SANTA CRUZ BIOTECHNOLOGY, INC.

SPR-5 (N-20): sc-68340

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Presenilins are components of a protease complex that functions to cleave Notch receptors and the amyloid precursor protein implicated in Alzheimer's disease. Mutations in Presenilin 1 and Presenilin 2 are the most common cause of familial early-onset Alzheimer's disease. In *C. elegans*, the presenilin proteins are known as HOP-1 and SEL-12. A mutation in the SEL-12 presenilin protein is associated with a highly penetrant egg-laying defect caused by a reduction in Notch signaling. The transgenic expression of HOP-1 can rescue a SEL-12 mutant from the egg-laying defect. SPR-5 (suppressor of presenilin defect family member 5) is a 770 amino acid protein that, when mutated, efficiently suppresses the egg-laying defect of the SEL-12 mutant by releasing the repression of HOP-1 expression during developmental stages. SPR-5 is similar to the mammalian PAO protein and is believed to associate with SPR-1, a *C. elegans* homolog of CoREST, in a CoREST-like corepressor complex that functions in transcriptional repression.

REFERENCES

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2. Wen, C., et al. 2000. spr-2, a suppressor of the egg-laying defect caused by loss of SEL-12 presenilin in *Caenorhabditis elegans*, is a member of the SET protein subfamily. Proc. Natl. Acad. Sci. USA 97: 14524-14529.
3. Eimer, S., et al. 2002. Loss of SPR-5 bypasses the requirement for the *C. elegans* presenilin SEL-12 by derepressing HOP-1. EMBO J. 21: 5787-5796.
4. Jarriault, S. and Greenwald, I. 2002. Suppressors of the egg-laying defective phenotype of SEL-12 presenilin mutants implicate the CoREST corepressor complex in LIN-12/Notch signaling in *C. elegans*. Genes Dev. 16: 2713-2728.
5. Lakowski, B., et al. 2003. Two suppressors of SEL-12 encode C_2H_2 zinc-finger proteins that regulate presenilin transcription in *Caenorhabditis elegans*. Development 130: 2117-2128.
6. Dallman, J.E., et al. 2004. A conserved role but different partners for the transcriptional corepressor CoREST in fly and mammalian nervous system formation. J. Neurosci. 24: 7186-7193.
7. Lakowski, B., Roelens, I. and Jacob, S. 2006. CoREST-like complexes regulate chromatin modification and neuronal gene expression. J. Mol. Neurosci. 29: 227-239.
8. Smialowska, A. and Baumeister, R. 2006. Presenilin function in *Caenorhabditis elegans*. Neurodegener. Dis. 3: 227-232.

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.

SOURCE

SPR-5 (N-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of SPR-5 of *C. 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-68340 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SPR-5 (N-20) is recommended for detection of SPR-5 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).

Molecular Weight of SPR-5: 86 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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