SANTA CRUZ BIOTECHNOLOGY, INC.

CMG1 siRNA (m): sc-72932

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The Power to Question

BACKGROUND

Capillary morphogenesis protein 1 (CMG1), also known as intraflagellar transport protein 74 (ITP74) or coiled-coil domain-containing protein 2 (CCDC2), is a 600 amino acid human homologue of IFT-71, a complex B protein supporting intraflagellar transport (IFT) in *Chlamydomonas*. CMG1 localizes to the cytoplasmic vesicle and is highly expressed in adult and fetal kidney and testis, with lower levels of expression in adult heart, placenta, lung, liver and pancreas, and in fetal heart, lung and liver. CMG1 has been suggested to have a role in the primary cilia of HUVEC, and it also functions as a transcriptional regulator of cyclin D2 in spermatocyte-derived cells.

REFERENCES

1. Bell, S.E., et al. 2001. Differential gene expression during capillary morphogenesis in 3D collagen matrices: regulated expression of genes involved in basement membrane matrix assembly, cell cycle progression, cellular differentiation and G-protein signaling. J. Cell Sci. 114: 2755-2773.
2. Iomini, C., et al. 2004. Primary cilia of human endothelial cells disassemble under laminar shear stress. J. Cell Biol. 164: 811-817.
3. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608040. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Momeni, P., et al. 2006. Analysis of IFT74 as a candidate gene for chromosome 9p-linked ALS-FTD. BMC Neurol. 6: 44.
5. Fujino, R.S., et al. 2006. Capillary morphogenesis gene (CMG)-1 is among the genes differentially expressed in mouse male germ line stem cells and embryonic stem cells. Mol. Reprod. Dev. 73: 955-966.
6. Scholey, J.M. 2008. Intraflagellar transport motors in cilia: moving along the cell's antenna. J. Cell Biol. 180: 23-29.
7. Liu, S., et al. 2009. Capillary morphogenesis protein-2 is the major receptor mediating lethality of anthrax toxin *in vivo*. Proc. Natl. Acad. Sci. USA 106: 12424-12429.

CHROMOSOMAL LOCATION

Genetic locus: Ift74 (mouse) mapping to 4 C5.

PRODUCT

CMG1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CMG1 shRNA Plasmid (m): sc-72932-SH and CMG1 shRNA (m) Lentiviral Particles: sc-72932-V as alternate gene silencing products.

For independent verification of CMG1 (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-72932A, sc-72932B and sc-72932C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support 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 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

CMG1 siRNA (m) is recommended for the inhibition of CMG1 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 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 CMG1 gene expression knockdown using RT-PCR Primer: CMG1 (m)-PR: sc-72932-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.