

PNPase (G-11): sc-365049

BACKGROUND

Mitochondrial polyribonucleotide nucleotidyltransferase, also designated 3'-5' RNA exonuclease, OLD35, PNPase or PNPT1, is an evolutionally conserved protein in which the mouse protein shares 90% identity with the human version. PNPase (polyribonucleotide nucleotidyltransferase 1) participates in mRNA degradation and hydrolyzes single-stranded ribonucleotides in the 3' to 5' direction. PNPase forms homotrimers and is upregulated in response to interferon- β induction. The N-terminus of PNPase contains a putative mitochondrial targeting sequence; mutation analysis confirms that N-terminal sequences of PNPase target the protein to the mitochondria. Endogenous PNPase also co-localizes with a mitochondrial marker protein in HeLa cells.

CHROMOSOMAL LOCATION

Genetic locus: PNPT1 (human) mapping to 2p16.1; Pnpt1 (mouse) mapping to 11 A3.3.

SOURCE

PNPase (G-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 85-117 near the N-terminus of PNPase of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ 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-365049 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

PNPase (G-11) is recommended for detection of PNPase of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

PNPase (G-11) is also recommended for detection of PNPase in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for PNPase siRNA (h): sc-61371, PNPase siRNA (m): sc-61372, PNPase shRNA Plasmid (h): sc-61371-SH, PNPase shRNA Plasmid (m): sc-61372-SH, PNPase shRNA (h) Lentiviral Particles: sc-61371-V and PNPase shRNA (m) Lentiviral Particles: sc-61372-V.

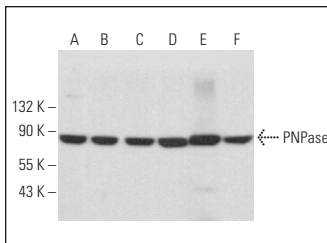
Molecular Weight of PNPase: 88 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, BYDP whole cell lysate: sc-364368 or RAW 264.7 whole cell lysate: sc-2211.

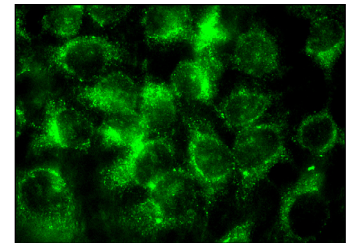
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



PNPase (G-11): sc-365049. Western blot analysis of PNPase expression in NIH/3T3 (A), BYDP (B), RAW 264.7 (C), WEHI-231 (D), Ramos (E) and ALL-SIL (F) whole cell lysates.



PNPase (G-11): sc-365049. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Khaw, S.L., et al. 2015. Oocyte factors suppress mitochondrial polynucleotide phosphorylase to remodel the metabolome and enhance reprogramming. *Cell Rep.* 12: 1080-1088.
2. Sunkavalli, U., et al. 2017. Analysis of host microRNA function uncovers a role for miR-29b-2-5p in *Shigella* capture by filopodia. *PLoS Pathog.* 13: e1006327.
3. Ohkubo, A., et al. 2021. The FASTK family proteins fine-tune mitochondrial RNA processing. *PLoS Genet.* 17: e1009873.

RESEARCH USE

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

PROTOCOLS

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