

FRRS1 siRNA (m): sc-145249

BACKGROUND

FRRS1 (ferric-chelate reductase 1), also known as SDR2 (stromal cell-derived receptor 2) or SDFR2, is a 592 amino acid multi-pass membrane protein that reduces Fe^{3+} to Fe^{2+} before it is transported to the cytoplasm. Existing as two alternatively spliced isoforms, FRRS1 belongs to the FRRS1 family and contains one cytochrome b561 domain, a DOMON domain and a single reelin domain. The gene encoding FRRS1 maps to human chromosome 1p21.2, which spans about 260 million base pairs and makes up 8% of the human genome. The rare aging disease Hutchinson-Gilford progeria is associated with the LMNA gene which encodes Lamin A. Stickler syndrome, Parkinsons, Gaucher disease and Usher syndrome are also associated with chromosome 1. A breakpoint has been identified in 1q which disrupts the DISC1 gene and is linked to schizophrenia. Aberrations in chromosome 1 are found in a variety of cancers including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

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3. Tayebi, N., et al. 2001. Gaucher disease and parkinsonism: a phenotypic and genotypic characterization. *Mol. Genet. Metab.* 73: 313-321.
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CHROMOSOMAL LOCATION

Genetic locus: *Frrs1* (mouse) mapping to 3 G1.

PROTOCOLS

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

PRODUCT

FRRS1 siRNA (m) is a pool of 2 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 FRRS1 shRNA Plasmid (m): sc-145249-SH and FRRS1 shRNA (m) Lentiviral Particles: sc-145249-V as alternate gene silencing products.

For independent verification of FRRS1 (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-145249A and sc-145249B.

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

FRRS1 siRNA (m) is recommended for the inhibition of FRRS1 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 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 FRRS1 gene expression knockdown using RT-PCR Primer: FRRS1 (m)-PR: sc-145249-PR (20 μl). Annealing temperature for the primers should be $55-60^{\circ}\text{C}$ and the extension temperature should be $68-72^{\circ}\text{C}$.

RESEARCH USE

For research use only, not for use in diagnostic procedures.