

RGP1 siRNA (m): sc-152838

BACKGROUND

RGP1, also known as retrograde Golgi transport protein RGP1 homolog, is a 391 amino acid protein that belongs to the RGP1 family. The RGP1 gene is conserved in bovine, mouse, rat, chicken, zebrafish, fruit fly, mosquito and *C. elegans*, and maps to human chromosome 9p13.3. Chromosome 9 consists of about 145 million bases, comprises roughly 4% of the human genome and encodes nearly 900 genes. Considered to play a role in gender determination, deletion of the distal portion of 9p can lead to development of male to female sex reversal, the phenotype of a female with a male X,Y genotype. Notably, chromosome 9 encompasses the largest interferon family gene cluster. Hereditary hemorrhagic telangiectasia, which is characterized by harmful vascular defects, is associated with the chromosome 9 gene encoding Endoglin protein, ENG. Familial dysautonomia is also associated with chromosome 9 through the gene IKBKAP.

REFERENCES

1. Humphray, S.J., Oliver, K., Hunt, A.R., Plumb, R.W., Loveland, J.E., Howe, K.L., Andrews, T.D., Searle, S., Hunt, S.E., Scott, C.E., Jones, M.C., Ainscough, R., Almeida, J.P., Ambrose, K.D., Ashwell, R.I., et al. 2004. DNA sequence and analysis of human chromosome 9. *Nature* 429: 369-374.
2. Zheng, X., Güller, S., Beissert, T., Puccetti, E. and Ruthardt, M. 2006. Bcr and its mutants, the reciprocal t(9;22)-associated Abl/Bcr fusion proteins, differentially regulate the cytoskeleton and cell motility. *BMC Cancer* 7: 262.
3. Coppo, P., Flamant, S., De Mas, V., Jarrier, P., Guillier, M., Bonnet, M.L., Lacout, C., Guilhot, F., Vainchenker, W. and Turhan, A.G. 2006. Bcr-Abl activates Stat3 via JAK and MEK pathways in human cells. *Br. J. Haematol.* 134: 171-179.
4. Hims, M.M., Shetty, R.S., Pickel, J., Mull, J., Leyne, M., Liu, L., Gusella, J.F. and Slaughter, S.A. 2007. A humanized IKBKAP transgenic mouse models a tissue-specific human splicing defect. *Genomics* 90: 389-396.
5. Burmeister, T., Schwartz, S., Taubald, A., Jost, E., Lipp, T., Schneller, F., Diedrich, H., Thomssen, H., Mey, U.J., Eucker, J., Rieder, H., Gökbuget, N., Hoelzer, D. and Thiel, E. 2007. Atypical Bcr-Abl mRNA transcripts in adult acute lymphoblastic leukemia. *Haematologica* 92: 1699-1702.
6. Fernandez-L, A., Garrido-Martin, E.M., Sanz-Rodriguez, F., Pericacho, M., Rodriguez-Barbero, A., Eleno, N., Lopez-Novoa, J.M., Düwell, A., Vega, M.A., Bernabeu, C. and Botella, L.M. 2007. Gene expression fingerprinting for human hereditary hemorrhagic telangiectasia. *Hum. Mol. Genet.* 16: 1515-1533.
7. Cottin, V., Dupuis-Girod, S., Lesca, G. and Cordier, J.F. 2007. Pulmonary vascular manifestations of hereditary hemorrhagic telangiectasia (Rendu-Osler disease). *Respiration* 74: 361-378.
8. Gardiner, J., Barton, D., Marc, J. and Overall, R. 2007. Potential role of Tubulin acetylation and microtubule-based protein trafficking in familial dysautonomia. *Traffic* 8: 1145-1149.
9. SWISS-PROT/TrEMBL (Q92546). World Wide Web URL: <http://www.uniprot.org/uniprot/Q92546>

CHROMOSOMAL LOCATION

Genetic locus: Rgp1 (mouse) mapping to 4 B1.

PRODUCT

RGP1 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 RGP1 shRNA Plasmid (m): sc-152838-SH and RGP1 shRNA (m) Lentiviral Particles: sc-152838-V as alternate gene silencing products.

For independent verification of RGP1 (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-152838A, sc-152838B and sc-152838C.

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

RGP1 siRNA (m) is recommended for the inhibition of RGP1 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 RGP1 gene expression knockdown using RT-PCR Primer: RGP1 (m)-PR: sc-152838-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.