

# Product Data Sheet

## Purified anti- $\beta$ -Amyloid, 17-24

**Catalog # / Size:** 800701 / 200  $\mu$ l  
800702 / 500  $\mu$ l  
800703 / 1 ml

**Previously:** Covance Catalog# SIG-39220  
Signet Catalog# 9220-02, 9220-05, 9220-10

**Clone:** 4G8

**Isotype:** Mouse IgG2b

**Reactivity:** Human, Mouse

**Preparation:** The antibody was purified by affinity chromatography.

**Formulation:** Phosphate-buffered solution (no preservatives or carrier proteins).

**Concentration:** 1 mg/ml

**Storage:** 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.

## Applications:

**Applications:** ELISA, WB, IHC, IP

**Recommended Usage:** Each lot of this antibody is quality control tested by ELISA assay.

The optimal working dilution should be determined for each specific assay condition.

- **WB:** 1:100 - 1:1,000\*
- **IHC:** 1:500 - 1:1,000

**Tissue:** Formalin-fixed human and animal paraffin-embedded brain sections, frozen tissue sections

**Pre-treatment:** Formic acid (70%) for 10-30 minutes at room temperature

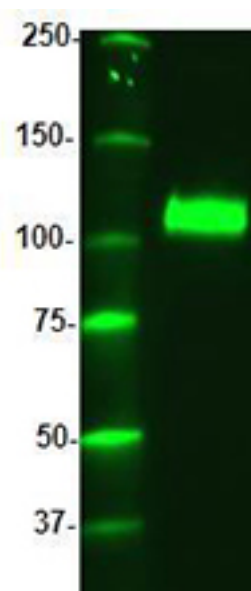
- **IP:** 1:250 - 1:500

**Application Notes:** This antibody is effective in immunoblotting (WB), immunohistochemistry (IHC), immunopurification (IP), and ELISA.

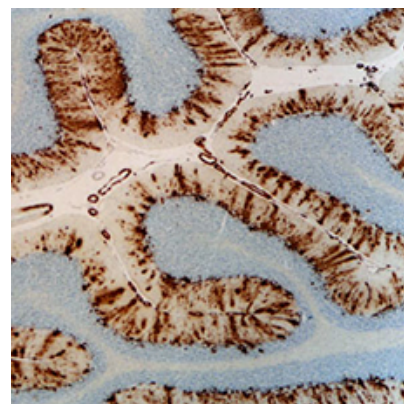
\*Expected MW: APP= 100 kD; Beta Amyloid = 4 kD

This antibody is reactive to amino acid residues 17-24 of  $\beta$  amyloid. The epitope lies within amino acids 18-22 of  $\beta$  amyloid (VFFAE).  $\beta$  amyloid forms are deposited in the CNS of patients with Alzheimer's disease and Down's syndrome. 4G8  $\beta$  amyloid antibody reacts to the abnormally processed isoforms, as well as precursor forms.

- Application References:**
1. Thakker DR, et al. Intracerebroventricular amyloid-beta antibodies reduce cerebral amyloid angiopathy and associated micro-hemorrhages in aged Tg2576 mice. *Proc Natl Acad Sci USA* Feb 25, 2009.
  2. Kimura N, et al. Age-related changes of intracellular Abeta in cynomolgus monkey brains. *Neuropath Appl Neurobiol* 31(2):170-80, 2005.
  3. Klyubin I, et al. Amyloid beta protein immunotherapy neutralizes Abeta oligomers that disrupt synaptic plasticity in vivo. *Nat Med* 11(5):556-61, 2005.
  4. Iijima K, et al. Dissecting pathological effects of human Abeta40 and Abeta42 in Drosophila: a potential model for Alzheimer's disease. *PNAS* 101(17):6623-6628, 2004.
  5. Li M, et al. Macrophage colony stimulatory factor and interferon-gamma trigger distinct mechanisms for augmentation of beta-amyloid-induced microgliamediated neurotoxicity. *J Neurochem* 91:623-33, 2004.
  6. Poduloso JF, et al. Design and chemical synthesis of a magneticresonance contrast agent with enhanced in vitro binding, high blood-brain barrier permeability, and in vivo targeting to Alzheimer's



Western Blot showing specificity of Beta Amyloid, 17-24 (4G8) Monoclonal Antibody, Purified, 1ug/mL. Lane 1: Molecular weight marker; Lane 2: APP770 Protein, Cat No.843201



Cerebellum stained with anti-A $\beta$ , clone 4G8 using Ultra Streptavidin (USA) HRP Detection Kit (Multi-Species, DAB) (Cat. No. 929501).

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disease amyloid plaques. *Biochem* 43:6064-6075, 2004.  
 7. Venezia V, et al. Apoptotic cell death influences the signaling activity of the amyloid precursor protein through SchA and Grb2 adaptor proteins in neuroblastoma SH-SY5Y cells. *J Neurochem* 90:1359-1370, 2004.  
 8. Kim KS, et al. Production and characterization of monoclonal antibodies reactive to synthetic cerebrovascular amyloid peptide. *Neurosci Res Comm* 2:121-130, 1988.  
 9. Kim KS, et al. *Neurosci Res Comm* 7:113, 1988.  
 10. Lablans A, et al. 2014. *J. Neurosci.* 34:13629. **(WB, IHC)** PubMed

**Description:** Amyloid beta (A $\beta$  or Amyloid beta) denotes peptides of 36-43 amino acids in length that are crucially involved in Alzheimer's disease as the main component of the amyloid plaques found in the brains of Alzheimer patients. The peptides result from the amyloid precursor protein (APP), which is cut by certain enzymes to yield A $\beta$ . A $\beta$  molecules can aggregate to form oligomers (known as "seeds") which are believed to be able to induce other A $\beta$  molecules to also take the misfolded oligomeric form, leading to a chain reaction akin to a prion infection. The seeds or the resulting amyloid plaques are toxic to nerve cells. The other protein implicated in Alzheimer's disease, tau protein, also forms such prion-like misfolded oligomers, and there is some evidence that misfolded A $\beta$  can induce tau to misfold.

**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

Related Products: Product	Clone	Application
Purified anti- $\beta$ -Amyloid Pyroglutamyl (Glu3)	337.48	WB, IHC
Purified anti- $\beta$ -Amyloid, 1-10	20.1	ELISA, WB, IHC, IF
Purified anti- $\beta$ -Amyloid, 1-16	6E10	ELISA, WB, IHC, IP
Purified anti- $\beta$ -Amyloid, 1-8	1E11	ELISA, WB, IHC
Purified anti-mouse/rat $\beta$ -Amyloid	Poly18058	ELISA, WB, IHC, IF
Purified anti-mouse/rat $\beta$ -Amyloid, 1-16	M3.2	WB, ICC, IP

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