SANTA CRUZ BIOTECHNOLOGY, INC.

Aph-1b (S-17): sc-49360

The Power to Question

BACKGROUND

Anterior pharynx defective 1 (Aph-1) is a polytopic, seven-pass membrane protein that functions as one of the four essential components in the presenilin-γ-secretase enzyme complex. This enzyme complex is necessary for the intra-membrane proteolysis of several different membrane proteins, including the Amyloid-β precursor protein, and is involved in multiple neuro-developmental signaling pathways. Aph-1b and Aph-1a are splice variants of Aph-1. Aph-1b specifically lacks exon 4, which encodes for the entire fourth transmembrane domain, causing the protein to be destabilized. Deficiency of Aph-1a causes a reduction in γ-secretase activity, however deficiency of Aph-1b does not; thus, Aph-1b may execute redundant functions in the cell. Aph-1b expression and γ-secretase activity may be implicated in neuro-developmental disorders, such as schizophrenia.

REFERENCES

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2. Coolen, M.W., et al. 2005. Gene dosage effect on γ-secretase component Aph-1b in a rat model for neurodevelopmental disorders. Neuron 45: 497-503.
3. Saito, S., et al. 2005. Expression profiles of two human APH1 genes and their roles in formation of presenilin complexes. Biochem. Biophys. Res. Commun. 327: 18-22.
4. Saito, S., et al. 2005. Identification and characterization of a novel human Aph-1b splice variant lacking exon Biochem. Biophys. Res. Commun. 330: 1068-1072.
5. Ellenbroek, B.A., et al. 2005. Individual differences in drug dependence in rats: the role of genetic factors and life events. Eur. J. Pharmacol. 526: 251-258.
6. Coolen, M.W., et al. 2006. Ontogenic reduction of Aph-1b mRNA and γ-secretase activity in rats with a complex neurodevelopmental phenotype. Mol. Psychiatry 11: 787-793.
7. Coolen, M.W., et al. 2006. Reduced Aph-1b expression causes tissue- and substrate-specific changes in γ-secretase activity in rats with a complex phenotype. FASEB J. 20: 175-177.

CHROMOSOMAL LOCATION

Genetic locus: APH1B (human) mapping to 15q22.2.

SOURCE

Aph-1b (S-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Aph-1b of human origin.

STORAGE

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

RESEARCH USE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-49360 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Aph-1b (S-17) is recommended for detection of Aph-1b 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).

Aph-1b (S-17) is also recommended for detection of Aph-1b in additional species, including canine and porcine.

Suitable for use as control antibody for Aph-1b siRNA (h): sc-60190, Aph-1b shRNA Plasmid (h): sc-60190-SH and Aph-1b shRNA (h) Lentiviral Particles: sc-60190-V.

Molecular Weight of Aph-1b: 28 kDa.

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) 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.

PROTOCOLS

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