

MASL1 siRNA (h): sc-77672

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. MASL1, also known as MFHAS1 (malignant fibrous histiocytoma amplified sequence 1) or LRRC65, is a 1,052 amino acid protein that contains 13 LRR repeats, which are thought to function as structural components for protein-protein interactions during the cell cycle. Ubiquitously expressed, MASL1 is upregulated in malignant fibrous histiocytomas, suggesting that, via its ability to mediate protein interactions during the cell cycle, MASL1 may play a role in tumorigenesis. The gene encoding MASL1 is subject to a chromosomal aberration that is thought to be a cause of B-cell lymphoma, further implying a role for MASL1 in tumor formation.

REFERENCES

1. Kobe, B. and Deisenhofer, J. 1994. The leucine-rich repeat: a versatile binding motif. *Trends Biochem. Sci.* 19: 415-421.
2. Kobe, B. and Deisenhofer, J. 1995. Proteins with leucine-rich repeats. *Curr. Opin. Struct. Biol.* 5: 409-416.
3. Sakabe, T., et al. 1999. Identification of a novel gene, MASL1, within an amplicon at 8p23.1 detected in malignant fibrous histiocytomas by comparative genomic hybridization. *Cancer Res.* 59: 511-515.
4. Kobe, B. and Kajava, A.V. 2001. The leucine-rich repeat as a protein recognition motif. *Curr. Opin. Struct. Biol.* 11: 725-732.

CHROMOSOMAL LOCATION

Genetic locus: MFHAS1 (human) mapping to 8p23.1.

PRODUCT

MASL1 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 MASL1 shRNA Plasmid (h): sc-77672-SH and MASL1 shRNA (h) Lentiviral Particles: sc-77672-V as alternate gene silencing products.

For independent verification of MASL1 (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-77672A, sc-77672B and sc-77672C.

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

MASL1 siRNA (h) is recommended for the inhibition of MASL1 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

MASL1 (C-8): sc-514968 is recommended as a control antibody for monitoring of MASL1 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 MASL1 gene expression knockdown using RT-PCR Primer: MASL1 (h)-PR: sc-77672-PR (20 μ l, 600 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kumkhaek, C., et al. 2013. MASL1 induces erythroid differentiation in human erythropoietin-dependent CD34⁺ cells through the Raf/MEK/ERK pathway. *Blood* 121: 3216-3227.

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.