



SR- α siRNA (m): sc-155968

BACKGROUND

SR- α , also known as SRPR (signal recognition particle receptor), is a 638 amino acid endoplasmic reticulum (ER) membrane and peripheral membrane protein that belongs to the GTP-binding SRP family. As a component of the signal recognition particle receptor, SR- α forms a heterodimer with SR- β . In conjunction with SR- β , SR- α ensures that nascent secretory proteins are correctly targeted to the ER membrane system. Flanked by the 11q23 and 11q24 breakpoints, which are associated with constitutional and neuroepithelioma translocations, respectively, the SR- α gene contains 6,226 bases and maps to human chromosome 11q24.2. Chromosome 11 houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that maps to chromosome 11.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 1987. Johns Hopkins University, Baltimore, MD. MIM Number: 182180. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Janin, N., Delattre, O. and Lipinski, M. 1992. PCR-assisted localization of the human SRPR gene. *Hum. Genet.* 88: 583-585.
3. Pool, M.R., Stumm, J., Fulga, T.A., Sinning, I. and Dobberstein, B. 2002. Distinct modes of signal recognition particle interaction with the ribosome. *Science* 297: 1345-1348.
4. Jira, P.E., Waterham, H.R., Wanders, R.J., Smeitink, J.A., Sengers, R.C. and Wevers, R.A. 2003. Smith-Lemli-Opitz syndrome and the DHCR7 gene. *Ann. Hum. Genet.* 67: 269-280.
5. Schlenker, O., Hendricks, A., Sinning, I. and Wild, K. 2006. The structure of the mammalian signal recognition particle (SRP) receptor as prototype for the interaction of small GTPases with Longin domains. *J. Biol. Chem.* 281: 8898-8906.
6. Halic, M., Gartmann, M., Schlenker, O., Mielke, T., Pool, M.R., Sinning, I. and Beckmann, R. 2006. Signal recognition particle receptor exposes the ribosomal translocon binding site. *Science* 312: 745-747.

CHROMOSOMAL LOCATION

Genetic locus: *Srpr* (mouse) mapping to 9 A4.

PRODUCT

SR- α 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 SR- α shRNA Plasmid (m): sc-155968-SH and SR- α shRNA (m) Lentiviral Particles: sc-155968-V as alternate gene silencing products.

For independent verification of SR- α (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-155968A, sc-155968B and sc-155968C.

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

SR- α siRNA (m) is recommended for the inhibition of SR- α 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 SR- α gene expression knockdown using RT-PCR Primer: SR- α (m)-PR: sc-155968-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.