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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

TTC7A siRNA (m): sc-154780

BACKGROUND

The tetratricopeptide repeat (TPR) motif is a degenerate, 34 amino acid sequence found in many proteins that 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 associates with other TPR repeats to achieve ligand binding specificity. Murine TTC7 (tetratricopeptide repeat domain 7), also known as fsn, hea or Ttc7a, is an 858 amino acid protein containing eight TPR repeats. A member of the TPR repeat protein family, TTC7 is suggested to play an important role in iron transport. Murine TTC7 is expressed in skin, kidney, spleen and thymus, but is most abundant in germinal center B cells and hematopoietic stem cells, suggesting an important role in the development of immune system cells.

REFERENCES

1. Young, J.C., et al. 1998. Specific binding of tetratricopeptide repeat proteins to the C-terminal 12-kDa domain of Hsp90. *J. Biol. Chem.* 273: 18007-18010.
2. Demonacos, C., et al. 2001. A TPR motif cofactor contributes to p300 activity in the p53 response. *Mol. Cell* 8: 71-84.
3. White, R.A., et al. 2004. Chromosomal localization, hematologic characterization, and iron metabolism of the hereditary erythroblastic anemia (hea) mutant mouse. *Blood* 104: 1511-1518.
4. Cortajarena, A.L., et al. 2004. Protein design to understand peptide ligand recognition by tetratricopeptide repeat proteins. *Protein Eng. Des. Sel.* 17: 399-409.
5. Helms, C., et al. 2005. The tetratricopeptide repeat domain 7 gene is mutated in flaky skin mice: a model for psoriasis, autoimmunity, and anemia. *Exp. Biol. Med.* 230: 659-667.
6. White, R.A., et al. 2005. Positional cloning of the Ttc7 gene required for normal iron homeostasis and mutated in hea and fsn anemia mice. *Genomics* 85: 330-337.

CHROMOSOMAL LOCATION

Genetic locus: Ttc7 (mouse) mapping to 17 E4.

PRODUCT

TTC7A 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 TTC7A shRNA Plasmid (m): sc-154780-SH and TTC7A shRNA (m) Lentiviral Particles: sc-154780-V as alternate gene silencing products.

For independent verification of TTC7A (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-154780A, sc-154780B and sc-154780C.

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 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

TTC7A siRNA (m) is recommended for the inhibition of TTC7A 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 TTC7A gene expression knockdown using RT-PCR Primer: TTC7A (m)-PR: sc-154780-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.