

PRP6 (B-1): sc-166889

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-associated 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.

CHROMOSOMAL LOCATION

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

SOURCE

PRP6 (B-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-300 at the N-terminus of PRP6 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} 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-166889 X, 200 µg/0.1 ml.

PRP6 (B-1) is available conjugated to agarose (sc-166889 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166889 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166889 PE), fluorescein (sc-166889 FITC), Alexa Fluor® 488 (sc-166889 AF488), Alexa Fluor® 546 (sc-166889 AF546), Alexa Fluor® 594 (sc-166889 AF594) or Alexa Fluor® 647 (sc-166889 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166889 AF680) or Alexa Fluor® 790 (sc-166889 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

PROTOCOLS

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

APPLICATIONS

PRP6 (B-1) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

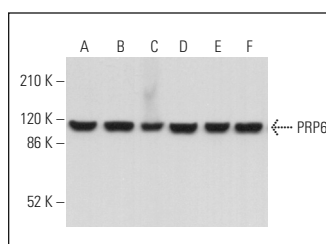
Suitable for use as control antibody for PRP6 siRNA (h): sc-38207, PRP6 siRNA (m): sc-38208, PRP6 shRNA Plasmid (h): sc-38207-SH, PRP6 shRNA Plasmid (m): sc-38208-SH, PRP6 shRNA (h) Lentiviral Particles: sc-38207-V and PRP6 shRNA (m) Lentiviral Particles: sc-38208-V.

PRP6 (B-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

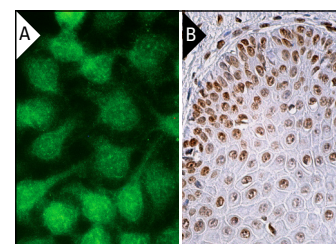
Molecular Weight of PRP6: 102 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, Jurkat nuclear extract: sc-2132 or HL-60 nuclear extract: sc-2147.

DATA



PRP6 (B-1): sc-166889. Western blot analysis of PRP6 expression in K-562 (A), HL-60 (B) and Jurkat (C) nuclear extracts and Jurkat (D), K-562 (E) and HL-60 (F) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



PRP6 (B-1): sc-166889. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing nuclear staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

1. Guo, Y.Y., et al. 2017. Ubiquitin C-terminal hydrolase L1 (UCH-L1) promotes hippocampus-dependent memory via its deubiquitinating effect on TrkB. *J. Neurosci.* 37: 5978-5995.
2. Liu, W., et al. 2021. PRPF6 promotes androgen receptor/androgen receptor-variant 7 actions in castration-resistant prostate cancer cells. *Int. J. Biol. Sci.* 17: 188-203.
3. Klimešová, K., et al. 2021. TSSC4 is a component of U5 snRNP that promotes tri-snRNP formation. *Nat. Commun.* 12: 3646.
4. Nazlamova, L., et al. 2022. Microtubule modification defects underlie cilium degeneration in cell models of retinitis pigmentosa associated with pre-mRNA splicing factor mutations. *Front. Genet.* 13: 1009430.

RESEARCH USE

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