

LRP3 siRNA (m): sc-149048

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. Low-density lipoprotein receptor-related protein 3 (LRP3) is a 770 amino acid protein that contains two CUB domains and four LDL-receptor class A domains. LRP3 is widely expressed with highest expression in skeletal muscle and ovary and lowest expression in testis, colon and leukocytes. LRP3 is potentially a membrane receptor involved in the internalization of lipophilic molecules and/or signal transduction.

REFERENCES

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2. Croy, J.E., Shin, W.D., Knauer, M.F., Knauer, D.J. and Komives, E.A. 2003. All three LDL receptor homology regions of the LDL receptor-related protein bind multiple ligands. *Biochemistry* 42: 13049-13057.
3. Gonias, S.L., Wu, L. and Salicioni, A.M. 2004. Low density lipoprotein receptor-related protein: regulation of the plasma membrane proteome. *Thromb. Haemost.* 91: 1056-1064.
4. May, P., Herz, J. and Bock, H.H. 2005. Molecular mechanisms of lipoprotein receptor signalling. *Cell. Mol. Life Sci.* 62: 2325-2338.
5. May, P., Woldt, E., Matz, R.L. and Boucher, P. 2007. The LDL receptor-related protein (LRP) family: an old family of proteins with new physiological functions. *Ann. Med.* 39: 219-228.
6. Jaeger, S. and Pietrzik, C.U. 2008. Functional role of lipoprotein receptors in Alzheimer's disease. *Curr Alzheimer Res.* 5: 15-25.

CHROMOSOMAL LOCATION

Genetic locus: Lrp3 (mouse) mapping to 7 B1.

PRODUCT

LRP3 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LRP3 shRNA Plasmid (m): sc-149048-SH and LRP3 shRNA (m) Lentiviral Particles: sc-149048-V as alternate gene silencing products.

For independent verification of LRP3 (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-149048A, sc-149048B and sc-149048C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

LRP3 siRNA (m) is recommended for the inhibition of LRP3 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 μ M in 66 μ l. 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.

GENE EXPRESSION MONITORING

LRP3 (D-8): sc-373736 is recommended as a control antibody for monitoring of LRP3 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LRP3 gene expression knockdown using RT-PCR Primer: LRP3 (m)-PR: sc-149048-PR (20 μ l). 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.