* 2019. *Int J Mol Med.* 44:313. [PubMed](#)
5. Elmer BM, *et al.* 2019. *PLoS One.* 14:e0226245. [PubMed](#)
6. Yao Q, *et al.* 2018. *Acta Biochim Biophys Sin (Shanghai).* 50(5):447-455. [PubMed](#)
7. Watanabe H, *et al.* 2012. *J Neurosci.* 32:5085-5096. [PubMed](#)
8. Hong J, *et al.* 2016. *J Lipid Res.* 57: 36 - 45. [PubMed](#)
9. Clayton K, *et al.* 2021. *Mol Neurodegener.* 18:16. [PubMed](#)
10. Bales K, *et al.* 2016. *Brain.* 139: 563 - 577. [PubMed](#)
11. Luo M, *et al.* 2022. *Genes Dis.* 9:1315. [PubMed](#)
12. Forgrave LM, *et al.* 2022. *Clin Chem Lab Med.* 60:198. [PubMed](#)
13. Do TM, *et al.* 2020. *Mol Ther Methods Clin Dev.* 19:58. [PubMed](#)

RRID

AB_2564650 (BioLegend Cat. No. 800704)
AB_2564651 (BioLegend Cat. No. 800705)
AB_2564649 (BioLegend Cat. No. 800706)

Antigen Details

Structure

Amyloid precursor protein is a 770 amino acid protein with a molecular mass of ~100 kD. According to the UniProtKB database, APP (ID# P05067) has 11 isoforms (34 to ~90 kD) and the 770 form has been designated as the canonical form. Isoform APP695 is the predominant form expressed in neuronal tissue. Isoforms APP751 and APP770 are widely expressed in non-neuronal cells. Isoform APP751 is the most abundant form in T-lymphocytes. A β denotes peptides of 36-43 amino acids generated from cleavage of APP by secretases. A β has an apparent molecular mass of about 4 kD.

Distribution

Tissue distribution: Primarily nervous system, but also adipose tissue, intestine, and muscle.
Cellular distribution: Cytosol, endosomes, nucleus, plasma membrane, extracellular, and golgi apparatus.

Function

The normal function of A β is not well understood. Several potential physiological roles have been proposed, including: activation of kinase enzymes; protection against oxidative stress; regulation of cholesterol transport; transcription factor, and as an anti-microbial agent.

Biology Area

Cell Biology, Neurodegeneration, Neuroscience, Protein Misfolding and Aggregation

Molecular Family

APP/ β -Amyloid

Antigen References

1. Kumar A, *et al.* 2015. *Pharmacol Rep.* 67(2):195.
2. Sadigh-Eteghad S, *et al.* 2015. *Med Princ Pract.* 24(1):1
3. Hampel H, *et al.* 2015. *Expert Rev Neurother.* 15(1):83.
4. Puig KL, *et al.* 2012. *Exp Gerontol.* 48(7): 608.
5. Selkoe DJ, *et al.* 2016. *EMBO Mol Med.* 8(6):595.
6. Walsh DM, *et al.* 2007. *J Neurochem.* 101(5):1172.

Gene ID

[351](#)

Related Protocols

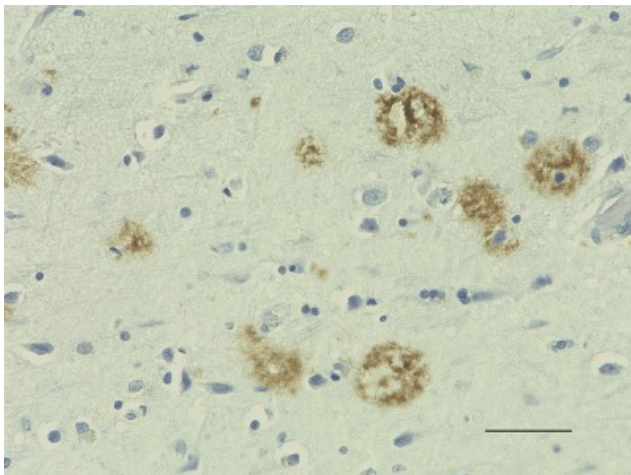
[Sandwich ELISA Protocol](#)

