SANTA CRUZ BIOTECHNOLOGY, INC.

BACE2 (H-3): sc-271212

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.

CHROMOSOMAL LOCATION

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

SOURCE

BACE2 (H-3) 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_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BACE2 (H-3) is available conjugated to agarose (sc-271212 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271212 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271212 PE), fluorescein (sc-271212 FITC), Alexa Fluor® 488 (sc-271212 AF488), Alexa Fluor® 546 (sc-271212 AF546), Alexa Fluor® 594 (sc-271212 AF594) or Alexa Fluor® 647 (sc-271212 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271212 AF680) or Alexa Fluor® 790 (sc-271212 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

BACE2 (H-3) 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), 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 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.

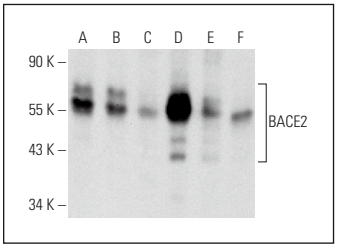
Molecular Weight of BACE2 isoforms: 70/56/50/48/46/43 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Neuro-2A whole cell lysate: sc-364185 or H4 cell lysate: sc-2408.

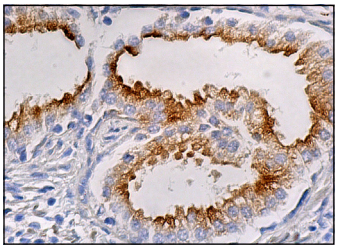
RECOMMENDED SUPPORT REAGENTS

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. 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



BACE2 (H-3): sc-271212. Western blot analysis of BACE2 expression in HeLa (**A**), H4 (**B**), A549 (**C**), Neuro-2A (**D**), EOC 20 (**E**) and C6 (**F**) whole cell lysates.



BACE2 (H-3) : sc-271212. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic and membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Rulifson, I.C., et al. 2016. Identification of human islet amyloid polypeptide as a BACE2 substrate. PLoS ONE 11: e0147254.
2. Wang, Z., et al. 2019. BACE2, a conditional β-secretase, contributes to Alzheimer's disease pathogenesis. JCI Insight 4: e123431.
3. Qiu, K., et al. 2020. BACE2 degradation is mediated by both the proteasome and lysosome pathways. BMC Mol. Cell Biol. 21: 13.
4. Liu, X., et al. 2020. Multiple proteases are involved in mesothelin shedding by cancer cells. Commun. Biol. 3: 728.
5. Chen, Z., et al. 2021. Cell surface GRP78 regulates BACE2 via lysosome-dependent manner to maintain mesenchymal phenotype of glioma stem cells. J. Exp. Clin. Cancer Res. 40: 20.
6. Francelin, C., et al. 2021. BACE1 inhibition increases susceptibility to oxidative stress by promoting mitochondrial damage. Antioxidants 10: 1539.
7. He, T., et al. 2023. BACE2 deficiency impairs expression and function of endothelial nitric oxide synthase in brain endothelial cells. J. Neurochem. 166: 928-942.

RESEARCH USE

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