

# RILPL2 siRNA (h): sc-96126

## BACKGROUND

RILPL2 (Rab interacting lysosomal protein-like 2), also known as RLP2, is a 211 amino acid protein that belongs to the RILPL family. RILPL2 does not regulate lysosomal morphology or distribution. RILPL2 shares 32% and 18% amino acid identity with RILPL1 and RILP, respectively. RILPL2 as a novel interacting partner for the Actin-based molecular motor MyoVa, and has a novel role for RILPL2 in controlling neuronal morphogenesis. It has been suggested that there is also a novel role for RILPL2 in the regulation of cellular shape and dendritic-spine morphogenesis, probably via the Rac1-Pak pathway. PCR analysis of human tissues detects highest RILPL2 expression in lung, followed by placenta. Lower expression is detected in liver, kidney, pancreas, heart and brain, but no expression is detected in skeletal muscle. The RILPL2 gene is conserved in chimpanzee, canine, bovine mouse, rat, chicken and zebrafish, and maps to human chromosome 12q24.31.

## REFERENCES

1. Wang, T., Wong, K.K. and Hong, W. 2004. A unique region of RILP distinguishes it from its related proteins in its regulation of lysosomal morphology and interaction with Rab7 and Rab34. *Mol. Biol. Cell* 15: 815-826.
2. Stelzl, U., Worm, U., Lalowski, M., Haenig, C., Brembeck, F.H., Goehler, H., Stroedicke, M., Zenkner, M., Schoenherr, A., Koeppen, S., Timm, J., Mintzlaff, S., Abraham, C., Bock, N., Kietzmann, S., Goedde, A., et al. 2005. A human protein-protein interaction network: a resource for annotating the proteome. *Cell* 122: 957-968.
3. Rual, J.F., Venkatesan, K., Hao, T., Hirozane-Kishikawa, T., Dricot, A., Li, N., Berriz, G.F., Gibbons, F.D., Dreze, M., Ayivi-Guedehoussou, N., Klitgord, N., Simon, C., Boxem, M., Milstein, S., Rosenberg, J., Goldberg, D.S., et al. 2005. Towards a proteome-scale map of the human protein-protein interaction network. *Nature* 437: 1173-1178.
4. Lise, M.F., Srivastava, D.P., Arstikaitis, P., Lett, R.L., Sheta, R., Viswanathan, V., Penzes, P., O'Connor, T.P. and El-Husseini, A. 2009. Myosin-Va-interacting protein, RILPL2, controls cell shape and neuronal morphogenesis via Rac signaling. *J. Cell Sci.* 122: 3810-3821.
5. Arstikaitis, P., Gauthier-Campbell, C., Huang, K., El-Husseini, A. and Murphy, T.H. 2011. Proteins that promote filopodia stability, but not number, lead to more axonal-dendritic contacts. *PLoS ONE* 6: e16998.
6. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2011. Johns Hopkins University, Baltimore, MD. MIM Number: 614093. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: RILPL2 (human) mapping to 12q24.31.

## PRODUCT

RILPL2 siRNA (h) is a target-specific 19-25 nt siRNA 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 RILPL2 shRNA Plasmid (h): sc-96126-SH and RILPL2 shRNA (h) Lentiviral Particles: sc-96126-V as alternate gene silencing 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  $\mu$ 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

RILPL2 siRNA (h) is recommended for the inhibition of RILPL2 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 RILPL2 gene expression knockdown using RT-PCR Primer: RILPL2 (h)-PR: sc-96126-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.