SANTA CRUZ BIOTECHNOLOGY, INC.

SPE-4 (cN-17): sc-9235

BACKGROUND

Human presenilin proteins have been implicated in the development of Alzheimer's disease. Several presenilin homologs have been identified in *C. elegans*, including SEL-12, HOP-1 and SPE-4. Reducing or eliminating SEL-12 activity causes an egg-laying defective (Egl) phenotype in *C. elegans*. HOP-1 activity can rescue the egg-laying defect of the SEL-12 mutant. SEL-12 and HOP-1 are therefore thought to act as redundant promoters of Notch-pathway signaling by facilitating the activity of LIN-12 and GLP-1. SPE-4 is an integral membrane protein localized within specific organelles responsible for spermatogenesis. Mutation of SPE-4 prevents cytokinesis during meiosis, preventing spermatogenesis.

REFERENCES

1. L'Hernault, S.W., et al. 1992. Mutation of a putative sperm membrane protein in *Caenorhabditis elegans* prevents sperm differentiation but not its associated meiotic divisions. J. Cell. Biol. 119: 55-68.
2. Levy-Lahad, E., et al. 1995. A familial Alzheimer's disease locus on chromosome 1. Science 269: 970-973.
3. Sherrington, R., et al. 1995. Cloning of a gene bearing missense mutations in early-onset familial Alzheimer's disease. Nature 375: 754-760.
4. Rogaev, E.I., et al. 1995. Familial Alzheimer's disease in kindreds with missense mutations in a gene on chromosome 1 related to the Alzheimer's disease type 3 gene. Nature 376: 775-778.
5. Levitan, D. and Greenwald, I. 1995. Facilitation of LIN-12-mediated signalling by SEL-12, a *Caenorhabditis elegans* S182 Alzheimer's disease gene. Nature 377: 351-354.
6. Li, X., et al. 1997. HOP-1, a *Caenorhabditis elegans* presenilin, appears to be functionally redundant with SEL-12 presenilin and to facilitate LIN-12 and GLP-1 signaling. Proc. Natl. Acad. Sci. USA 94: 12204-12209.

SOURCE

SPE-4 (cN-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of SPE-4 of *Caenorhabditis elegans* origin.

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-9235 P, (100 µg 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.

PROTOCOLS

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

APPLICATIONS

SPE-4 (cN-17) is recommended for detection of SPE-4 of *Caenorhabditis elegans* 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).

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.

RESEARCH USE

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