

## SPE-4 (cC-14): sc-9236

### 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 (cC-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-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-9236 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

### APPLICATIONS

SPE-4 (cC-14) 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.