

# PNPase (G-20): sc-49313

## BACKGROUND

Mitochondrial polyribonucleotide nucleotidyltransferase, also designated 3'-5' RNA exonuclease OLD35, PNPase or PNPT1, is an evolutionarily conserved protein in which the mouse protein shares 90% identity with the human version. PNPase participates in mRNA degradation and hydrolyzes single-stranded ribonucleotides in the 3' to 5' direction. It forms homotrimers and is upregulated in response to interferon- $\beta$  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

- Bermudez-Cruz, R.M., Fernandez-Ramirez, F., Kameyama-Kawabe, L. and Montanez, C. 2005. Conserved domains in polynucleotide phosphorylase among eubacteria. *Biochimie* 87: 737-745.
- Bollenbach, T.J., Lange, H., Gutierrez, R., Erhardt, M., Stern, D.B. and Gagliardi, D. 2005. RNR1, a 3'-5' exoribonuclease belonging to the RNR superfamily, catalyzes 3' maturation of chloroplast ribosomal RNAs in *Arabidopsis thaliana*. *Nucleic Acids Res.* 33: 2751-2763.
- Oussenko, I.A., Abe, T., Ujii, H., Muto, A. and Bechhofer, D.H. 2005. Participation of 3'-to-5' exoribonucleases in the turnover of *Bacillus subtilis* mRNA. *J. Bacteriol.* 187: 2758-2767.
- Sarkar, D., Park, E.S., Emdad, L., Randolph, A., Valerie, K. and Fisher, P.B. 2005. Defining the domains of human polynucleotide phosphorylase (hPNPaseOLD-35) mediating cellular senescence. *Mol. Cell. Biol.* 25: 7333-7343.

## CHROMOSOMAL LOCATION

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

## SOURCE

PNPase (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PNPase of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49313 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

PNPase (G-20) is recommended for detection of PNPase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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-20) is also recommended for detection of PNPase in additional species, including equine, canine, bovine, porcine and avian.

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.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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



Try **PNPase (D-1): sc-271479** or **PNPase (A-4): sc-271690**, our highly recommended monoclonal alternatives to PNPase (G-20).