SANTA CRUZ BIOTECHNOLOGY, INC.

BACE (M-83): sc-10748

BACKGROUND

Autosomal dominant Alzheimer's disease is caused by mutations in the gene encoding the β-Amyloid protein precursor (APP). Amyloid β-peptide (Aβ), the major feature of amyloid plaques in Alzheimer's patients, is the product of APP cleavage by β- and γ-secretases. BACE is the transmembrane protease which cleaves Aβ 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.

CHROMOSOMAL LOCATION

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

SOURCE

BACE (M-83) is a rabbit polyclonal antibody raised against amino acids 419-501 of BACE of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

BACE (M-83) is recommended for detection of BACE of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

BACE (M-83) is also recommended for detection of BACE in additional species, including equine, canine, bovine, porcine and avian.

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

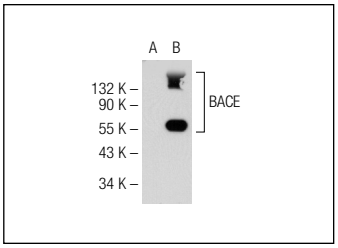
STORAGE

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.

DATA



BACE (M-83): sc-10748. Western blot analysis of BACE expression in non-transfected: sc-117752 (**A**) and human BACE transfected: sc-159912 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Nawrot, B., et al. 2002. Modulation of β-secretase gene expression by action of catalytic nucleic acids. Nucleic Acids Res. 2002: 105-106.
2. Maloney, M.T., et al. 2005. β-secretase-cleaved amyloid precursor protein accumulates at actin inclusions induced in neurons by stress or amyloid β: a feedforward mechanism for Alzheimer's disease. J. Neurosci. 25: 11313-11321.
3. Murayama, K.S., et al. 2005. Extracellular release of BACE1 holoproteins from human neuronal cells. Biochem. Biophys. Res. Commun. 338: 800-807.
4. Hirata-Fukae, C., et al. 2008. β-site amyloid precursor protein-cleaving enzyme-1 (BACE1)-mediated changes of endogenous amyloid β in wild-type and transgenic mice *in vivo*. Neurosci. Lett. 435: 186-189.
5. Qin, W., et al. 2009. S100A7, a novel Alzheimer's disease biomarker with non-amyloidogenic α-secretase activity acts via selective promotion of ADAM10. PLoS ONE 4: e4183.
6. Fragkouli, A., et al. 2011. Matrix metalloproteinase-9 participates in NGF-induced α-secretase cleavage of amyloid-β protein precursor in PC12 cells. J. Alzheimers Dis. 24: 705-719.
7. Wan, Y., et al. 2012. All-trans retinoic acid induces chromatin remodeling at the promoter of the mouse liver, bone, and kidney alkaline phosphatase gene in C3H10T 1/2 cells. Biochem. Genet. 50: 495-507.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.