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STRAP siRNA (h): sc-44129

BACKGROUND

Smad proteins play an important role in the intracellular signalling of the TGF β superfamily of extracellular polypeptides. Two Smad proteins, Smad6 and Smad7, function as antagonists to TGF β signalling. STRAP, another antagonist to the TGF β signalling pathway, specifically interacts with Smad7, but not Smad6, to synergistically block TGF β -induced transcriptional activation. The gene encoding the human homolog of STRAP (as designated in mouse), called unr-interacting protein, maps to chromosome 12p12.3. unr-interacting protein is 97% homologous to STRAP at the amino acid level. The unr-interacting protein binds unr, a cytoplasmic RNA-binding protein with five cold-shock domains that is involved in RNA translation. The presence of the STRAP gene in a variety of species from mammals to yeast, indicates that STRAP function is evolutionarily conserved in eukaryotic cells.

REFERENCES

1. Datta, P.K., et al. 1998. Identification of STRAP, a novel WD domain protein in transforming growth factor β signaling. *J. Biol. Chem.* 273: 34671-34674.
2. Hunt, S.L., et al. 1999. unr, a cellular cytoplasmic RNA-binding protein with five cold-shock domains, is required for internal initiation of translation of human rhinovirus RNA. *Genes Dev.* 13: 437-448.
3. Datta, P.K. and Moses, H.L. 2000. STRAP and Smad7 synergize in the inhibition of transforming growth factor β signaling. *Mol. Cell. Biol.* 20: 3157-3167.
4. Zhao, J., et al. 2000. Smad7 and Smad6 differentially modulate transforming growth factor β induced inhibition of embryonic lung morphogenesis. *J. Biol. Chem.* 275: 23992-23997.
5. LocusLink Report (LocusID: 11171). <http://www.ncbi.nlm.nih.gov/LocusLink>

CHROMOSOMAL LOCATION

Genetic locus: STRAP (human) mapping to 12p12.3.

PRODUCT

STRAP 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 STRAP shRNA Plasmid (h): sc-44129-SH and STRAP shRNA (h) Lentiviral Particles: sc-44129-V as alternate gene silencing products.

For independent verification of STRAP (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-44129A, sc-44129B and sc-44129C.

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.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20 $^{\circ}$ C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20 $^{\circ}$ 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

STRAP siRNA (h) is recommended for the inhibition of STRAP 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.

GENE EXPRESSION MONITORING

STRAP (E-8): sc-377345 is recommended as a control antibody for monitoring of STRAP 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 STRAP gene expression knockdown using RT-PCR Primer: STRAP (h)-PR: sc-44129-PR (20 μ l, 585 bp). Annealing temperature for the primers should be 55-60 $^{\circ}$ C and the extension temperature should be 68-72 $^{\circ}$ C.