SANTA CRUZ BIOTECHNOLOGY, INC.

LIN-12 (cG-16): sc-9227

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. LIN-12 is the *C. elegans* homologue of the *Drosophila* notch protein and mediates a broad range of cell interactions during nematode development. LIN-44 is a Wnt protein and controls the polarity of certain asymmetric cell divisions. LIN-3 has an EGF-like domain and acts as a growth factor in ventral epithelial cells of *C. elegans*. GLP-1 contains both EGF and Notch domains, shares the highest similarity to LIN-12 and contributes to the establishment of the dorsal-ventral axis in early *C. elegans* embryos.

REFERENCES

1. Mello, C.C., Draper, B.W. and Priess, J.R. 1994. The maternal genes apx-1 and glp-1 and establishment of dorsal-ventral polarity in the early *C. elegans* embryo. Cell 77: 95-106.
2. Herman, M.A., Vassilieva, L.L., Horvitz, H.R., Shaw, J.E. and Herman, R.K. 1995. The *C. elegans* gene lin-44, which controls the polarity of certain asymmetric cell divisions, encodes a Wnt protein and acts cell nonautonomously. Cell 83: 101-110.
3. Newman, A.P. and Sternberg, P.W. 1996. Coordinated morphogenesis of epithelia during development of the *Caenorhabditis elegans* uterine-vulval connection. Proc. Natl. Acad. Sci. USA 93: 9329-9333.
4. Sundaram, M., Han, M. 1996. Control and integration of cell signaling pathways during *C. elegans* vulval development. Bioessays 18: 473-480.
5. Sommer, R.J. and Sternberg, P.W. 1996. Evolution of nematode vulval fate patterning. Dev. Biol. 173: 396-407.
6. Kornfeld, K. 1997. Vulval development in *Caenorhabditis elegans*. Trends Genet. 13: 55-61.
7. Kimble, J. and Simpson, P. 1997. The LIN-12/Notch signaling pathway and its regulation. Annu. Rev. Cell. Dev. Biol. 13: 333-361.

SOURCE

LIN-12 (cG-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of LIN-12 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-9227 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-12 (cG-16) is recommended for detection of LIN-12 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.