

# LRRFIP1 siRNA (h2): sc-270288

## BACKGROUND

LRRFIP1 (also designated GCF2) is a 738 amino acid human protein whose rodent counterpart is known as LRRFIP1 (also designated FLAP in mouse). LRRFIP1 is a transcriptional repressor which will preferentially bind to the GC-rich consensus sequence (5'-AGCCCCGGCG-3') and may also regulate expression of TNF, EGFR and PDGF-A. LRRFIP1 is also believed to control smooth muscle cell proliferation following arterial injury through PDGF-A repression. The N-terminus of LRRFIP1 shows high homology to the coiled-coil domain of FLAP, a protein which binds the leucine-rich repeat (LRR) of Flightless I, and the interaction of LRRFIP1 with the LRR of Flightless I has been confirmed. LRRFIP1 does not bind single-stranded DNA or RNA significantly and binds double-stranded DNA weakly. In contrast, LRRFIP1 binds double-stranded RNA with high affinity, and two molecules of LRRFIP1 bind the TaR stem. The RNA binding domain has been identified and encompasses a lysine-rich motif. Flightless I has a C-terminal TaR-like domain which binds Actin and therefore the association of LRRFIP1 with the LRR of Flightless I may provide a link between the Actin cytoskeleton and RNA in mammalian cells.

## REFERENCES

1. Reed, A.L., et al. 1998. Molecular cloning and characterization of a transcription regulator with homology to GC-binding factor. *J. Biol. Chem.* 273: 21594-21602.
2. Wilson, S.A., et al. 1998. TRIP: a novel double stranded RNA binding protein which interacts with the leucine rich repeat of Flightless I. *Nucleic Acids Res.* 26: 3460-3467.
3. Khachigian, L.M., et al. 1999. GC factor 2 represses platelet-derived growth factor A-chain gene transcription and is itself induced by arterial injury. *Circ. Res.* 84: 1258-1267.
4. Rikiyama, T., et al. 2003. GCF2: expression and molecular analysis of repression. *Biochim. Biophys. Acta* 1629: 15-25.
5. Suriano, A.R., et al. 2005. GCF2/LRRFIP1 represses tumor necrosis factor  $\alpha$  expression. *Mol. Cell. Biol.* 25: 9073-9081.
6. Sjöblom, T., et al. 2006. The consensus coding sequences of human breast and colorectal cancers. *Science* 314: 268-274.

## CHROMOSOMAL LOCATION

Genetic locus: LRRFIP1 (human) mapping to 2q37.3.

## PRODUCT

LRRFIP1 siRNA (h2) is a pool of 2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LRRFIP1 shRNA Plasmid (h2): sc-270288-SH and LRRFIP1 shRNA (h2) Lentiviral Particles: sc-270288-V as alternate gene silencing products.

For independent verification of LRRFIP1 (h2) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270288A and sc-270288B.

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

## APPLICATIONS

LRRFIP1 siRNA (h2) is recommended for the inhibition of LRRFIP1 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  $\mu$ M in 66  $\mu$ 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

LRRFIP1 (G-4): sc-514221 is recommended as a control antibody for monitoring of 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 LRRFIP1 gene expression knockdown using RT-PCR Primer: LRRFIP1 (h2)-PR: sc-270288-PR (20  $\mu$ 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](http://www.scbt.com) for detailed protocols and support products.