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TTC30A siRNA (m): sc-154767

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. TTC30A (tetratricopeptide repeat domain 30A) and TTC30B (tetratricopeptide repeat domain 30B) are cell projection proteins that belong to the TTC30/dfy-1/fleer family. TTC30A and TTC30B contain eight TPR repeats and may be required for polyglutamylation of axonemal Tubulin. Both TTC30A and TTC30B may be involved in anterograde intraflagellar transport (IFT), which is a process where cilia precursors are transported from the base of the cilium to the site of incorporation at the tip. TTC30A and TTC30B consists of 665 amino acids and are encoded by a gene located on human chromosome 2q31.2.

REFERENCES

1. Young, J.C., Obermann, W.M. and Hartl, F.U. 1998. Specific binding of tetratricopeptide repeat proteins to the C-terminal 12-kDa domain of HSP 90. *J. Biol. Chem.* 273: 18007-18010.
2. Su, G., Roberts, T. and Cowell, J.K. 1999. TTC4, a novel human gene containing the tetratricopeptide repeat and mapping to the region of chromosome 1p31 that is frequently deleted in sporadic breast cancer. *Genomics* 55: 157-163.
3. Cortajarena, A.L., Kajander, T., Pan, W., Cocco, M.J. and Regan, L. 2004. Protein design to understand peptide ligand recognition by tetratricopeptide repeat proteins. *Protein Eng. Des. Sel.* 17: 399-409.
4. Lin, Z., Ho, C.W. and Grierson, D. 2009. AtTRP1 encodes a novel TPR protein that interacts with the ethylene receptor ERS1 and modulates development in *Arabidopsis*. *J. Exp. Bot.* 60: 3697-3714.
5. Zhang, Z., Roe, S.M., Diogon, M., Kong, E., El Alaoui, H. and Barford, D. 2010. Molecular structure of the N-terminal domain of the APC/C subunit Cdc27 reveals a homo-dimeric tetratricopeptide repeat architecture. *J. Mol. Biol.* 397: 1316-1328.
6. SWISS-PROT/TrEMBL (Q86WT1). World Wide Web URL: <http://www.uniprot.org/uniprot/Q86WT1>

CHROMOSOMAL LOCATION

Genetic locus: Ttc30a1 (mouse) mapping to 2 C3.

PRODUCT

TTC30A 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 TTC30A shRNA Plasmid (m): sc-154767-SH and TTC30A shRNA (m) Lentiviral Particles: sc-154767-V as alternate gene silencing products.

For independent verification of TTC30A (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-154767A, sc-154767B and sc-154767C.

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

TTC30A siRNA (m) is recommended for the inhibition of TTC30A 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.

GENE EXPRESSION MONITORING

TTC30A/B (A-10): sc-393206 is recommended as a control antibody for monitoring of TTC30A gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TTC30A gene expression knockdown using RT-PCR Primer: TTC30A (m)-PR: sc-154767-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.

PROTOCOLS

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