SANTA CRUZ BIOTECHNOLOGY, INC.

LRP4 siRNA (h): sc-96919

BACKGROUND

Members of the LDL receptor gene family, including LDLR (low density lipoprotein receptor), LRP1 (low density lipoprotein related protein), Megalin (also designated GP330), VLDLR (very low density lipoprotein receptor) and ApoER2 are characterized by a cluster of cysteine-rich class A repeats, epidermal growth factor (EGF)-like repeats, YWTD repeats and an O-linked sugar domain. LRP4 (low-density lipoprotein receptor-related protein 4), also known as multiple epidermal growth factor-like domains 7 (MEGF7), is a 1,950 amino acid protein belonging to the LDL receptor gene family. LRP4 is potentially a cell surface endocytic receptor, which binds extracellular ligands and internalizes them for degradation by lysosomes. As a single-pass type I membrane protein, LRP4 is expressed in many regions of the brain. Mutations in the gene that encodes LRP4 have been found to cause syndactyly, a condition characterized by the fusion of two or more digits.

REFERENCES

1. Nakayama, M., et al. 1998. Identification of high-molecular-weight proteins with multiple EGF-like motifs by motif-trap screening. Genomics 51: 27-34.
2. Simon-Chazottes, D., et al. 2006. Mutations in the gene encoding the low-density lipoprotein receptor LRP4 cause abnormal limb development in the mouse. Genomics 87: 673-677.
3. Johnson, E.B., et al. 2006. Defective splicing of MEGF7/LRP4, a regulator of distal limb development, in autosomal recessive mulefoot disease. Genomics 88: 600-609.
4. Duchesne, A., et al. 2006. Identification of a doublet missense sub-stitution in the bovine LRP4 gene as a candidate causal mutation for syndactyly in Holstein cattle. Genomics 88: 610-621.

CHROMOSOMAL LOCATION

Genetic locus: LRP4 (human) mapping to 11p11.2.

PRODUCT

LRP4 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 LRP4 shRNA Plasmid (h): sc-96919-SH and LRP4 shRNA (h) Lentiviral Particles: sc-96919-V as alternate gene silencing products.

For independent verification of LRP4 (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-96919A, sc-96919B and sc-96919C.

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

LRP4 siRNA (h) is recommended for the inhibition of LRP4 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 LRP4 gene expression knockdown using RT-PCR Primer: LRP4 (h)-PR: sc-96919-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.