SANTA CRUZ BIOTECHNOLOGY, INC.

TSPAN3 siRNA (h): sc-90191

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. Members of the tetraspanin family are characterized by the presence of four hydrophobic domains and play a role in cell development, activation, growth and motility. TSPAN3 (tetraspanin 3), also referred to as TM4-A, TM4SF8 (transmembrane 4 superfamily member 8) or TSPAN-3, is a 253 amino acid multi-pass membrane protein that belongs to the tetraspanin (TM4SF) family. Widely expressed, TSPAN3 interacts with claudin-11, an oligodendrocyte-specific protein. It is suggested that TSPAN3 regulates the proliferation and migration of oligodendrocytes, a mechanism that is essential for normal myelination and repair. TSPAN3 is encoded by a gene located on human chromosome 15q24.3.

REFERENCES

1. Todd, S.C., et al. 1998. Sequences and expression of six new members of the tetraspanin/TM4SF family. Biochim. Biophys. Acta 1399: 101-104.
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. Tiwari-Woodruff, S.K., et al. 2001. OSP/claudin-11 forms a complex with a novel member of the tetraspanin super family and β1 integrin and regulates proliferation and migration of oligodendrocytes. J. Cell Biol. 153: 295-305.
4. Berditchevski, F. 2001. Complexes of tetraspanins with integrins: more than meets the eye. J. Cell Sci. 114: 4143-4151.
5. Tiwari-Woodruff, S.K., et al. 2004. Developmental expression of OAP-1/Tspan-3, a member of the tetraspanin superfamily. J. Neurosci. Res. 77: 166-173.
6. Strefford, J.C., et al. 2006. Molecular characterisation of the t(1;15)(p22;q22) translocation in the prostate cancer cell line LNCaP. Cytogenet. Genome Res. 112: 45-52.
7. Aspler, A.L., et al. 2008. Evidence of inflammatory immune signaling in chronic fatigue syndrome: a pilot study of gene expression in peripheral blood. Behav. Brain Funct. 4: 44.

CHROMOSOMAL LOCATION

Genetic locus: TSPAN3 (human) mapping to 15q24.3.

PRODUCT

TSPAN3 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 TSPAN3 shRNA Plasmid (h): sc-90191-SH and TSPAN3 shRNA (h) Lentiviral Particles: sc-90191-V as alternate gene silencing products.

For independent verification of TSPAN3 (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-90191A, sc-90191B and sc-90191C.

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

TSPAN3 siRNA (h) is recommended for the inhibition of TSPAN3 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 TSPAN3 gene expression knockdown using RT-PCR Primer: TSPAN3 (h)-PR: sc-90191-PR (20 µl, 600 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.

PROTOCOLS

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