

Rho J siRNA (m): sc-152855

BACKGROUND

The Rho subfamily of Ras-related GTPases controls multiple aspects of cell function, including cytoskeletal rearrangement, nuclear signaling and cell growth. Rho J (Ras homolog gene family, member J), also known as TCL (Tc10-like GTP-binding protein TCL), ARHJ, TC10B or RASL7B (Ras-like protein family member 7B), is a member of the Rho family of the small GTPase superfamily. Preferentially expressed in heart and localizing to the cytoplasmic side of the cell membrane and to early endosomes, Rho J is believed to function as a GTP-binding protein with a possible role in clathrin-dependent endocytosis. In addition, Rho J participates in Actin dynamics, as is suggested by the induction of cortical Actin reorganization by the overexpression of Rho J. Similar to the closely related proteins TC10 and Cdc42, Rho J is capable of binding effector proteins that contain a CRIB (Cdc42/Rac interactive binding) domain. Two isoforms exist for Rho J due to alternative splicing events.

REFERENCES

1. Vignal, E., et al. 2000. Characterization of TCL, a new GTPase of the Rho family related to TC10 and Cdc42. *J. Biol. Chem.* 275: 36457-36464.
2. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607653. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Nishizuka, M., et al. 2003. Crucial role of TCL/TC10 β L, a subfamily of Rho GTPase, in adipocyte differentiation. *J. Biol. Chem.* 278: 15279-15284.
4. de Toledo, M., et al. 2003. The GTP/GDP cycling of Rho GTPase TCL is an essential regulator of the early endocytic pathway. *Mol. Biol. Cell* 14: 4846-4856.
5. Shi, P. and Huang, Z. 2005. Proteomic detection of changes in protein synthesis induced by lanthanum in BGC-823 human gastric cancer cells. *Biometals* 18: 89-95.
6. Salas-Vidal, E., et al. 2005. Genomic annotation and expression analysis of the zebrafish Rho small GTPase family during development and bacterial infection. *Genomics* 86: 25-37.
7. Pras, E., et al. 2006. A new locus for autosomal dominant posterior polar cataract in Moroccan Jews maps to chromosome 14q22-23. *J. Med. Genet.* 43: e50.
8. Jack, E.R., et al. 2008. Membrane interactions of peptides representing the polybasic regions of three Rho GTPases are sensitive to the distribution of arginine and lysine residues. *Mol. Membr. Biol.* 25: 14-22.

CHROMOSOMAL LOCATION

Genetic locus: Rhoj (mouse) mapping to 12 C3.

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.

PRODUCT

Rho J siRNA (m) 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 Rho J shRNA Plasmid (m): sc-152855-SH and Rho J shRNA (m) Lentiviral Particles: sc-152855-V as alternate gene silencing products.

For independent verification of Rho J (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-152855A, sc-152855B and sc-152855C.

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

Rho J siRNA (m) is recommended for the inhibition of Rho J expression in mouse 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Rho J gene expression knockdown using RT-PCR Primer: Rho J (m)-PR: sc-152855-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.