SANTA CRUZ BIOTECHNOLOGY, INC.

ELP3 siRNA (m): sc-144635

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

In *Saccharomyces cerevisiae*, the hyperphosphorylated form of RNA polymerase II (RNAP II) mediates transcription elongation, and associates with the Elongator complex, which contains six subunits. The Elongator complex can be separated into two subcomplexes; one consisting of Elp1, Elp2 and Elp3, and the other consisting of Elp4, Elp5 and Elp6. The Elongator complex acetylates both core histones and nucleosomal substrates, and directs its activity specifically towards the N-terminal tails of Histone H3 and Histone H4. Elp3, the histone acetyltransferase subunit of the Elongator complex, is required for sufficient acetylation of Histones H3 and H4. In mammals, ELP3 (elongation protein 3 homolog), also known as KAT9, is a 547 amino acid protein that localizes to both the nucleus and the cytoplasm and is a functional homolog of yeast Elp3. Like its yeast counterpart, ELP3 exists as a catalytic subunit of the Pol II elongator complex, thereby playing a role in Histone acetylation and chromatin remodeling. Multiple isoforms of ELP3 exist due to alternative splicing events.

REFERENCES

1. Wittschieben, B.O., Otero, G., de Bizemont, T., Fellows, J., Erdjument-Bromage, H., Ohba, R., Li, Y., Allis, C.D., Tempst, P. and Svejstrup, J.Q. 1999. A novel histone acetyltransferase is an integral subunit of elongating RNA polymerase II holoenzyme. Mol. Cell 4: 123-128.
2. Winkler, G.S., Petrakis, T.G., Ethelberg, S., Tokunaga, M., Erdjument-Bromage, H., Tempst, P. and Svejstrup, J.Q. 2001. RNA polymerase II elongator holoenzyme is composed of two discrete subcomplexes. J. Biol. Chem. 276: 32743-32749.
3. Krogan, N.J. and Greenblatt, J.F. 2001. Characterization of a six-subunit holo-elongator complex required for the regulated expression of a group of genes in *Saccharomyces cerevisiae*. Mol. Cell. Biol. 21: 8203-8212.
4. Kim, J.H., Lane, W.S. and Reinberg, D. 2002. Human Elongator facilitates RNA polymerase II transcription through chromatin. Proc. Natl. Acad. Sci. USA 99: 1241-1246.

CHROMOSOMAL LOCATION

Genetic locus: Elp3 (mouse) mapping to 14 D1.

PRODUCT

ELP3 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ELP3 shRNA Plasmid (m): sc-144635-SH and ELP3 shRNA (m) Lentiviral Particles: sc-144635-V as alternate gene silencing products.

For independent verification of ELP3 (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-144635A, sc-144635B and sc-144635C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ELP3 siRNA (m) is recommended for the inhibition of ELP3 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 µM in 66 µl. 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 ELP3 gene expression knockdown using RT-PCR Primer: ELP3 (m)-PR: sc-144635-PR (20 µl). 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.