

LRG1 siRNA (h): sc-97202

BACKGROUND

LRG1 (leucine-rich α -2-glycoprotein), also known as LRG, is a 347 amino acid secreted protein that contains eight LRR (leucine-rich) repeats and one LRRCT domain. The leucine-rich repeat (LRR) family of proteins, including LRG1, have been shown to be involved in protein-protein interaction, signal transduction, cell adhesion and development. Found mainly in plasma, LRG1 is expressed during granulocyte differentiation. The gene that encodes LRG1 consists of nearly 3,000 bases and maps to human chromosome 19p13.3. Chromosome 19 consists of over 63 million bases, houses approximately 1,400 genes and is recognized for having the greatest gene density of the human chromosomes. It is the genetic home for a number of immunoglobulin (Ig) superfamily members, including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG families and Fc receptors (FcRs).

REFERENCES

1. Haupt, H., et al. 1977. Isolation and characterization of an unknown, leucine-rich 3.1-S- α -2-glycoprotein from human serum (author's transl). Hoppe-Seyler's Z. Physiol. Chem. 358: 639-646.
2. Takahashi, N., et al. 1985. Periodicity of leucine and tandem repetition of a 24-amino acid segment in the primary structure of leucine-rich α 2-glycoprotein of human serum. Proc. Natl. Acad. Sci. USA 82: 1906-1910.
3. O'Donnell, L.C., et al. 2002. Molecular characterization and expression analysis of leucine-rich α 2-glycoprotein, a novel marker of granulocytic differentiation. J. Leukoc. Biol. 72: 478-485.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611289. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Shirai, R., et al. 2009. Up-regulation of the expression of leucine-rich α 2-glycoprotein in hepatocytes by the mediators of acute-phase response. Biochem. Biophys. Res. Commun. 382: 776-779.
6. Codina, R., et al. 2010. Cytochrome c-induced lymphocyte death from the outside in: inhibition by serum leucine-rich α -2-glycoprotein-1. Apoptosis 15: 139-152.

CHROMOSOMAL LOCATION

Genetic locus: LRG1 (human) mapping to 19p13.3.

PRODUCT

LRG1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LRG1 shRNA Plasmid (h): sc-97202-SH and LRG1 shRNA (h) Lentiviral Particles: sc-97202-V as alternate gene silencing products.

For independent verification of LRG1 (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-97202A, sc-97202B and sc-97202C.

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

LRG1 siRNA (h) is recommended for the inhibition of LRG1 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 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

LRG1 (D2): sc-517443 is recommended as a control antibody for monitoring of LRG1 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 LRG1 gene expression knockdown using RT-PCR Primer: LRG1 (h)-PR: sc-97202-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.

PROTOCOLS

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