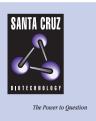
## SANTA CRUZ BIOTECHNOLOGY, INC.

# Aph-1b (N-12): sc-49359



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- $\gamma$ -secretase enzyme complex. This enzyme complex is necessary for the intra-membrane proteolysis of several different membrane proteins, including the Amyloid- $\beta$  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  $\gamma$ -secretase activity, however deficiency of Aph-1b does not; thus, Aph-1b may execute redundant functions in the cell. Aph-1b expression and  $\gamma$ -secretase activity may be implicated in neuro-developmental disorders, such as schizophrenia.

## REFERENCES

- 1. Shirotani, K., et al. 2004. Identification of distinct  $\gamma$ -secretase complexes with different APH-1 variants. J. Biol. Chem. 279: 41340-41345.
- 2. Coolen, M.W., et al. 2005. Gene dosage effect on  $\gamma$ -secretase component Aph-1b in a rat model for neurodevelopmental disorders. Neuron 45: 497-503.
- 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.
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- Coolen, M.W., et al. 2006. Ontogenic reduction of Aph-1b mRNA and γsecretase activity in rats with a complex neurodevelopmental phenotype. Mol. Psychiatry 11: 787-793.
- 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; Aph1b (mouse) mapping to 9 D.

#### SOURCE

Aph-1b (N-12) 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, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PRODUCT

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

Blocking peptide available for competition studies, sc-49359 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## **APPLICATIONS**

Aph-1b (N-12) 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).

Suitable for use as control antibody for Aph-1b siRNA (h): sc-60190.

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) Immunofluo-rescence: use donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## **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.