SANTA CRUZ BIOTECHNOLOGY, INC.

LR8 siRNA (h): sc-89659

BACKGROUND

LR8, also known as TMEM176B (transmembrane protein 176B), is a 270 amino acid multi-pass membrane protein that belongs to the TMEM176 family. Required for the development of cerebellar granule cells, LR8 may also play a role in the maturation of dendritic cells. While normally expressed in lung and dermal fibroblasts, LR8 is down-regulated in activated dendritic cells. The gene that encodes LR8 consists of approximately 10,078 bases and maps to human chromosome 7q36.1. Chromosome 7 houses over 1,000 genes, comprises nearly 5% of the human genome and has been linked to Osteogenesis imperfecta, Pendred syndrome, Lissencephaly, Citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

1. Tsipouras, P., Myers, J.C., Ramirez, F. and Prockop, D.J. 1983. Restriction fragment length polymorphism associated with the pro α 2I gene of human type I procollagen. Application to a family with an autosomal dominant form of Osteogenesis imperfecta. J. Clin. Invest. 72: 1262-1267.
2. Liang, H., Fairman, J., Claxton, D.F., Nowell, P.C., Green, E.D. and Nagarajan, L. 1998. Molecular anatomy of chromosome 7q deletions in myeloid neoplasms: evidence for multiple critical loci. Proc. Natl. Acad. Sci. USA 95: 3781-3785.
3. Lurton, J., Rose, T.M., Raghu, G. and Narayanan, A.S. 1999. Isolation of a gene product expressed by a subpopulation of human lung fibroblasts by differential display. Am. J. Respir. Cell Mol. Biol. 20: 327-331.
4. Iwasaki, S., Usami, S., Abe, S., Isoda, H., Watanabe, T. and Hoshino, T. 2001. Long-term audiological feature in Pendred syndrome caused by PDS mutation. Arch. Otolaryngol. Head Neck Surg. 127: 705-708.
5. Osborne, L.R., Joseph-George, A.M. and Scherer, S.W. 2006. Williams-Beuren syndrome diagnosis using fluorescence *in situ* hybridization. Methods Mol. Med. 126: 113-128.
6. Reiner, O., Sapoznik, S. and Sapir, T. 2006. Lissencephaly 1 linking to multiple diseases: mental retardation, neurodegeneration, schizophrenia, male sterility, and more. Neuromolecular Med. 8: 547-565.
7. Gilbert-Dussardier, B. 2006. Williams-Beuren syndrome. Rev. Prat. 56: 2102-2106.
8. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610385. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
9. Leone, G., Pagano, L., Ben-Yehuda, D. and Voso, M.T. 2007. Therapy-related leukemia and myelodysplasia: susceptibility and incidence. Haematologica 92: 1389-1398.

CHROMOSOMAL LOCATION

Genetic locus: TMEM176B (human) mapping to 7q36.1.

PROTOCOLS

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

PRODUCT

LR8 siRNA (h) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LR8 shRNA Plasmid (h): sc-89659-SH and LR8 shRNA (h) Lentiviral Particles: sc-89659-V as alternate gene silencing products.

For independent verification of LR8 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-89659A, sc-89659B and sc-89659C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

LR8 siRNA (h) is recommended for the inhibition of LR8 expression in human 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 µM in 66 µl. 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 LR8 gene expression knockdown using RT-PCR Primer: LR8 (h)-PR: sc-89659-PR (20 µl). 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.