

CMG1 (E-15): sc-74366

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

- Bell, S.E., Mavila, A., Salazar, R., Bayless, K.J., Kanagala, S., Maxwell, S.A. and Davis, G.E. 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.
- Iomini, C., Tejada, K., Mo, W., Vaananen, H. and Piperno, G. 2004. Primary cilia of human endothelial cells disassemble under laminar shear stress. *J. Cell Biol.* 164: 811-817.
- 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/>
- Momeni, P., Schymick, J., Jain, S., Cookson, M.R., Cairns, N.J., Greggio, E., Greenway, M.J., Berger, S., Pickering-Brown, S., Chiò, A., Fung, H.C., Holtzman, D.M., Huey, E.D., Wassermann, E.M., Adamson, J., et al. 2006. Analysis of IFT74 as a candidate gene for chromosome 9p-linked ALS-FTD. *BMC Neurol.* 6: 44.
- Fujino, R.S., Ishikawa, Y., Tanaka, K., Kanatsu-Shinohara, M., Tamura, K., Kogo, H., Shinohara, T. and Hara, T. 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.
- Scholey, J.M. 2008. Intraflagellar transport motors in cilia: moving along the cell's antenna. *J. Cell Biol.* 180: 23-29.
- Ding, Z., Gau, D., Deasy, B., Wells, A. and Roy, P. 2009. Both actin and polyproline interactions of profilin-1 are required for migration, invasion and capillary morphogenesis of vascular endothelial cells. *Exp. Cell Res.* 315: 2963-2973.
- Liu, S., Crown, D., Miller-Randolph, S., Moayeri, M., Wang, H., Hu, H., Morley, T. and Leppla, S.H. 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 (human) mapping to 9p21.2; lft74 (mouse) mapping to 4 C5.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

SOURCE

CMG1 (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CMG1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-74366 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CMG1 (E-15) is recommended for detection of CMG1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CMG1 (E-15) is also recommended for detection of CMG1 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for CMG1 siRNA (h): sc-72931, CMG1 siRNA (m): sc-72932, CMG1 shRNA Plasmid (h): sc-72931-SH, CMG1 shRNA Plasmid (m): sc-72932-SH, CMG1 shRNA (h) Lentiviral Particles: sc-72931-V and CMG1 shRNA (m) Lentiviral Particles: sc-72932-V.

Molecular Weight of CMG1: 65 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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