

Rho J siRNA (h): sc-106504

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/TC10β 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.

CHROMOSOMAL LOCATION

Genetic locus: RHOJ (human) mapping to 14q23.2.

PRODUCT

Rho J 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 μM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Rho J shRNA Plasmid (h): sc-106504-SH and Rho J shRNA (h) Lentiviral Particles: sc-106504-V as alternate gene silencing products.

For independent verification of Rho J (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-106504A, sc-106504B and sc-106504C.

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 μl of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μl of RNase-free water makes a 10 μM solution in a 10 μM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Rho J siRNA (h) is recommended for the inhibition of Rho J 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 μM in 66 μl. 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

Rho J (FF-19): sc-81936 is recommended as a control antibody for monitoring of Rho J 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-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-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-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (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 Rho J gene expression knockdown using RT-PCR Primer: Rho J (h)-PR: sc-106504-PR (20 μl). 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 for detailed protocols and support products.