SANTA CRUZ BIOTECHNOLOGY, INC.

TMTC4 siRNA (h): sc-76694

BACKGROUND

The tetratricopeptide repeat (TPR) motif is a degenerate, 34 amino acid sequence found in many proteins and acts to mediate protein-protein interactions in various pathways. At the sequence level, there can be up to 16 tandem TPR repeats, each of which has a helix-turn-helix shape that stacks on other TPR repeats to achieve ligand binding specificity. TMTC4 (transmembrane and tetratricopeptide repeat containing 4) is a 741 amino acid multi-pass membrane protein that contains eight TPR repeats and is expressed as multiple alternatively spliced isoforms. The gene encoding TMTC4 maps to human chromosome 13q32.3, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome.

REFERENCES

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3. Cliff, M.J., et al. 2005. Molecular recognition via coupled folding and binding in a TPR domain. J. Mol. Biol. 346: 717-732.
4. Cortajarena, A.L. and Regan, L. 2006. Ligand binding by TPR domains. Protein Sci. 15: 1193-1198.
5. Kajander, T., et al. 2007. Structure and stability of designed TPR protein superhelices: unusual crystal packing and implications for natural TPR proteins. Acta Crystallogr. D Biol. Crystallogr. 63: 800-811.
6. Karpenahalli, M.R., et al. 2007. TPRpred: a tool for prediction of TPR-, PPR- and SEL1-like repeats from protein sequences. BMC Bioinformatics 8: 2.
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CHROMOSOMAL LOCATION

Genetic locus: TMTC4 (human) mapping to 13q32.3.

PRODUCT

TMTC4 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 TMTC4 shRNA Plasmid (h): sc-76694-SH and TMTC4 shRNA (h) Lentiviral Particles: sc-76694-V as alternate gene silencing products.

For independent verification of TMTC4 (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-76694A, sc-76694B and sc-76694C.

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

TMTC4 siRNA (h) is recommended for the inhibition of TMTC4 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 TMTC4 gene expression knockdown using RT-PCR Primer: TMTC4 (h)-PR: sc-76694-PR (20 µl). 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.