

Rab 40B siRNA (m): sc-152645

BACKGROUND

Rab 40B is a 278 amino acid protein that belongs to the small GTPase superfamily and the Rab family. Rab 40B contains a SOCS box domain that mediates interactions with the Elongin BC complex, an adapter module in different E3 ubiquitin ligase complexes. Rab 40B shares similarity with a yeast protein, suggesting a role in regulation of secretory vesicles. The Rab 40B gene is conserved in chimpanzee, bovine, mouse, rat, chicken and zebrafish, and maps to human chromosome 17q25.3. It has been suggested that there is a major gene locus on chromosome 17q25.3 for autosomal dominant moyamoya disease (MMD), which is an idiopathic steno-occlusive cerebrovascular disease that represents an important cause of stroke.

REFERENCES

1. Pereira-Leal, J.B. and Seabra, M.C. 2000. The mammalian Rab family of small GTPases: definition of family and subfamily sequence motifs suggests a mechanism for functional specificity in the Ras superfamily. *J. Mol. Biol.* 301: 1077-1087.
2. Pereira-Leal, J.B. and Seabra, M.C. 2001. Evolution of the Rab family of small GTP-binding proteins. *J. Mol. Biol.* 313: 889-901.
3. Kile, B.T., Schulman, B.A., Alexander, W.S., Nicola, N.A., Martin, H.M. and Hilton, D.J. 2002. The SOCS box: a tale of destruction and degradation. *Trends Biochem. Sci.* 27: 235-241.
4. Gurkan, C., Lapp, H., Alory, C., Su, A.I., Hogenesch, J.B. and Balch, W.E. 2005. Large-scale profiling of Rab GTPase trafficking networks: the membrome. *Mol. Biol. Cell* 16: 3847-3864.
5. Palomero, T., Odom, D.T., O'Neil, J., Ferrando, A.A., Margolin, A., Neuberg, D.S., Winter, S.S., Larson, R.S., Li, W., Liu, X.S., Young, R.A. and Look, A.T. 2006. Transcriptional regulatory networks downstream of TAL1/SCL in T-cell acute lymphoblastic leukemia. *Blood* 108: 986-992.
6. Ng, E.L. and Tang, B.L. 2008. Rab GTPases and their roles in brain neurons and glia. *Brain Res. Rev.* 58: 236-246.
7. Mineharu, Y., Liu, W., Inoue, K., Matsuura, N., Inoue, S., Takenaka, K., Ikeda, H., Houkin, K., Takagi, Y., Kikuta, K., Nozaki, K., Hashimoto, N. and Koizumi, A. 2008. Autosomal dominant moyamoya disease maps to chromosome 17q25.3. *Neurology* 70: 2357-2363.

CHROMOSOMAL LOCATION

Genetic locus: Rab40b (mouse) mapping to 11 E2.

PRODUCT

Rab 40B 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 Rab 40B shRNA Plasmid (m): sc-152645-SH and Rab 40B shRNA (m) Lentiviral Particles: sc-152645-V as alternate gene silencing products.

For independent verification of Rab 40B (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-152645A, sc-152645B and sc-152645C.

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

Rab 40B siRNA (m) is recommended for the inhibition of Rab 40B 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 Rab 40B gene expression knockdown using RT-PCR Primer: Rab 40B (m)-PR: sc-152645-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.