

SPT3 siRNA (m): sc-153801

BACKGROUND

The *Saccharomyces cerevisiae* SAGA complex is a multifunctional coactivator that regulates transcription by RNA polymerase II. In yeast, SPT3 is a component of the multiprotein SPT-ADA-GCN5 acetyltransferase (SAGA) complex that integrates proteins with transcription coactivator/adaptor functions, histone acetyltransferase activity, and core promoter-selective functions involving interactions with the TATA-binding protein. The human STAGA complex contains homologs of most yeast SAGA components. STAGA has acetyl coenzyme A-dependent transcriptional coactivator functions from a chromatin-assembled template *in vitro* and associates in HeLa cells with spliceosome-associated proteins. Amino acid sequence comparisons between human SPT3 and its counterparts in yeast reveal three highly conserved domains, with the most conserved 92-amino acid N-terminal domain being 25% identical with human TAFII18.

REFERENCES

1. Collart, M.A. 1996. The NOT, SPT3, and MOT1 genes functionally interact to regulate transcription at core promoters. *Mol. Cell. Biol.* 16: 6668-6676.
2. Yu, J., et al. 1998. Characterization of a human homologue of the *Saccharomyces cerevisiae* transcription factor spt3 (SUPT3H). *Genomics* 53: 90-96.
3. Birck, C., et al. 1998. Human TAF(II)28 and TAF(II)18 interact through a histone fold encoded by atypical evolutionary conserved motifs also found in the SPT3 family. *Cell* 94: 239-249.
4. Martinez, E., et al. 1998. A human SPT3-TAFII31-GCN5-L acetylase complex distinct from transcription factor IID. *J. Biol. Chem.* 273: 23781-23785.
5. Belotserkovskaya, R., et al. 2000. Inhibition of TATA-binding protein function by SAGA subunits Spt3 and Spt8 at Gcn4-activated promoters. *Mol. Cell. Biol.* 20: 634-647.
6. Martinez, E., et al. 2001. Human STAGA complex is a chromatin-acetylating transcription coactivator that interacts with pre-mRNA splicing and DNA damage-binding factors *in vivo*. *Mol. Cell. Biol.* 21: 6782-6795.

CHROMOSOMAL LOCATION

Genetic locus: Supt3h (mouse) mapping to 17 B3.

PRODUCT

SPT3 siRNA (m) is a pool of 2 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 SPT3 shRNA Plasmid (m): sc-153801-SH and SPT3 shRNA (m) Lentiviral Particles: sc-153801-V as alternate gene silencing products.

For independent verification of SPT3 (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-153801A and sc-153801B.

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

SPT3 siRNA (m) is recommended for the inhibition of SPT3 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 SPT3 gene expression knockdown using RT-PCR Primer: SPT3 (m)-PR: sc-153801-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.