SANTA CRUZ BIOTECHNOLOGY, INC.

INTS2 siRNA (h): sc-93707

BACKGROUND

RNA polymerase II (Pol II) is an enzyme that is composed of 12 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. INTS2 (integrator complex subunit 2) is a 1,204 amino acid single-pass membrane protein and is a subunit of the Integrator complex, which associates with the C-terminal domain of the RNA polymerase II large subunit and mediates 3' end processing of small nuclear RNAs U1 and U2.

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., et al. 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., et al. 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. Egloff, S., et al. 2007. Serine-7 of the RNA polymerase II CTD is specifically required for snRNA gene expression. Science 318: 1777-1779.
5. Inagaki, Y., et al. 2008. CREB3L4, INTS3, and SNAPAP are targets for the 1q21 amplicon frequently detected in hepatocellular carcinoma. Cancer Genet. Cytogenet. 180: 30-36.
6. Richard, D.J., et al. 2008. Single-stranded DNA-binding protein hSSB1 is critical for genomic stability. Nature 453: 677-681.
7. Li, Y., et al. 2009. HSSB1 and hSSB2 form similar multiprotein complexes that participate in DNA damage response. J. Biol. Chem. 284: 23525-23531.
8. Skaar, J.R., et al. 2009. INTS3 controls the hSSB1-mediated DNA damage response. J. Cell Biol. 187: 25-32.

CHROMOSOMAL LOCATION

Genetic locus: INTS2 (human) mapping to 17q23.2.

PRODUCT

INTS2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see INTS2 shRNA Plasmid (h): sc-93707-SH and INTS2 shRNA (h) Lentiviral Particles: sc-93707-V as alternate gene silencing products.

For independent verification of INTS2 (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-93707A, sc-93707B and sc-93707C.

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

INTS2 siRNA (h) is recommended for the inhibition of INTS2 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 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.

GENE EXPRESSION MONITORING

INTS2 (A-5): sc-514945 is recommended as a control antibody for monitoring of INTS2 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 INTS2 gene expression knockdown using RT-PCR Primer: INTS2 (h)-PR: sc-93707-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.