SANTA CRUZ BIOTECHNOLOGY, INC.

PRP19 (G-7): sc-514338

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The spliceosome, the gigantic molecular machine that performs pre-mRNA splicing in eukaryotes, contains over 200 different proteins and 5 RNA molecules (U1, U2, U4, U5 and U6). Pre-mRNA splicing is essential to remove internal non-coding regions of pre-mRNA (introns) and to join the remaining segments (exons) into mRNA before translation. The PRP19-associated complex is required for stable association of U5 and U6 with the spliceosome after U4 is released. Changes within the spliceosome upon binding of the PRP19-associated complex include remodeling of the U6/5' splice site interaction and destabilization of Lsm proteins to allow further interaction of U6 with the intron sequence.

CHROMOSOMAL LOCATION

Genetic locus: PRPF19 (human) mapping to 11q12.2; Prpf19 (mouse) mapping to 19 A.

SOURCE

PRP19 (G-7) is a mouse monoclonal antibody raised against amino acids 141-300 mapping within an internal region of PRP19 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.

PRP19 (G-7) is available conjugated to agarose (sc-514338 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514338 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514338 PE), fluorescein (sc-514338 FITC), Alexa Fluor® 488 (sc-514338 AF488), Alexa Fluor® 546 (sc-514338 AF546), Alexa Fluor® 594 (sc-514338 AF594) or Alexa Fluor® 647 (sc-514338 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514338 AF680) or Alexa Fluor® 790 (sc-514338 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PRP19 (G-7) is recommended for detection of PRP19 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 PRP19 siRNA (h): sc-61415, PRP19 siRNA (m): sc-61416, PRP19 shRNA Plasmid (h): sc-61415-SH, PRP19 shRNA Plasmid (m): sc-61416-SH, PRP19 shRNA (h) Lentiviral Particles: sc-61415-V and PRP19 shRNA (m) Lentiviral Particles: sc-61416-V.

Molecular Weight of PRP19: 54 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Jurkat whole cell lysate: sc-2204 or MCF7 whole cell lysate: sc-2206.

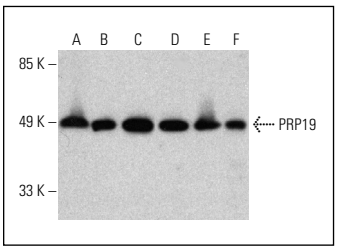
RESEARCH USE

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

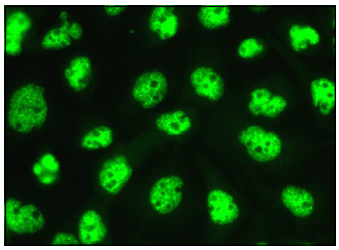
STORAGE

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

DATA



PRP19 (G-7) HRP: sc-514338 HRP. Direct western blot analysis of PRP19 expression in MCF7 (**A**), PC-12 (**B**), Jurkat (**C**), A-431 (**D**) and NIH/3T3 (**E**) whole cell lysates and HeLa nuclear extract (**F**).



PRP19 (G-7): sc-514338. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Zheng, J., et al. 2016. Pancreatic cancer risk variant in LINC00673 creates a miR-1231 binding site and interferes with PTPN11 degradation. Nat. Genet. 48: 747-757.
2. Wagner, K., et al. 2019. The SUMO isopeptidase SENP6 functions as a rheostat of chromatin residency in genome maintenance and chromosome dynamics. Cell Rep. 29: 480-494.e5.
3. Klimešová, K., et al. 2021. TSSC4 is a component of U5 snRNP that promotes tri-snRNP formation. Nat. Commun. 12: 3646.
4. Schick, M., et al. 2022. Genetic alterations of the SUMO isopeptidase SENP6 drive lymphomagenesis and genetic instability in diffuse large B-cell lymphoma. Nat. Commun. 13: 281.
5. Clement, E.J., et al. 2022. Combined alcohol exposure and KRAS mutation in human pancreatic ductal epithelial cells induces proliferation and alters subtype signatures determined by multi-omics analysis. Cancers 14: 1968.
6. Obuca, M., et al. 2022. Retinitis pigmentosa-linked mutation in DHX38 modulates its splicing activity. PLoS ONE 17: e0265742.
7. Klimešová, K., et al. 2023. SART3 associates with a post-splicing complex. J. Cell Sci. 136: jcs260380.
8. Zhang, B., et al. 2023. ADAR1 links R-loop homeostasis to ATR activation in replication stress response. Nucleic Acids Res. 51: 11668-11687.
9. Yang, B.Z., et al. 2024. DHX9 SUMOylation is required for the suppression of R-loop-associated genome instability. Nat. Commun. 15: 6009.

PROTOCOLS

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