SANTA CRUZ BIOTECHNOLOGY, INC.

LIN-2 (cN-19): sc-9221

BACKGROUND

Cell proliferation and development are carefully controlled in *C. elegans*, with each cell following a nearly invariant pattern of differentiation. Vulval development in particular provides a useful model for studying how cell fate is determined. In addition to cell signaling pathways such as Notch and Ras pathways, the establishment of cell polarity and the asymmetric distribution of certain receptors are also critical for proper cell fate determination. The LIN-2/LIN-7/LIN-10 complex functions to control basolateral membrane localization of the C. elegans EGF receptor LET-23 in vulval epithelial cells. LIN-7, LIN-2 and LIN-10 each contain protein domains that may mediate interactions with other proteins. LIN-7 contains a PDZ domain, which are generally known to mediate protein-protein interactions with C-terminal tails of transmembrane proteins. LIN-2 contains a CaM Kinase domain, a PDZ domain, and an SH3 domain, and it is homologous with the mammalian CASK protein. LIN-10 is homologous with MINT1, MINT2 and MINT3 and contains two PDZ domains and a phosphotyrosine-binding domain.

REFERENCES

1. Sundaram, M. and Han, M. 1996. Control and integration of cell signaling pathways during *C. elegans* vulval development. Bioessays 18: 473-480.
2. Sommer, R.J. and Sternberg, P.W. 1996. Evolution of nematode vulval fate patterning. Dev. Biol. 173: 396-407.
3. Kornfeld, K. 1997. Vulval development in *Caenorhabditis elegans*. Trends Genet. 13: 55-61.
4. Kaech, S.M., Whitfield, C.W. and Kim, S.K. 1998. The LIN-2/LIN-7/LIN-10 complex mediates basolateral membrane localization of the *C. elegans* EGF receptor LET-23 in vulval epithelial cells. Cell 94: 761-771.
5. Irie, M., Hata, Y., Deguchi, M., Ide, N., Hirao, K., Yao, I., Nishioka, H. and Takai, Y. 1999. Isolation and characterization of mammalian homologues of *Caenorhabditis elegans* lin-7: localization at cell-cell junctions. Oncogene 18: 2811-2817.
6. Whitfield, C.W., Benard, C., Barnes, T., Hekimi, S. and Kim, S.K. 1999. Basolateral localization of the *Caenorhabditis elegans* epidermal growth factor receptor in epithelial cells by the PDZ protein LIN-10. Mol. Biol. Cell 10: 2087-2100.

SOURCE

LIN-2 (cN-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of LIN-2 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-9221 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.

APPLICATIONS

LIN-2 (cN-19) is recommended for detection of LIN-2 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.

PROTOCOLS

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