

PRP6 (D-4): sc-166890

BACKGROUND

Assembly of pre-mRNA spliceosomes requires the interaction between snRNPs U4/U6 and U5 to form the [U4/U6.U5] tri-snRNP. In yeast, the small nuclear ribonucleoprotein-associating protein, Prp6p is necessary for the accumulation of the [U4/U6.U5] tri-snRNP. Yeast Prp6p is uniquely located in discrete subnuclear regions, similar to the subnuclear localization of mammalian splicing components. Isolated from HeLa nuclear extract, mammalian PRP6 shares conserved tetrapeptide repeats with yeast Prp6p, making PRP6 the mammalian homolog of yeast Prp6p. In contrast to yeast Prp6p, which is specific for U4/U6, the human PRP6 interacts within the tri-snRNP with both the U5 and the U4/U6 snRNPs via protein-protein interactions, thus providing a bridge that connects the two snRNP particles.

REFERENCES

1. Abovich, N., et al. 1990. The yeast PRP6 gene encodes a U4/U6 small nuclear ribonucleoprotein particle (snRNP), and the PRP9 gene encodes a protein required for U2 snRNP binding. *Mol. Cell. Biol.* 10: 6417-6425.
2. Blanton, S., et al. 1992. PRP38 encodes a yeast protein required for pre-mRNA splicing and maintenance of stable U6 small nuclear RNA levels. *Mol. Cell. Biol.* 12: 3939-3947.
3. Elliott, D.J., et al. 1992. A yeast splicing factor is localized in discrete subnuclear domains. *EMBO J.* 11: 3731-3736.
4. Galisson, F., et al. 1993. The biochemical defects of Prp4-1 and Prp6-1 yeast splicing mutants reveal that the PRP6 protein is required for the accumulation of the [U4/U6.U5] tri-snRNP. *Nucleic Acids Res.* 21: 1555-1562.
5. Makarov, E.M., et al. 2000. The human homologue of the yeast splicing factor Prp6p contains multiple TPR elements and is stably associated with the U5 snRNP via protein-protein interactions. *J. Mol. Biol.* 298: 567-575.

CHROMOSOMAL LOCATION

Genetic locus: PRPF6 (human) mapping to 20q13.33; Prpf6 (mouse) mapping to 2 H4.

SOURCE

PRP6 (D-4) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of PRP6 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-166890 X, 200 µg/0.1 ml.

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.

APPLICATIONS

PRP6 (D-4) is recommended for detection of PRP6 of mouse, rat and 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 PRP6 siRNA (h): sc-38207, PRP6 siRNA (m): sc-38208, PRP6 shRNA Plasmid (h): sc-38207-SH, PRP6 shRNA Plasmid (m): sc-38208-SH, PRP6 shRNA (h) Lentiviral Particles: sc-38207-V and PRP6 shRNA (m) Lentiviral Particles: sc-38208-V.

PRP6 (D-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

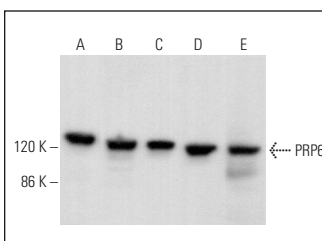
Molecular Weight of PRP6: 102 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or SW480 cell lysate: sc-2219.

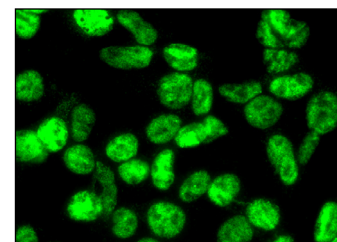
RECOMMENDED SUPPORT REAGENTS

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



PRP6 (D-4): sc-166890. Western blot analysis of PRP6 expression in HeLa (A), SW480 (B), Jurkat (C) and TK-1 (D) whole cell lysates and rat thymus tissue extract (E).



PRP6 (D-4): sc-166890. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.