



# LRRFIP2 siRNA (h): sc-77893

## BACKGROUND

Leucine-rich repeats (LRRs) are 20-30 amino acid motifs that mediate protein-protein interactions. The primary function of these motifs is to provide a versatile structural framework for the formation of these protein-protein interactions. LRRs are present in a variety of proteins with diverse structure and function, including innate immunity and nervous system development. Several human diseases are associated with mutations in the genes encoding LRR-containing proteins. LRRFIP2 (leucine-rich repeat flightless-interacting protein 2), also known as HUF1-2, is a 721 amino acid protein that belongs to the LRRFIP family. Ubiquitously expressed, LRRFIP2 acts as an activator of the Wnt signaling pathway and as a positive regulator of NF $\kappa$ B activity. LRRFIP2 may be involved in regulating cytokine production in macrophages, suggesting a functional role in the TLR4-mediated inflammatory response. Three isoforms of LRRFIP2 exists due to alternative splicing events.

## REFERENCES

1. Fong, K.S. and de Couet, H.G. 1999. Novel proteins interacting with the leucine-rich repeat domain of human flightless-I identified by the yeast two-hybrid system. *Genomics* 58: 146-157.
2. Liu, J., et al. 2005. Identification of the Wnt signaling activator leucine-rich repeat in flightless interaction protein 2 by a genome-wide functional analysis. *Proc. Natl. Acad. Sci. USA* 102: 1927-1932.
3. Wang, T., et al. 2006. Flightless I homolog negatively modulates the TLR pathway. *J. Immunol.* 176: 1355-1362.
4. Dolan, J., et al. 2007. The extracellular leucine-rich repeat superfamily; a comparative survey and analysis of evolutionary relationships and expression patterns. *BMC Genomics* 8: 320.
5. Ko, J. and Kim, E. 2007. Leucine-rich repeat proteins of synapses. *J. Neurosci. Res.* 85: 2824-2832.
6. Bella, J., et al. 2008. The leucine-rich repeat structure. *Cell. Mol. Life Sci.* 65: 2307-2333.
7. Thorsen, K., et al. 2008. Alternative splicing in colon, bladder, and prostate cancer identified by exon array analysis. *Mol. Cell. Proteomics* 7: 1214-1224.
8. Meyer, C., et al. 2009. An interstitial deletion at 3p21.3 results in the genetic fusion of MLH1 and ITGA9 in a Lynch syndrome family. *Clin. Cancer Res.* 15: 762-769.
9. Dai, P., et al. 2009. Modulation of TLR signaling by multiple MyD88-interacting partners including leucine-rich repeat Fli-I-interacting proteins. *J. Immunol.* 182: 3450-3460.

## CHROMOSOMAL LOCATION

Genetic locus: LRRFIP2 (human) mapping to 3p22.2.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

LRRFIP2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LRRFIP2 shRNA Plasmid (h): sc-77893-SH and LRRFIP2 shRNA (h) Lentiviral Particles: sc-77893-V as alternate gene silencing products.

For independent verification of LRRFIP2 (h) gene silencing results, we provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-77893A, sc-77893B and sc-77893C.

## 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

LRRFIP2 siRNA (h) is recommended for the inhibition of LRRFIP2 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LRRFIP2 gene expression knockdown using RT-PCR Primer: LRRFIP2 (h)-PR: sc-77893-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.