

RELL1 siRNA (m): sc-152796

BACKGROUND

RELL1, also known as RELT-like protein 1, is a 271 amino acid single-pass type I membrane protein that belongs to the RELT family. RELL1 is widely expressed, with highest levels in the placenta, skeletal muscle, spleen and testis. RELL1 shares 32% and 40% amino acid identity with RELT and RELL2, respectively. The RELL1 protein interacts with RELT, RELL2 and OXSR1, and is phosphorylated *in vitro* by OXSR1. The RELL1 gene is conserved in chimpanzee, canine, bovine, mouse, rat and chicken, and maps to human chromosome 4p14. Chromosome 4 represents approximately 6% of the human genome and contains nearly 900 genes. Notably, the Huntingtin gene, which is found to encode an expanded glutamine tract in cases of Huntington's disease, is on chromosome 4. Chromosome 4 is also tied to Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

1. Kalchman, M.A., Graham, R.K., Xia, G., Koide, H.B., Hodgson, J.G., Graham, K.C., Goldberg, Y.P., Gietz, R.D., Pickart, C.M. and Hayden, M.R. 1996. Huntingtin is ubiquitinated and interacts with a specific ubiquitin-conjugating enzyme. *J. Biol. Chem.* 271: 19385-19394.
2. Singhrao, S.K., Thomas, P., Wood, J.D., MacMillan, J.C., Neal, J.W., Harper, P.S. and Jones, A.L. 1998. Huntingtin protein colocalizes with lesions of neurodegenerative diseases: An investigation in Huntington's, Alzheimer's, and Pick's diseases. *Exp. Neurol.* 150: 213-222.
3. Sommardahl, C., Cottrell, M., Wilkinson, J.E., Woychik, R.P. and Johnson, D.K. 2001. Phenotypic variations of orpk mutation and chromosomal localization of modifiers influencing kidney phenotype. *Physiol. Genomics* 7: 127-134.
4. Cusick, J.K., Xu, L.G., Bin, L.H., Han, K.J. and Shu, H.B. 2006. Identification of RELT homologues that associate with RELT and are phosphorylated by OXSR1. *Biochem. Biophys. Res. Commun.* 340: 535-543.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611212. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Cusick, J.K., Mustian, A., Goldberg, K. and Reyland, M.E. 2010. RELT induces cellular death in HEK 293 epithelial cells. *Cell. Immunol.* 261: 1-8.
7. SWISS-PROT/TrEMBL (Q8IUW5). World Wide Web URL: <http://www.uniprot.org/uniprot/Q8IUW5>

CHROMOSOMAL LOCATION

Genetic locus: Rell1 (mouse) mapping to 5 C3.1.

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.

PRODUCT

RELL1 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 RELL1 shRNA Plasmid (m): sc-152796-SH and RELL1 shRNA (m) Lentiviral Particles: sc-152796-V as alternate gene silencing products.

For independent verification of RELL1 (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-152796A, sc-152796B and sc-152796C.

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

RELL1 siRNA (m) is recommended for the inhibition of RELL1 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 RELL1 gene expression knockdown using RT-PCR Primer: RELL1 (m)-PR: sc-152796-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.