

Rab L3 siRNA (m): sc-152658

BACKGROUND

Rab L3 (RAB-like protein 3) is a 236 amino acid protein that belongs to the small GTPase superfamily and the Rab family. A large family of small GTPases, Rab proteins play important roles in multiple processes relating to cellular transportation and modulation of the cytoskeleton. Rab L3 is considered a novel oncogene that regulates behavior of human cancer cells and may be a candidate for anti-tumor treatment. The Rab L3 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, zebrafish, fruit fly, mosquito and *C. elegans*, and maps to human chromosome 3q13.33. Chromosome 3 is made up of about 214 million bases encoding over 1,100 genes. Marfan syndrome, porphyria, von Hippel-Lindau syndrome, Brugada syndrome, osteogenesis imperfecta and Charcot-Marie-Tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

REFERENCES

- Collins, J.E. and Fleming, T.P. 1995. Epithelial differentiation in the mouse preimplantation embryo: making adhesive cell contacts for the first time. *Trends Biochem. Sci.* 20: 307-312.
- Müller, S., Stanyon, R., Finelli, P., Archidiacono, N. and Wienberg, J. 2000. Molecular cytogenetic dissection of human chromosomes 3 and 21 evolution. *Proc. Natl. Acad. Sci. USA* 97: 206-211.
- Braga, E.A., Kashuba, V.I., Maliukova, A.V., Loginov, V.I., Senchenko, V.N., Bazov, I.V., Kiselev, L.L. and Zabarovski, E.R. 2003. New tumor suppressor genes in hot spots of human chromosome 3: new methods of identification. *Mol. Biol.* 37: 194-211.
- Tsend-Ayush, E., Grützner, F., Yue, Y., Grossmann, B., Hänsel, U., Sudbrak, R. and Haaf, T. 2004. Plasticity of human chromosome 3 during primate evolution. *Genomics* 83: 193-202.
- Nareyck, G., Zeschneck, M., Prescher, G., Lohmann, D.R. and Anastassiou, G. 2006. Establishment and characterization of two uveal melanoma cell lines derived from tumors with loss of one chromosome 3. *Exp. Eye Res.* 83: 858-864.
- Muzny, D.M., Scherer, S.E., Kaul, R., Wang, J., Yu, J., Sudbrak, R., Buhay, C.J., Chen, R., Cree, A., Ding, Y., Dugan-Rocha, S., Gill, R., Gunaratne, P., Harris, R.A., Hawes, A.C., Hernandez, J., Hodgson, A.V., Hume, J., et al. 2006. The DNA sequence, annotation and analysis of human chromosome 3. *Nature* 440: 1194-1198.
- Li, Q., Wang, L., Zeng, L., Zhang, Y., Li, K., Jin, P., Su, B. and Wang, L. 2010. Evaluation of the novel gene Rabl3 in the regulation of proliferation and motility in human cancer cells. *Oncol. Rep.* 24: 433-440.

CHROMOSOMAL LOCATION

Genetic locus: Rabl3 (mouse) mapping to 16 B3.

PROTOCOLS

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

PRODUCT

Rab L3 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 L3 shRNA Plasmid (m): sc-152658-SH and Rab L3 shRNA (m) Lentiviral Particles: sc-152658-V as alternate gene silencing products.

For independent verification of Rab L3 (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-152658A, sc-152658B and sc-152658C.

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 L3 siRNA (m) is recommended for the inhibition of Rab L3 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 L3 gene expression knockdown using RT-PCR Primer: Rab L3 (m)-PR: sc-152658-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.