SANTA CRUZ BIOTECHNOLOGY, INC.

PLRG1 (B-7): sc-376729

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

WD-repeats are motifs that are found in a variety of proteins and are characterized by a conserved core of 40-60 amino acids that commonly form a tertiary propeller structure. While proteins that contain WD-repeats participate in a wide range of cellular functions, they are generally involved in regulatory mechanisms concerning chromatin assembly, cell cycle control, signal transduction, RNA processing, apoptosis and vesicular trafficking. PLRG1 (pleiotropic regulator 1), also known as PRL1, is a 514 amino acid protein that localizes to nuclear speckles and contains seven WD repeats. Existing as a component of the multiprotein Cdc5L complex, PLRG1 plays an essential role in spliceosome assembly and subsequent pre-mRNA splicing.

REFERENCES

1. Neer, E.J., et al. 1994. The ancient regulatory-protein family of WD-repeat proteins. Nature 371: 297-300.
2. Nemeth, K., et al. 1998. Pleiotropic control of glucose and hormone responses by PRL1, a nuclear WD protein, in *Arabidopsis.* Genes Dev. 12: 3059-3073.
3. Smith, T.F., et al. 1999. The WD repeat: a common architecture for diverse functions. Trends Biochem. Sci. 24: 181-185.
4. Ajuh, P., et al. 2000. Functional analysis of the human CDC5L complex and identification of its components by mass spectrometry. EMBO J. 19: 6569-6581.
5. Ajuh, P., et al. 2001. A direct interaction between the carboxyl-terminal region of CDC5L and the WD40 domain of PLRG1 is essential for pre-mRNA splicing. J. Biol. Chem. 276: 42370-42381.
6. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605961. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Rappsilber, J., et al. 2002. Large-scale proteomic analysis of the human spliceosome. Genome Res. 12: 1231-1245.

CHROMOSOMAL LOCATION

Genetic locus: PLRG1 (human) mapping to 4q31.3; Plrg1 (mouse) mapping to 3 E3.

SOURCE

PLRG1 (B-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 127-165 within an internal region of PLRG1 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.

Blocking peptide available for competition studies, sc-376729 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PLRG1 (B-7) is recommended for detection of PLRG1 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 PLRG1 siRNA (h): sc-76170, PLRG1 siRNA (m): sc-76171, PLRG1 shRNA Plasmid (h): sc-76170-SH, PLRG1 shRNA Plasmid (m): sc-76171-SH, PLRG1 shRNA (h) Lentiviral Particles: sc-76170-V and PLRG1 shRNA (m) Lentiviral Particles: sc-76171-V.

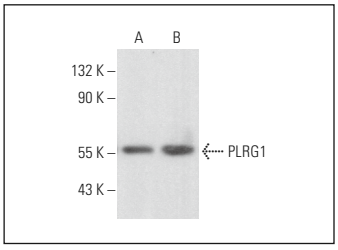
Molecular Weight of PLRG1: 54 kDa.

Positive Controls: K-562 nuclear extract: sc-2130 or HL-60 whole cell lysate: sc-2209.

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



PLRG1 (B-7): sc-376729. Western blot analysis of PLRG1 expression in HL-60 whole cell lysate (**A**) and K-562 nuclear extract (**B**).

SELECT PRODUCT CITATIONS

1. Dumbovic, G., et al. 2018. A novel long non-coding RNA from NBL2 pericentromeric macrosatellite forms a perinucleolar aggregate structure in colon cancer. Nucleic Acids Res. 46: 5504-5524.

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.