

LIN37 siRNA (h): sc-97565

BACKGROUND

A variety of growth factor signaling molecules have been shown to regulate *C. elegans* development, including members of the EGF, FGF and TGF β 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 regulate an intercellular signaling 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. LIN37 is a 246 amino acid protein that is a mammalian homolog of the *C. elegans* Lin-37 protein. LIN37 functions as a component of the DREAM complex (also known as the LINC complex), which is comprised of several proteins, all of which work in concert to repress cell cycle-dependent genes.

REFERENCES

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2. Carpenter, G. 1993. EGF: new tricks for an old growth factor. Curr. Opin. Cell. Biol. 5: 261-264.
3. Kayne, P.S. and Sternberg, P.W. 1995. Ras pathways in *Caenorhabditis elegans*. Curr. Opin. Genet. Dev. 5: 38-43.
4. Sternberg, P.W., et al. 1995. LET-23-mediated signal transduction during *Caenorhabditis elegans* development. Mol. Reprod. Dev. 42: 523-528.
5. Korenjak, M., et al. 2004. Native E2F/RBF complexes contain Myb-interacting proteins and repress transcription of developmentally controlled E2F target genes. Cell 119: 181-193.
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7. Sours-Brothers, S., et al. 2009. Ca²⁺-sensitive transcriptional regulation: direct DNA interaction by DREAM. Front. Biosci. 14: 1851-1856.

CHROMOSOMAL LOCATION

Genetic locus: LIN37 (human) mapping to 19q13.2.

PRODUCT

LIN37 siRNA (h) is a pool of 2 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LIN37 shRNA Plasmid (h): sc-97565-SH and LIN37 shRNA (h) Lentiviral Particles: sc-97565-V as alternate gene silencing products.

For independent verification of LIN37 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-97565A and sc-97565B.

RESEARCH USE

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

LIN37 siRNA (h) is recommended for the inhibition of LIN37 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 60 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

LIN37 (G-3): sc-515686 is recommended as a control antibody for monitoring of LIN37 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LIN37 gene expression knockdown using RT-PCR Primer: LIN37 (h)-PR: sc-97565-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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