

TTC5 siRNA (h): sc-92262

BACKGROUND

The tetratricopeptide repeat (TRP) 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 TRP repeats, each of which has a helix-turn-helix shape that stacks on other TRP repeats to achieve ligand binding specificity. TTC5 (tetratricopeptide repeat domain 5), also known as Strap, is a 440 amino acid protein that contains 4 TRP repeats. Localized to both the nucleus and the cytoplasm, TTC5 functions as an adaptor protein that mediates p53 response pathways by regulating the assembly of multi-protein complexes. Through its interaction with p53, TTC5 increases the level of p53-dependent transcription and p53-induced apoptosis, thereby playing a role in cell cycle events. The protein structure and activity of TTC5 is enhanced upon phosphorylation at the Ser 203 residue in humans.

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. Dreger, M., et al. 2001. Nuclear envelope proteomics: novel integral membrane proteins of the inner nuclear membrane. *Proc. Natl. Acad. Sci. USA* 98: 11943-11948.
3. Demonacos, C., et al. 2001. A TRP motif cofactor contributes to p300 activity in the p53 response. *Mol. Cell* 8: 71-84.
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.

CHROMOSOMAL LOCATION

Genetic locus: TTC5 (human) mapping to 14q11.2.

PRODUCT

TTC5 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TTC5 shRNA Plasmid (h): sc-92262-SH and TTC5 shRNA (h) Lentiviral Particles: sc-92262-V as alternate gene silencing products.

For independent verification of TTC5 (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-92262A, sc-92262B and sc-92262C.

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

TTC5 siRNA (h) is recommended for the inhibition of TTC5 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 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 TTC5 gene expression knockdown using RT-PCR Primer: TTC5 (h)-PR: sc-92262-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.