SANTA CRUZ BIOTECHNOLOGY, INC.

TSPAN7 siRNA (h): sc-91320

BACKGROUND

Tetraspanins are a group of hydrophobic membrane proteins that interact with a wide variety of proteins including intracellular signaling molecules, integrins and membrane receptors. TSPAN7 (tetraspanin 7), also known as MXS1 (membrane component chromosome X surface marker 1) or TM4SF2 (transmembrane 4 superfamily member 2), is a 249 amino acid multi-pass membrane protein belonging to the tetraspanin (TM4SF) family of transmembrane proteins. TSPAN7 is believed to play a role in cell motility and cell proliferation. The gene that encodes TSPAN7 maps to human chromosome X and defects in this gene are a cause of mental retardation X-linked type 58 (MRX58), which is characterized by dramatically below average general intellectual functioning.

REFERENCES

1. Zemni, R., et al. 2000. A new gene involved in X-linked mental retardation identified by analysis of an X;2 balanced translocation. Nat. Genet. 24: 167-170.
2. Domínguez-Jimenez, C., et al. 2001. Involvement of α3 integrin/tetraspanin complexes in the angiogenic response induced by angiotensin II. FASEB J. 15: 1457-1459.
3. Berditchevski, F. 2001. Complexes of tetraspanins with integrins: more than meets the eye. J. Cell Sci. 114: 4143-4151.
4. Castellví-Bel, S., et al. 2001. Genes responsible for nonspecific mental retardation. Mol. Genet. Metab. 72: 104-108.
5. Abidi, F.E., et al. 2002. A novel 2 bp deletion in the TM4SF2 gene is associated with MRX58. J. Med. Genet. 39: 430-433.
6. Maranduba, C.M., et al. 2004. Does the P172H mutation at the TM4SF2 gene cause X-linked mental retardation? Am. J. Med. Genet. A 124A: 413-415.

CHROMOSOMAL LOCATION

Genetic locus: TSPAN7 (human) mapping to Xp11.4.

PRODUCT

TSPAN7 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 TSPAN7 shRNA Plasmid (h): sc-91320-SH and TSPAN7 shRNA (h) Lentiviral Particles: sc-91320-V as alternate gene silencing products.

For independent verification of TSPAN7 (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-91320A, sc-91320B and sc-91320C.

PROTOCOLS

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

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

TSPAN7 siRNA (h) is recommended for the inhibition of TSPAN7 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 TSPAN7 gene expression knockdown using RT-PCR Primer: TSPAN7 (h)-PR: sc-91320-PR (20 µl, 564 bp). 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.