SANTA CRUZ BIOTECHNOLOGY, INC.

RPGRIP1L siRNA (h): sc-93387

BACKGROUND

RPGRIP1L (RPGRIP1-like), also known as protein fantom, NPHP8 (nephrocystin 8), MKS5, CORS3, JBTS7 or FTM, is a 1,315 amino acid protein that belongs to the RPGRIP1 family and is thought to function in programmed cell death, craniofacial development and formation of the left-right axis. Existing as two alternatively spliced isoforms that localize to the cytoplasm, cytoskeleton, centrosome and cilium basal body, RPGRIP1L interacts with nephrocystin-4 and is moderately expressed in brain, retina and kidney. Containing two C2 domains, RPGRIP1L is encoded by a gene that maps to human chromosome 16q12.2. Defects in the gene encoding RPGRIP1L are the cause of Joubert syndrome type 7 (JBTS7), COACH syndrome (COACHS) and Meckel syndrome type 5 (MKS5).

REFERENCES

1. Wolf, M.T., et al. 2007. Mutational analysis of the RPGRIP1L gene in patients with Joubert syndrome and nephronophthisis. Kidney Int. 72: 1520-1526.
2. Delous, M., et al. 2007. The ciliary gene RPGRIP1L is mutated in cerebello-oculo-renal syndrome (Joubert syndrome type B) and Meckel syndrome. Nat. Genet. 39: 875-881.
3. Arts, H.H., et al. 2007. Mutations in the gene encoding the basal body protein RPGRIP1L, a nephrocystin-4 interactor, cause Joubert syndrome. Nat. Genet. 39: 882-888.
4. Brancati, F., et al. 2008. RPGRIP1L mutations are mainly associated with the cerebello-renal phenotype of Joubert syndrome-related disorders. Clin. Genet. 74: 164-170.
5. Khanna, H., et al. 2009. A common allele in RPGRIP1L is a modifier of retinal degeneration in ciliopathies. Nat. Genet. 41: 739-745.
6. Doherty, D., et al. 2010. Mutations in 3 genes (MKS3, CC2D2A and RPGRIP1L) cause COACH syndrome (Joubert syndrome with congenital hepatic fibrosis). J. Med. Genet. 47: 8-21.
7. Online Mendelian Inheritance in Man, OMIM™. 2010. Johns Hopkins University, Baltimore, MD. MIM Number: 610937. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: RPGRIP1L (human) mapping to 16q12.2.

PRODUCT

RPGRIP1L 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 RPGRIP1L shRNA Plasmid (h): sc-93387-SH and RPGRIP1L shRNA (h) Lentiviral Particles: sc-93387-V as alternate gene silencing products.

For independent verification of RPGRIP1L (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-93387A, sc-93387B and sc-93387C.

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

RPGRIP1L siRNA (h) is recommended for the inhibition of RPGRIP1L 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RPGRIP1L gene expression knockdown using RT-PCR Primer: RPGRIP1L (h)-PR: sc-93387-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.