

SLU7 (G-3): sc-393664

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., et al. 2002. How SLU7 and PRP18 cooperate in the second step of yeast pre-mRNA splicing. *RNA* 8: 1068-1077.

CHROMOSOMAL LOCATION

Genetic locus: SLU7 (human) mapping to 5q33.3.

SOURCE

SLU7 (G-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-22 at the N-terminus of SLU7 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-393664 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-393664 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SLU7 (G-3) is recommended for detection of SLU7 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SLU7 siRNA (h): sc-38372, SLU7 shRNA Plasmid (h): sc-38372-SH and SLU7 shRNA (h) Lentiviral Particles: sc-38372-V.

SLU7 (G-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

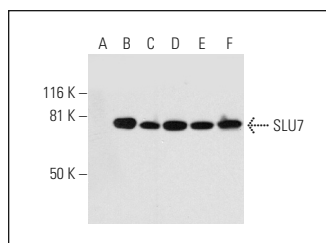
Molecular Weight of SLU7: 70 kDa.

Positive Controls: SLU7 (h): 293 Lysate: sc-111150, BJAB nuclear extract: sc-2145 or Y79 nuclear extract: sc-2126.

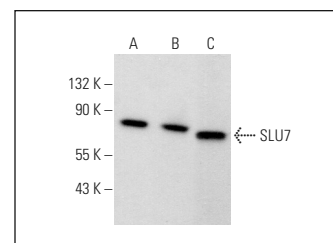
RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



SLU7 (G-3): sc-393664. Western blot analysis of SLU7 expression in non-transfected: sc-110760 (A) and human SLU7 transfected: sc-111150 (B) 293 whole cell lysates and HeLa (C), BJAB (D), MCF7 (E) and Y79 (F) nuclear extracts.



SLU7 (G-3): sc-393664. Western blot analysis of SLU7 expression in MCF7 nuclear extract (A) and MDA-MB-231 (B) and COLO 205 (C) whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.