SANTA CRUZ BIOTECHNOLOGY, INC.

DSPG3 siRNA (m): sc-143179

BACKGROUND

The leucine-rich (LRR) repeat is a 20-30 amino acid motif that forms a hydrophobic α/β horseshoe fold, allowing it to accommodate several leucine residues within a tightly packed core. All LRR repeats contain a variable segment and a highly conserved segment, the latter of which accounts for 11 or 12 residues of the entire LRR motif. LRRs are present in many proteins from prokaryotes to eukaryotes. DSPG3 (dermatan sulfate proteoglycan 3), also known as PGLB, Pg-Lb, SLRR3B or EPYC, is a 322 amino acid secreted protein that belongs to the small leucine-rich proteoglycan (SLRP) family. Expressed in cartilage, ligament and placenta, DSPG3 may have a role in bone formation and in establishing the ordered structure of cartilage through matrix organization. It has been suggested that DSPG3 regulates fibrillogenesis by interacting with collagen fibrils and other extracellular matrix proteins.

REFERENCES

1. Shinomura, T., et al. 1992. Proteoglycan-Lb, a small dermatan sulfate proteoglycan expressed in embryonic chick epiphyseal cartilage, is structurally related to osteoinductive factor. J. Biol. Chem. 267: 1265-1270.
2. Deere, M., et al. 1996. Characterization of human DSPG3, a small dermatan sulfate proteoglycan. Genomics 38: 399-404.
3. Johnson, J., et al. 1999. Expression and localization of PG-Lb/epiphycan during mouse development. Dev. Dyn. 216: 499-510.
4. Deere, M., et al. 1999. Genomic characterization of human DSPG3. Genome Res. 9: 449-456.
5. Danielson, K.G., et al. 1999. Decorin, epiphycan, and lumican genes are closely linked on murine Chromosome 10 and are deleted in lethal steel mutants. Mamm. Genome 10: 201-203.
6. Matsushima, N., et al. 2000. Super-motifs and evolution of tandem leucine-rich repeats within the small proteoglycans—biglycan, decorin, lumican, fibromodulin, PRELP, keratocan, osteoadherin, epiphycan, and osteoglycin. Proteins 38: 210-225.
7. Zhou, W., et al. 2006. Molecular cloning and expression of two small leucine-rich proteoglycan (SLRP) genes, dspg3l and optcl, in zebrafish. Gene Expr. Patterns 6: 482-488.

CHROMOSOMAL LOCATION

Genetic locus: Epyc (mouse) mapping to 10 C3.

PRODUCT

DSPG3 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 DSPG3 shRNA Plasmid (m): sc-143179-SH and DSPG3 shRNA (m) Lentiviral Particles: sc-143179-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

DSPG3 siRNA (m) is recommended for the inhibition of DSPG3 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 DSPG3 gene expression knockdown using RT-PCR Primer: DSPG3 (m)-PR: sc-143179-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.