Store at -20°C

#32098

β-Amyloid (1-43 Preferred) (E8C2D) Rabbit mAb

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Entrez-Gene ID #351
UniProt ID #P05067

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For Research Use Only. Not For Use In Diagnostic Procedures.

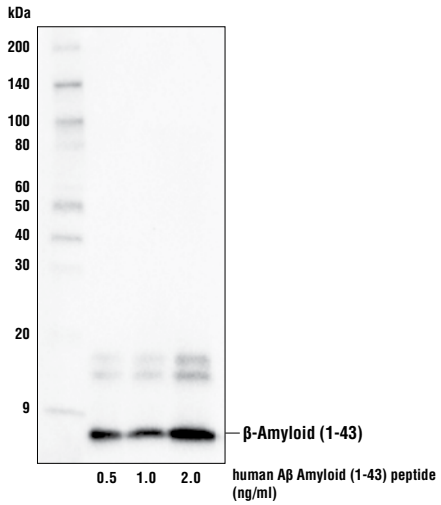
Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IF-F Endogenous	H, M	6 kDa	Rabbit IgG**

Background: Amyloid β (Aβ) precursor protein (APP) is a 100-140 kDa transmembrane glycoprotein that exists as several isoforms (1). The amino acid sequence of APP contains the amyloid domain, which can be released by a two-step proteolytic cleavage (1). The extracellular deposition and accumulation of the released Aβ fragments form the main components of amyloid plaques in Alzheimer's disease (1). APP can be phosphorylated at several sites, which may affect the proteolytic processing and secretion of this protein (2-5). Phosphorylation at Thr668 (a position corresponding to the APP695 isoform) by cyclin-dependent kinase is cell-cycle dependent and peaks during G2/M phase (4). APP phosphorylated at Thr668 exists in adult rat brain and correlates with cultured neuronal differentiation (5,6).

Aβ43 has been suggested as a biomarker in early onset of Alzheimer's disease, where patients have lower levels of Aβ43 in cerebrospinal fluid (7,8,9). Several studies have shown that Aβ toxicity of Aβ43 is as high as Aβ42 or Aβ40 in different models of Alzheimer's disease, including mouse models and human disease. (10).

Specificity/Sensitivity: β-Amyloid (1-43 Preferred) (E8C2D) Rabbit mAb recognizes endogenous levels of total human Aβ-43 protein. This product detects transgenically expressed human APP in mouse models. This antibody weakly cross-reacts with human Aβ-42 protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy of human β-Amyloid (1-43) protein.



Western blot analysis with the indicated amounts of human β-Amyloid (1-43) protein using β-Amyloid (1-43 Preferred) (E8C2D) Rabbit mAb.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunofluorescence (IF-F)	1:50
Fixative:	4% Formaldehyde
Permeabilization:	0.3% Triton X-100

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

Background References:

(1) Selkoe, D.J. (1996) *J Biol Chem* 271, 18295-8.
(2) Caporaso, G.L. et al. (1992) *Proc Natl Acad Sci USA* 89, 3055-9.
(3) Hung, A.Y. and Selkoe, D.J. (1994) *EMBO J* 13, 534-42.
(4) Suzuki, T. et al. (1994) *EMBO J* 13, 1114-22.
(5) Ando, K. et al. (1999) *J Neurosci* 19, 4421-7.
(6) Iijima, K. et al. (2000) *J Neurochem* 75, 1085-91.
(7) Lauridsen, C. et al. (2017) *Front Aging Neurosci* 9, 210.
(8) Almdahl, I.S. et al. (2017) *Front Aging Neurosci* 9, 9.
(9) Pachahara, S.K. et al. (2015) *PLoS One* 10, e0136567.
(10) Trambauer, J. et al. (2017) *Methods Enzymol* 584, 157-183.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween®20 at 4°C with gentle shaking, overnight.

