SANTA CRUZ BIOTECHNOLOGY, INC.

BACE2 (N-20): sc-10048



BACKGROUND

Autosomal dominant Alzheimer's disease is caused by mutations in the gene encoding the β -amyloid protein precursor (APP). Amyloid β -peptide (A β), 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 A β 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

- Kang, J., et al. 1987. The precursor of Alzheimer's disease amyloid A4 protein resembles a cell-surface receptor. Nature 325: 733-736.
- 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.
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- 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.
- 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.
- 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.

SOURCE

BACE2 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of BACE2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-10048 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **D0 NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

BACE2 (N-20) is recommended for detection of BACE2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 shRNA Plasmid (h): sc-29776-SH and BACE2 shRNA (h) Lentiviral Particles: sc-29776-V.

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

Positive Controls: H4 cell lysate: sc-2408 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluo-rescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Motonaga, K., et al. 2002. Elevated expression of β -site Amyloid precursor protein cleaving enzyme 2 in brains of patients with Down syndrome. Neurosci. Lett. 326: 64-66.

RESEARCH USE

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

PROTOCOLS

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

MONOS Satisfation Guaranteed

Try BACE2 (H-3): sc-271212 or BACE2 (F-12): sc-271286, our highly recommended monoclonal alternatives to BACE2 (N-20).