

# TSPAN6 siRNA (h): sc-90862

## 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. TSPAN6 (tetraspanin-6), also known as A15 homolog, putative NF $\kappa$ B-activating protein 321, T245 protein, tetraspanin TM4-D or TM4SF6 (transmembrane 4 superfamily member 6), is a 245 amino acid multi-pass membrane protein that belongs to the tetraspanin (TM4SF) family. TSPAN6 is expressed at high levels in brain, with lower levels of expression found in colon, lung, pancreas, prostate, retina and melanocytes, as well as fetal heart, liver and spleen. The gene encoding TSPAN6 maps to the human X chromosome.

## REFERENCES

1. Todd, S.C., Doctor, V.S. and Levy, S. 1998. Sequences and expression of six new members of the tetraspanin/TM4SF family. *Biochim. Biophys. Acta* 1399: 101-104.
2. Maeda, K., Matsushashi, S., Hori, K., Xin, Z., Mukai, T., Tabuchi, K., Egashira, M. and Niikawa, N. 1998. Cloning and characterization of a novel human gene, TM4SF6, encoding a protein belonging to the transmembrane 4 superfamily, and mapped to Xq22. *Genomics* 52: 240-242.
3. Berditchevski, F. 2001. Complexes of tetraspanins with integrins: more than meets the eye. *J. Cell Sci.* 114: 4143-4151.
4. Clark, H.F., Gurney, A.L., Abaya, E., Baker, K., Baldwin, D., Brush, J., Chen, J., Chow, B., Chui, C., Crowley, C., Currell, B., Deuel, B., Dowd, P., Eaton, D., Foster, J., Grimaldi, C., Gu, Q., Hass, P.E., Heldens, S., Huang, A., et al. 2003. The secreted protein discovery initiative (SPDI), a large-scale effort to identify novel human secreted and transmembrane proteins: a bioinformatics assessment. *Genome Res.* 13: 2265-2270.
5. Tiwari-Woodruff, S.K., Kaplan, R., Kornblum, H.I. and Bronstein, J.M. 2004. Developmental expression of OAP-1/Tspan-3, a member of the tetraspanin superfamily. *J. Neurosci. Res.* 77: 166-173.
6. Ross, M.T., Grafham, D.V., Coffey, A.J., Scherer, S., McLay, K., Muzny, D., Platzer, M., Howell, G.R., Burrows, C., Bird, C.P., Frankish, A., Lovell, F.L., Howe, K.L., Ashurst, J.L., Fulton, R.S., Sudbrak, R., Wen, G., et al. The DNA sequence of the human X chromosome. *Nature* 434: 325-337.
7. Chen, L., Li, X., Wang, G.L., Wang, Y., Zhu, Y.Y. and Zhu, J. 2008. Clinicopathological significance of overexpression of TSPAN1, Ki67 and CD34 in gastric carcinoma. *Tumori* 94: 531-538.

## CHROMOSOMAL LOCATION

Genetic locus: TSPAN6 (human) mapping to Xq22.1.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

TSPAN6 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TSPAN6 shRNA Plasmid (h): sc-90862-SH and TSPAN6 shRNA (h) Lentiviral Particles: sc-90862-V as alternate gene silencing products.

For independent verification of TSPAN6 (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-90862A, sc-90862B and sc-90862C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

TSPAN6 siRNA (h) is recommended for the inhibition of TSPAN6 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  $\mu$ M in 66  $\mu$ 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 TSPAN6 gene expression knockdown using RT-PCR Primer: TSPAN6 (h)-PR: sc-90862-PR (20  $\mu$ 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.