SANTA CRUZ BIOTECHNOLOGY, INC.

LIN-54 siRNA (m): sc-146731

BACKGROUND

LIN-54, also known as CXC domain-containing protein 1 (CXCDC1), JC8.6 or MIP120, is a 749 amino acid nuclear protein and mammalian homolog of the *C. elegans* LIN-54 protein that is required for cell cycle progression. A member of the LIN-54 family, LIN-54 functions as a component of the DREAM complex (also known as the LINC complex), which is found in quiescent cells and is comprised of several proteins, all of which work in concert to repress cell cycle-dependent genes. LIN-54 contains multiple phosphorylated amino acid residues and two CXC domains, which mediate DNA-binding. Existing as five alternatively spliced isoforms, LIN-54 is encoded by a gene located on human chromosome 4, which represents approximately 6% of the human genome, contains nearly 900 genes and is associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

1. Kalchman, M.A., et al. 1996. Huntingtin is ubiquitinated and interacts with a specific ubiquitin-conjugating enzyme. J. Biol. Chem. 271: 19385-19394.
2. Krakow, D., et al. 2000. Exclusion of the Ellis-van Creveld region on chromosome 4p16 in some families with asphyxiating thoracic dystrophy and short-rib polydactyly syndromes. Eur. J. Hum. Genet. 8: 645-648.
3. Sommardahl, C., et al. 2001. Phenotypic variations of orpk mutation and chromosomal localization of modifiers influencing kidney phenotype. Physiol. Genomics 7: 127-134.
4. 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.
5. Schmit, F., et al. 2007. LINC, a human complex that is related to pRB-containing complexes in invertebrates regulates the expression of G_2/M genes. Cell Cycle 6: 1903-1913.
6. Litovchick, L., et al. 2007. Evolutionarily conserved multisubunit RBL2/p130 and E2F4 protein complex represses human cell cycle-dependent genes in quiescence. Mol. Cell 26: 539-551.

CHROMOSOMAL LOCATION

Genetic locus: Lin54 (mouse) mapping to 5 E4.

PRODUCT

LIN-54 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LIN-54 shRNA Plasmid (m): sc-146731-SH and LIN-54 shRNA (m) Lentiviral Particles: sc-146731-V as alternate gene silencing products.

PROTOCOLS

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

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

LIN-54 siRNA (m) is recommended for the inhibition of LIN-54 expression in mouse 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 µM in 66 µl. 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LIN-54 gene expression knockdown using RT-PCR Primer: LIN-54 (m)-PR: sc-146731-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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