

PNPase (A-4): sc-271690

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.

REFERENCES

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4. Sarkar, D., et al. 2005. Defining the domains of human polynucleotide phosphorylase (hPNPaseOLD-35) mediating cellular senescence. *Mol. Cell. Biol.* 25: 7333-7343.
5. Gewartowski, K., et al. 2006. Upregulation of human PNPase mRNA by β -interferon has no effect on protein level in melanoma cell lines. *Acta Biochim. Pol.* 53: 179-188.
6. Chen, H.W., et al. 2007. Human polynucleotide phosphorylase: location matters. *Trends Cell Biol.* 17: 600-608.
7. Portnoy, V., et al. 2008. Analysis of the human polynucleotide phosphorylase (PNPase) reveals differences in RNA binding and response to phosphate compared to its bacterial and chloroplast counterparts. *RNA* 14: 297-309.
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CHROMOSOMAL LOCATION

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

SOURCE

PNPase (A-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 85-117 near the N-terminus of PNPase of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 μ g IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271690 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PNPase (A-4) 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).

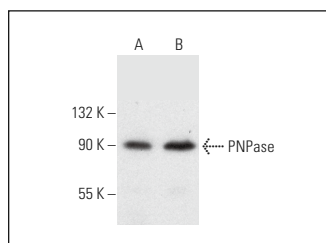
PNPase (A-4) is also recommended for detection of PNPase in additional species, including canine, bovine and porcine.

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: HeLa whole cell lysate: sc-2200 or SK-MEL-28 cell lysate: sc-2236.

DATA



PNPase (A-4): sc-271690. Western blot analysis of PNPase expression in HeLa (A) and SK-MEL-28 (B) whole cell lysates.

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.