SANTA CRUZ BIOTECHNOLOGY, INC.

LIN-28B siRNA (m): sc-146729

BACKGROUND

LIN-28B, also known as CSDD2, is a 250 amino acid protein that localizes to the cytoplasm during the early stages of the cell cycle and translocates to the nucleus during the S and G_2 phases of the cell cycle. Expressed at high levels in placenta, testis and fetal liver, LIN-28B contains one cold-shock domain and two CCHC-type zinc fingers and is thought to play a role in cell growth, specifically when overexpressed. Overexpression of LIN-28B stimulates the growth of breast adenocarcinoma and hepatocellular carcinoma cells, implying a role for LIN-28B in aberrant cell proliferation and metastasis. LIN-28B exists as multiple alternatively spliced isoforms which are encoded by a gene that maps to human chromosome 6. Chromosome 6 contains 170 million base pairs and comprises nearly 6% of the human genome. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer, suggesting the presence of a cancer susceptibility locus. Additionally, Porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

REFERENCES

1. Moss, E.G., et al. 2003. Conservation of the heterochronic regulator LIN-28, its developmental expression and microRNA complementary sites. Dev. Biol. 258: 432-442.
2. Guo, Y., et al. 2006. Identification and characterization of LIN-28 homolog B (LIN28B) in human hepatocellular carcinoma. Gene 384: 51-61.
3. Thorgeirsson, S.S., et al. 2006. Functional genomics of hepatocellular carcinoma. Hepatology 43: S145-S150.
4. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611044. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Heo, I., et al. 2008. Lin28 mediates the terminal uridylation of LET-7 precursor MicroRNA. Mol. Cell 32: 276-284.
6. Viswanathan, S.R., et al. 2008. Selective blockade of microRNA processing by LIN28. Science 320: 97-100.

CHROMOSOMAL LOCATION

Genetic locus: Lin28b (mouse) mapping to 10 B2.

PRODUCT

LIN-28B 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-28B shRNA Plasmid (m): sc-146729-SH and LIN-28B shRNA (m) Lentiviral Particles: sc-146729-V as alternate gene silencing products.

For independent verification of LIN-28B (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-146729A, sc-146729B and sc-146729C.

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-28B siRNA (m) is recommended for the inhibition of LIN-28B 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-28B gene expression knockdown using RT-PCR Primer: LIN-28B (m)-PR: sc-146729-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.

PROTOCOLS

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