SANTA CRUZ BIOTECHNOLOGY, INC.

CPSF3L siRNA (m): sc-142548

BACKGROUND

RNA polymerase II (Pol II) is an enzyme that is composed of twelve subunits and is responsible for the transcription of protein-coding genes. Transcription initiation requires Pol II-mediated recruitment of transcription machinery to a target promoter, thereby allowing transcription to begin. The integrator complex is a multi-protein complex that associates with the C-terminal domain of Pol II and is involved in small nuclear RNA (snRNA) transcription and 3'-end processing. This interaction is facilitated by phosphorylation of serine-7 on Pol II. CPSF3L (Cleavage and polyadenylation-specific factor 3-like protein), also known as Integrator complex subunit 11 (INTS11), is a 600 amino acid protein that is a component of the integrator complex and is expressed as three isoforms.

REFERENCES

1. Uguen, P. and Murphy, S. 2003. The 3' ends of human pre-snRNAs are produced by RNA polymerase II CTD-dependent RNA processing. EMBO J. 22: 4544-4554.
2. Jacobs, E.Y., Ogiwara, I. and Weiner, A.M. 2004. Role of the C-terminal domain of RNA polymerase II in U2 snRNA transcription and 3' processing. Mol. Cell. Biol. 24: 846-855.
3. Baillat, D., Hakimi, M.A., Näär, A.M., Shilatifard, A., Cooch, N. and Shiekhattar, R. 2005. Integrator, a multiprotein mediator of small nuclear RNA processing, associates with the C-terminal repeat of RNA polymerase II. Cell 123: 265-276.
4. Weiner, A.M. 2005. E Pluribus Unum: 3' end formation of polyadenylated mRNAs, histone mRNAs, and U snRNAs. Mol. Cell 20: 168-170.
5. Matera, A.G., Terns, R.M. and Terns, M.P. 2007. Non-coding RNAs: lessons from the small nuclear and small nucleolar RNAs. Nat. Rev. Mol. Cell Biol. 8: 209-220.
6. Egloff, S., O'Reilly, D., Chapman, R.D., Taylor, A., Tanzhaus, K., Pitts, L., Eick, D. and Murphy, S. 2007. Serine-7 of the RNA polymerase II CTD is specifically required for snRNA gene expression. Science 318: 1777-1779.
7. Egloff, S., O'Reilly, D. and Murphy, S. 2008. Expression of human snRNA genes from beginning to end. Biochem. Soc. Trans. 36: 590-594.

CHROMOSOMAL LOCATION

Genetic locus: Cpsf3l (mouse) mapping to 4 E2.

PRODUCT

CPSF3L 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 CPSF3L shRNA Plasmid (m): sc-142548-SH and CPSF3L shRNA (m) Lentiviral Particles: sc-142548-V as alternate gene silencing products.

For independent verification of CPSF3L (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-142548A, sc-142548B and sc-142548C.

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

CPSF3L siRNA (m) is recommended for the inhibition of CPSF3L 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 CPSF3L gene expression knockdown using RT-PCR Primer: CPSF3L (m)-PR: sc-142548-PR (20 µl). 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.