SANTA CRUZ BIOTECHNOLOGY, INC.

BACE (H-10): sc-365947

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.
3. Mullan, M., et al. 1992. A pathogenic mutation for probable Alzheimer's disease in the APP gene at the N-terminus of β-Amyloid. Nat. Genet. 1: 345-347.
4. Selkoe, D.J. 1998. The cell biology of β-Amyloid precursor protein and presenilin in Alzheimer's disease. Trends Cell Biol. 8: 447-453.
5. Yan, R., et al. 1999. Membrane-anchored aspartyl protease with Alzheimer's disease β-secretase activity. Nature 402: 533-537.
6. Vassar, R., et al. 1999. β-secretase cleavage of Alzheimer's amyloid precursor protein by the transmembrane aspartic protease BACE. Science 286: 735-741.
7. Hussain, I., et al. 1999 identification of a novel aspartic protease (Asp 2) as β-secretase. Mol. Cell. Neurosci. 14: 419-427.
8. Schmechel, A., et al. 2004. Human BACE forms dimers and colocalizes with APP. J. Biol. Chem. 279: 39710-39717.
9. Patel, S., et al. 2004. Apo and inhibitor complex structures of BACE (β-secretase). J. Mol. Biol. 343: 407-416.

CHROMOSOMAL LOCATION

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

SOURCE

BACE (H-10) is a mouse monoclonal antibody raised against amino acids 419-501 of BACE of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

BACE (H-10) 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 µg per 100-500 µg 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.

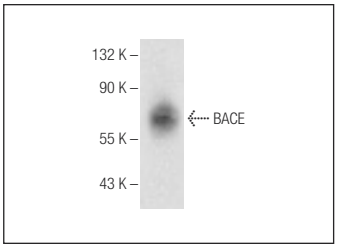
Molecular Weight of BACE: 70 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812 or BC_3H1 cell lysate: sc-2299.

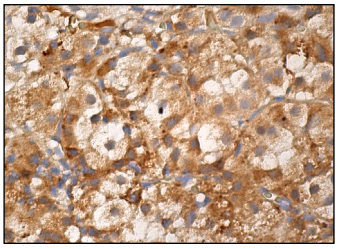
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



BACE (H-10): sc-365947. Western blot analysis of BACE expression in BC_3H1 whole cell lysate.



BACE (H-10): sc-365947. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

RESEARCH USE

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

CONJUGATES

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.