



WRCH1 siRNA (m): sc-155360

BACKGROUND

WRCH1 (Wnt-1 responsive Cdc42 homolog 1), also known as RHOU (ras homolog family member U), Ryu GTPase, GTP-binding protein-like 1, ARHU or CDC42L1, is a 258 amino acid protein that belongs to the Rho family and small GTPase superfamily. Existing as two alternatively spliced isoforms, WRCH1 localizes to multiple structures including the cell junction, membrane and projection, as well as the Golgi apparatus membrane. WRCH1 is ubiquitously expressed with highest levels found in small intestine, brain, stomach, skeletal muscle and placenta. WRCH1 is essential in the maintenance of cell shape and interacts with β PAK, ARHGAP30, CdGAP and PYK2. The gene encoding WRCH1 maps to human chromosome 1q42.13.

REFERENCES

1. Tao, W., et al. 2001. Wrch-1, a novel member of the Rho gene family that is regulated by Wnt-1. *Genes Dev.* 15: 1796-1807.
2. Kirikoshi, H. and Katoh, M. 2002. Expression of WRCH1 in human cancer and down-regulation of WRCH1 by β -estradiol in MCF-7 cells. *Int. J. Oncol.* 20: 777-783.
3. Daigo, Y., et al. 2004. Novel human, mouse and *Xenopus* genes encoding a member of the RAS superfamily of low-molecular-weight GTP-binding proteins and its downregulation in W/WV mouse jejunum. *J. Gastroenterol. Hepatol.* 19: 211-217.
4. Berzat, A.C., et al. 2005. Transforming activity of the Rho family GTPase, Wrch-1, a Wnt-regulated Cdc42 homolog, is dependent on a novel carboxyl-terminal palmitoylation motif. *J. Biol. Chem.* 280: 33055-33065.
5. Shutes, A., et al. 2006. Biochemical analyses of the Wrch atypical Rho family GTPases. *Meth. Enzymol.* 406: 11-26.
6. Ory, S., et al. 2007. Identification of a bipartite focal adhesion localization signal in RhoU/Wrch-1, a Rho family GTPase that regulates cell adhesion and migration. *Biol. Cell* 99: 701-716.
7. Ruusala, A. and Aspenström, P. 2008. The atypical Rho GTPase Wrch1 collaborates with the nonreceptor tyrosine kinases Pyk2 and Src in regulating cytoskeletal dynamics. *Mol. Cell. Biol.* 28: 1802-1814.

CHROMOSOMAL LOCATION

Genetic locus: Rhou (mouse) mapping to 8 E2.

PRODUCT

WRCH1 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 WRCH1 shRNA Plasmid (m): sc-155360-SH and WRCH1 shRNA (m) Lentiviral Particles: sc-155360-V as alternate gene silencing products.

For independent verification of WRCH1 (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-155360A, sc-155360B and sc-155360C.

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

WRCH1 siRNA (m) is recommended for the inhibition of WRCH1 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 WRCH1 gene expression knockdown using RT-PCR Primer: WRCH1 (m)-PR: sc-155360-PR (20 μ 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 for detailed protocols and support products.