

# BACE2 (C-18): sc-10051

## 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.
5. Yan, R., et al. 1999. Membrane-anchored aspartyl protease with Alzheimer's disease  $\beta$ -secretase activity. *Nature* 402: 533-537.
6. Vassar, R., et al. 1999.  $\beta$ -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  $\beta$ -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.

## CHROMOSOMAL LOCATION

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

## SOURCE

BACE2 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of BACE2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-10051 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

BACE2 (C-18) is recommended for detection of BACE2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). BACE2 (C-18) is also recommended for detection of BACE2 in additional species, including bovine.

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.

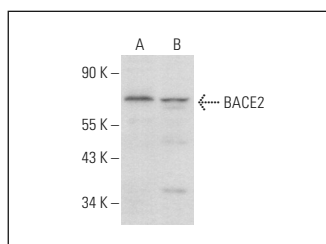
Molecular Weight of BACE2 isoforms: 70/56/50/48/46/43 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, NIH/3T3 whole cell lysate: sc-2210 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: 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.

## DATA



BACE2 (C-18): sc-10051. Western blot analysis of BACE2 expression in IMR-32 (A) and NIH/3T3 (B) whole cell lysates.

## RESEARCH USE

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

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Try **BACE2 (H-3): sc-271212** or **BACE2 (F-12): sc-271286**, our highly recommended monoclonal alternatives to BACE2 (C-18).