LIN-53 (cN-19): sc-9275

SANTA CRUZ®
BIOTECHNOLOGY

The Power to Question

BACKGROUND

A variety of growth factor signaling molecules have been shown to regulate *C. elegans* development, including members of the EGF, FGF and TGFβ super-families. These factors bind to specific receptors and transduce extracellular signals to the nucleus. Receptor tyrosine kinase/Ras pathways also play a critical role in cell signaling and are responsible for proper vulval development. The LIN proteins, LIN-15A and LIN-15B, LIN-35, LIN-53 and LIN-39, regulate an intercellular signalling process that induces formation of the hermaphrodite vulva in *C. elegans* by acting to prevent the activation of a receptor tyrosine kinase/Ras signaling pathway. Mutants lacking both LIN-15A and LIN-15B have multiple, ectopic pseudo-vulvae resulting from the overproduction of vulval cells, whereas mutants defective in only one LIN-15 protein appear wild-type. LIN-35 encodes a protein similar to the tumor suppressor Rb and the closely related proteins p107 and p130. LIN-53 encodes a protein similar to RbAp48, a mammalian protein that binds to Rb. LIN-39 has been shown to correspond to homeobox genes which function as homeotic genes along the anterior-posterior body axis of *C. elegans*.

REFERENCES

1. Horvitz, H.R., et al. 1983. Mutations that affect neural cell lineages and cell fates during the development of the nematode *Caenorhabditis elegans*. Cold Spring Harb. Symp. Quant. Biol. 48: 453-463.

2. Carpenter, G. 1993. EGF: new tricks for an old growth factor. Curr. Opin. Cell. Biol. 5: 261-264.

3. Burglin, T.R. and Ruvkun, G. 1993. The *Caenorhabditis elegans* homeobox gene cluster. Curr. Opin. Genet. Dev. 3: 615-620.

4. Huang, L.S., et al. 1994. The LIN-15 locus encodes two negative regulators of *Caenorhabditis elegans* vulval development. Mol. Biol. Cell 5: 395-411.

5. Clark, S.G., et al. 1994. The *Caenorhabditis elegans* locus LIN-15, a negative regulator of a tyrosine kinase signaling pathway, encodes two different proteins. Genetics 137: 987-997.

6. Sternberg, P.W., et al. 1995. LET-23-mediated signal transduction during *Caenorhabditis elegans* development. Mol. Reprod. Dev. 42: 523-528.

7. Lu, X. and Horvitz, H.R. 1998. LIN-35 and LIN-53, two genes that antagonize a *C. elegans* Ras pathway, encode proteins similar to Rb and its binding protein RbAp48. Cell 95: 981-991.

SOURCE

LIN-53 (cN-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of LIN-53 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-9275 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LIN-53 (cN-19) is recommended for detection of LIN-53 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.

SELECT PRODUCT CITATIONS

1. Cheng, Y.C., et al. 2013. Garlic oil attenuates the cardiac apoptosis in hamster-fed with hypercholesterol diet. Food Chem. 136: 1296-1302.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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.