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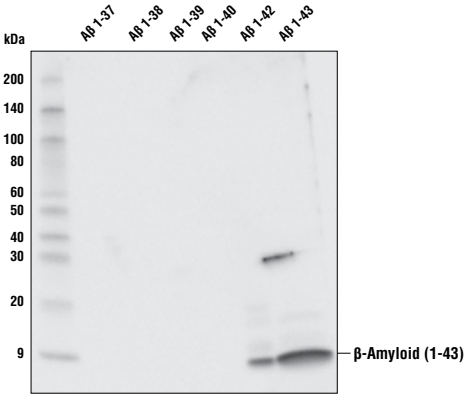
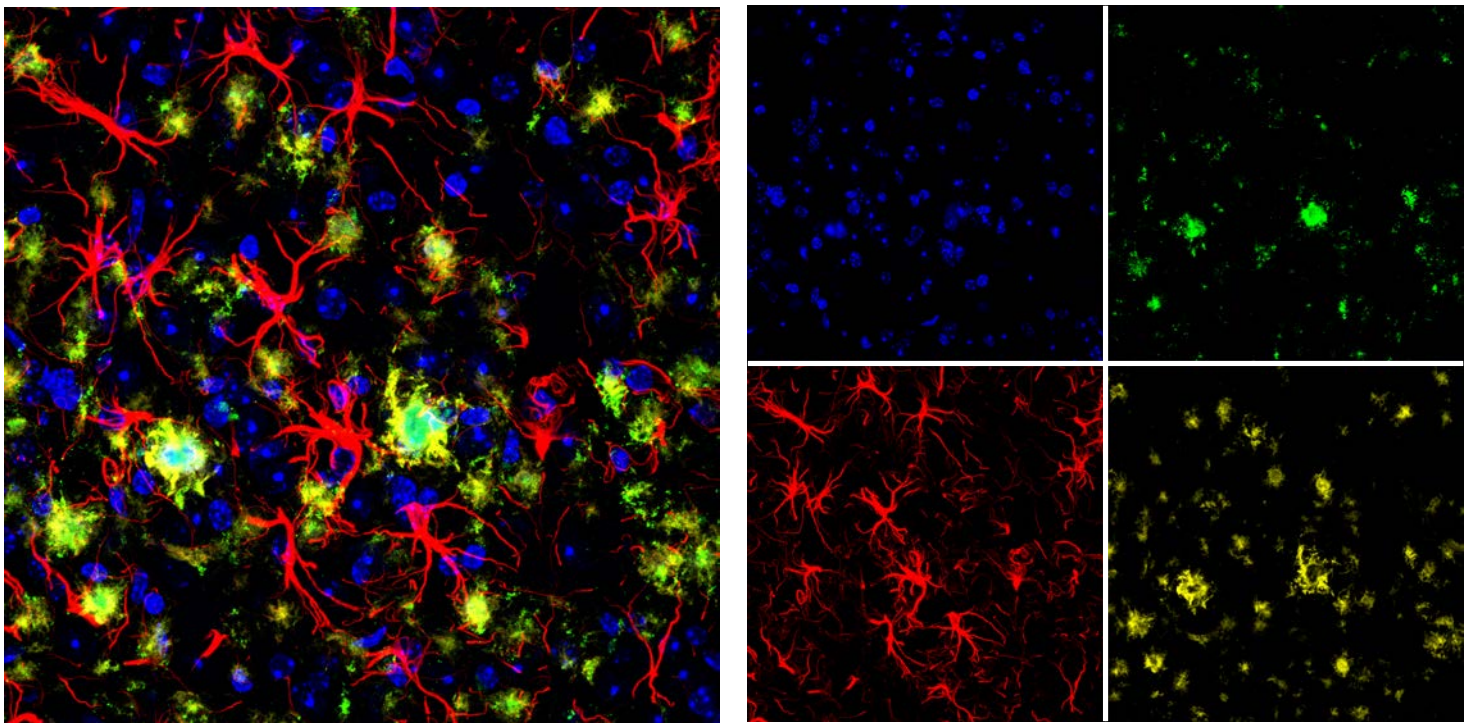
Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity:** **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



Western blot analysis of human Aβ-37, Aβ-38, Aβ-39, Aβ-40, Aβ-42 and Aβ-43 peptides (10 ng) using β-Amyloid (1-43 Preferred) (E8C2D) Rabbit mAb. Note the slight cross-reactivity with Aβ-42.



Confocal immunofluorescent analysis of brain from the 5XFAD mouse model of Alzheimer's disease using β-Amyloid (1-43 Preferred) (E8C2D) Rabbit mAb (green). After blocking free secondary antibody binding sites with Rabbit (DA1E) mAb IgG XP® Isotype Control #3900, the tissue was then labeled using GFAP (GA5) Mouse mAb (Alexa Fluor® 555 Conjugate) #3656 (red pseudocolor) and β-Amyloid (D54D2) XP® Rabbit mAb (Alexa Fluor® 647 Conjugate) #42284 (yellow pseudocolor). Samples were mounted in ProLong® Gold Antifade Reagent with DAPI #8961 (blue).