

# BACE (A-12): sc-365948

## BACKGROUND

Autosomal dominant Alzheimer's disease is caused by mutations in the gene encoding the  $\beta$ -Amyloid protein precursor (APP). Amyloid  $\beta$ -peptide (A $\beta$ ), the major feature of amyloid plaques in Alzheimer's patients, is the product of APP cleavage by  $\beta$ - and  $\gamma$ -secretases. BACE is the transmembrane protease which cleaves A $\beta$  from APP. BACE and the related protein Asp1 are both widely expressed in human tissue with the highest levels in the pancreas. BACE is localized within Golgi and endosomes.

## REFERENCES

1. Kang, J., et al. 1987. The precursor of Alzheimer's disease Amyloid A4 protein resembles a cell-surface receptor. *Nature* 325: 733-736.
2. Goate, A., et al. 1991. Segregation of a missense mutation in the amyloid precursor protein gene with familial Alzheimer's disease. *Nature* 349: 704-706.
3. Mullan, M., et al. 1992. A pathogenic mutation for probable Alzheimer's disease in the APP gene at the N-terminus of  $\beta$ -Amyloid. *Nat. Genet.* 1: 345-347.
4. Selkoe, D.J. 1998. The cell biology of  $\beta$ -Amyloid precursor protein and presenilin in Alzheimer's disease. *Trends Cell Biol.* 8: 447-453.

## CHROMOSOMAL LOCATION

Genetic locus: BACE1 (human) mapping to 11q23.3; Bace1 (mouse) mapping to 9 A5.2.

## SOURCE

BACE (A-12) is a mouse monoclonal antibody raised against amino acids 419-501 of BACE of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

BACE (A-12) is recommended for detection of BACE of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BACE siRNA (h): sc-37224, BACE siRNA (m): sc-37225, BACE shRNA Plasmid (h): sc-37224-SH, BACE shRNA Plasmid (m): sc-37225-SH, BACE shRNA (h) Lentiviral Particles: sc-37224-V and BACE shRNA (m) Lentiviral Particles: sc-37225-V.

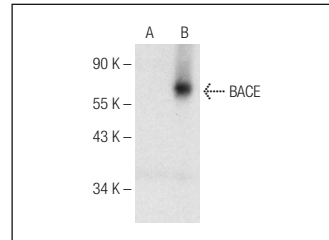
Molecular Weight of BACE: 70 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812 or BACE (h): 293T Lysate: sc-159912.

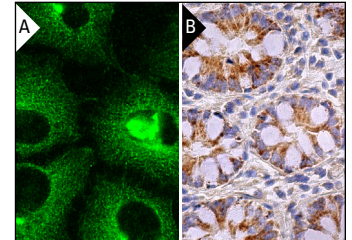
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



BACE (A-12): sc-365948. Western blot analysis of BACE expression in non-transfected: sc-117752 (A) and human BACE transfected: sc-159912 (B) 293T whole cell lysates.



BACE (A-12): sc-365948. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

1. Chen, L., et al. 2016. Neuroprotective effects of vitexin against isoflurane-induced neurotoxicity by targeting the TRPV1 and NR2B signaling pathways. *Mol. Med. Rep.* 14: 5607-5613.
2. Li, W.H., et al. 2021. Deletion of Dcf1 reduces amyloid- $\beta$  aggregation and mitigates memory deficits. *J. Alzheimers Dis.* 81: 1181-1194.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.



See **BACE (61-3E7): sc-33711** for BACE antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.