

UTY siRNA (m): sc-154961

BACKGROUND

Tup1 and Ssn6 are yeast proteins that, after being recruited to different promoter regions by DNA-binding proteins, form a transcription repressor complex that regulates gene expression. The Groucho/transducin-like enhancer of split (TLE) family is the vertebrate ortholog of the Tup family and is functionally paired with the vertebrate Ssn6-like protein UTY. UTY is a product of the ubiquitously transcribed tetratricopeptide-repeat genes found on the Y chromosome. Interacting with TLE1 or TLE2, UTY acts to regulate the expression of particular genes. A related gene, found on the X chromosome, encodes the UTX protein that functions in a similar manner.

REFERENCES

1. Redd, M.J., Arnaud, M.B. and Johnson, A.D. 1997. A complex composed of Tup1 and Ssn6 represses transcription *in vitro*. *J. Biol. Chem.* 272: 11193-11197.
2. Grbavec, D., Lo, R., Liu, Y. and Stifani, S. 1998. Transducin-like Enhancer of split 2, a mammalian homologue of *Drosophila* Groucho, acts as a transcriptional repressor, interacts with Hairy/Enhancer of split proteins, and is expressed during neuronal development. *Eur. J. Biochem.* 258: 339-349.
3. Grbavec, D., Lo, R., Liu, Y., Greenfield, A. and Stifani, S. 1999. Groucho/transducin-like enhancer of split (TLE) family members interact with the yeast transcriptional co-repressor Ssn6 and mammalian Ssn6-related proteins: implications for evolutionary conservation of transcription repression mechanisms. *Biochem. J.* 337: 13-17.
4. Mennella, T.A., Klinkenberg, L.G. and Zitomer, R.S. 2003. Recruitment of Tup1-Ssn6 by yeast hypoxic genes and chromatin-independent exclusion of TATA binding protein. *Eukaryotic Cell* 2: 1288-1303.
5. Malavé, T.M. and Dent, S.Y. 2006. Transcriptional repression by Tup1-Ssn6. *Biochem. Cell Biol.* 84: 437-443.
6. Bernard, S., Cajavec, B., Pujo-Menjouet, L., Mackey, M.C. and Herzog, H. 2006. Modelling transcriptional feedback loops: the role of Gro/TLE1 in HES1 oscillations. *Philos. Transact. A Math. Phys. Eng. Sci.* 364: 1155-1170.

CHROMOSOMAL LOCATION

Genetic locus: Uty (mouse) mapping to Y A1.

PRODUCT

UTY 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 UTY shRNA Plasmid (m): sc-154961-SH and UTY shRNA (m) Lentiviral Particles: sc-154961-V as alternate gene silencing products.

For independent verification of UTY (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-154961A, sc-154961B and sc-154961C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

UTY siRNA (m) is recommended for the inhibition of UTY 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

UTY (G-3): sc-514690 is recommended as a control antibody for monitoring of UTY 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 UTY gene expression knockdown using RT-PCR Primer: UTY (m)-PR: sc-154961-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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