SANTA CRUZ BIOTECHNOLOGY, INC.

CHRDL2 siRNA (h): sc-72891

BACKGROUND

CHRDL2 (chordin-related protein 2), also known as BNF1 (breast tumor novel factor 1) or CHL2 (chordin-like 2), is a 429 amino acid protein that belongs to the chordin family of proteins. CHRDL2 contains three VWFC (von Willebrand factor type C) domains and is predominantly expressed in uterus and moderately expressed in prostate, liver, ovary, heart and testis. Due to alternative splicing events, CHRDL2 exists as five isoforms, namely isoform I, isoform II, isoform VII, isoform VIII and isoform IX. Two of these isoforms are secreted, while the other three localize to the cytoplasm. Functioning as a BMP-binding inhibitor, CHRDL2 directly interacts with BMPs and blocks their binding to BMP receptors, thereby inhibiting BMP activity. In breast, lung and colon tumors, CHRDL2 expression is upregulated, suggesting a possible role in tumorigenesis.

REFERENCES

1. Wu, I. and Moses, M.A. 2003. BNF-1, a novel gene encoding a putative extracellular matrix protein, is overexpressed in tumor tissues. Gene 311: 105-110.
2. Fujiwara, H., et al. 2004. Human extravillous trophoblasts express laeverin, a novel protein that belongs to membrane-bound gluzincin metallopeptidases. Biochem. Biophys. Res. Commun. 313: 962-968.
3. Nakayama, N., et al. 2004. A novel chordin-like BMP inhibitor, CHL2, expressed preferentially in chondrocytes of developing cartilage and osteoarthritic joint cartilage. Development 131: 229-240.
4. Oren, A., et al. 2004. hCHL2, a novel chordin-related gene, displays differential expression and complex alternative splicing in human tissues and during myoblast and osteoblast maturation. Gene 331: 17-31.
5. Zhang, Z. and Henzel, W.J. 2004. Signal peptide prediction based on analysis of experimentally verified cleavage sites. Protein Sci. 13: 2819-2824.

CHROMOSOMAL LOCATION

Genetic locus: CHRDL2 (human) mapping to 11q13.4.

PRODUCT

CHRDL2 siRNA (h) is a pool of 3 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CHRDL2 shRNA Plasmid (h): sc-72891-SH and CHRDL2 shRNA (h) Lentiviral Particles: sc-72891-V as alternate gene silencing products.

For independent verification of CHRDL2 (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-72891A, sc-72891B and sc-72891C.

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

CHRDL2 siRNA (h) is recommended for the inhibition of CHRDL2 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 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 CHRDL2 gene expression knockdown using RT-PCR Primer: CHRDL2 (h)-PR: sc-72891-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.