



Sptrx-2 siRNA (m): sc-153807

BACKGROUND

Sptrx-2 (spermatid-specific thioredoxin-2), also known as NME8, CILD6, SPTRX2 or TXNDC3 (thioredoxin domain-containing protein 3), is a 588 amino acid cytoplasmic and testis-specific protein belonging to the NDK family. Expressed only in primary spermatocytes and round spermatids, Sptrx-2 may be required during the final stages of sperm tail maturation in the testis and/or epididymis, where extensive disulfide bonding of fibrous sheath (FS) proteins occur. Sptrx-2 contains a thioredoxin domain and three inactive NDK domains that each lack the active His residue, suggesting that they are not capable of NDP kinase activity. Defects in the gene encoding Sptrx-2 are the cause of primary ciliary dyskinesia type 6, an autosomal recessive disorder characterized by axonemal abnormalities of motile cilia. Primary ciliary dyskinesia associated with situs inversus is referred to as Kartagener syndrome.

REFERENCES

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4. Duriez, B., et al. 2007. A common variant in combination with a nonsense mutation in a member of the thioredoxin family causes primary ciliary dyskinesia. *Proc. Natl. Acad. Sci. USA* 104: 3336-3341.
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7. Failly, M., et al. 2008. DNAI1 mutations explain only 2% of primary ciliary dyskinesia. *Respiration*. 76: 198-204.
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CHROMOSOMAL LOCATION

Genetic locus: Nme8 (mouse) mapping to 13 A2.

PROTOCOLS

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

PRODUCT

Sptrx-2 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 Sptrx-2 shRNA Plasmid (m): sc-153807-SH and Sptrx-2 shRNA (m) Lentiviral Particles: sc-153807-V as alternate gene silencing products.

For independent verification of Sptrx-2 (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-153807A, sc-153807B and sc-153807C.

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

Sptrx-2 siRNA (m) is recommended for the inhibition of Sptrx-2 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 Sptrx-2 gene expression knockdown using RT-PCR Primer: Sptrx-2 (m)-PR: sc-153807-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.