SANTA CRUZ BIOTECHNOLOGY, INC.

BACE2 (F-12): sc-271286

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 (Asp2) 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: BACE2 (human) mapping to 21q22.2; Bace2 (mouse) mapping to 16 C4.

SOURCE

BACE2 (F-12) is a mouse monoclonal antibody raised against amino acids 429-518 mapping near the C-terminus of BACE2 of human 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

BACE2 (F-12) is recommended for detection of BACE2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BACE2 siRNA (h): sc-29776, BACE2 siRNA (m): sc-29777, BACE2 shRNA Plasmid (h): sc-29776-SH, BACE2 shRNA Plasmid (m): sc-29777-SH, BACE2 shRNA (h) Lentiviral Particles: sc-29776-V and BACE2 shRNA (m) Lentiviral Particles: sc-29777-V.

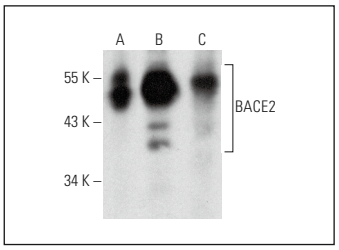
Molecular Weight of BACE2 isoforms: 70/56/50/48/46/43 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, Neuro-2A whole cell lysate: sc-364185 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT 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.

DATA



BACE2 (F-12): sc-271286. Western blot analysis of BACE2 expression in HeLa (**A**), Neuro-2A (**B**) and C6 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Oswald, F., et al. 2017. The FOXP2-driven network in developmental disorders and neurodegeneration. Front. Cell. Neurosci. 11: 212.

RESEARCH USE

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

PROTOCOLS

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