SANTA CRUZ BIOTECHNOLOGY, INC.

SLU7 siRNA (m): sc-38373

BACKGROUND

In order to produce correctly spliced messenger RNA, two catalytic splicing steps are required. After catalytic step I, a major remodeling of the spliceosome occurs to establish the active site for step II. During the second step of mRNA splicing, exon 1 attacks an adenine-guanine (AG) dinucleotide at the 3' splice site. SLU7, the human homolog of the yeast step II splice factor SLU7, is required for selection of the correct AG. Human SLU7 associates with the spliceosome late in the splicing pathway prior to recognition of the 3' splice site for step II. SLU7 depletion in HeLa nuclear extract reveals that SLU7 is required to hold exon 1 tightly within the spliceosome for attack on a prespecified AG.

REFERENCES

1. Frank, D. and Guthrie, C. 1992. An essential splicing factor, SLU7, mediates 3' splice site choice in yeast. Genes Dev. 6: 2112-2224.
2. Ansari, A and Schwer, B. 1995. SLU7 and a novel activity, SSF1, act during the PRP16-dependent step of yeast pre-mRNA splicing. EMBO J. 14: 4001-4009.
3. Brys, A. and Schwer, B. 1996. Requirement for SLU7 in yeast pre-mRNA splicing is dictated by the distance between the branchpoint and the 3' splice site. RNA 2: 707-717.
4. Zhang, X. and Schwer, B. 1997. Functional and physical interaction between the yeast splicing factors SLU7 and PRP18. Nucleic Acids Res. 25: 2146-2152.
5. Staley, J.P. and Guthrie, C. 1998. Mechanical devices of the spliceosome: motors, clocks, springs, and things. Cell 92: 315-326.
6. Chua, K. and Reed, R. 1999. The RNA splicing factor hSLU7 is required for correct 3' splice-site choice. Nature 402: 207-210.
7. Chua, K. and Reed, R. 1999. Human step II splicing factor hSLU7 functions in restructuring the spliceosome between the catalytic steps of splicing. Genes Dev. 13: 841-850.
8. James, S.A., Turner, W. and Schwer, B. 2002. How SLU7 and PRP18 cooperate in the second step of yeast pre-mRNA splicing. RNA 8: 1068-1077.

CHROMOSOMAL LOCATION

Genetic locus: Slu7 (mouse) mapping to 11 A5.

PRODUCT

SLU7 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 SLU7 shRNA Plasmid (m): sc-38373-SH and SLU7 shRNA (m) Lentiviral Particles: sc-38373-V as alternate gene silencing products.

For independent verification of SLU7 (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-38373A, sc-38373B and sc-38373C.

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

SLU7 siRNA (m) is recommended for the inhibition of SLU7 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.

GENE EXPRESSION MONITORING

SLU7 (B-11): sc-376985 is recommended as a control antibody for monitoring of SLU7 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 SLU7 gene expression knockdown using RT-PCR Primer: SLU7 (m)-PR: sc-38373-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.