[Immunohistochemistry Protocol for Paraffin-Embedded Sections](#)

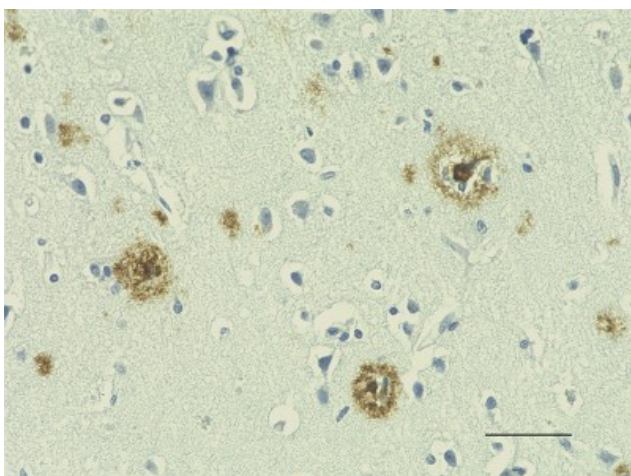
Other Formats

Anti- β -Amyloid, 17-24, Biotin anti- β -Amyloid, 17-24 , Purified anti- β -Amyloid, 17-24 , Alexa Fluor® 488 anti- β -Amyloid, 17-24, Alexa Fluor® 647 anti- β -Amyloid, 17-24, Alexa Fluor® 594 anti- β -Amyloid, 17-24 , HRP anti- β -Amyloid, 17-24 , Spark YG™ 570 anti- β -Amyloid, 17-24

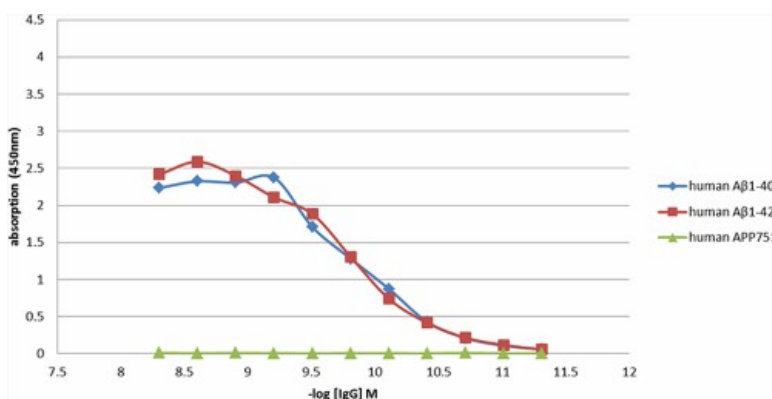
Product Data



IHC staining of Biotin anti- β -Amyloid, 17-24 antibody (clone 4G8) on formalin-fixed paraffin-embedded human Alzheimer's disease brain tissue. Following antigen retrieval using 70% formic acid for 20 minutes at room temperature, the tissue was incubated with 1 μ g/ml of the primary antibody for 60 minutes at room temperature. For detection, the HRP labeling reagent and DAB from BioLegend Ultra Streptavidin (USA) HRP Detection Kit were used (Multi-Species, component #5, DAB; Cat. No. 929901). Slides were counterstained with hematoxylin, according to the protocol provided. The image was captured with a 40X objective. Scale bar: 50 μ m



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Direct ELISA of Biotin anti- β -Amyloid, 17-24 (clone 4G8) antibody binding to the plate-immobilized human A β 1-40, human A β 1-42, and recombinant human APP751 protein. ELISA was performed by coating the wells with 100 ng of peptide or recombinant protein. The wells were then incubated with the primary antibody at 37°C for 45 minutes followed by incubation with HRP labeled streptavidin. TMB (3, 3', 5, 5' tetramethylbenzidine, Cat. No. 421501) was used as the detection system.

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