

# PNP (D-11): sc-271890

## BACKGROUND

Purine nucleoside phosphorylase (PNP), also designated inosine phosphorylase, forms a homotrimer. It belongs to the PNP/MTAP phosphorylase family of proteins. Human PNP catalyzes the reversible phosphorolysis of ribonucleosides and 2'-deoxyribonucleosides with specificity for guanine, hypoxanthine and their analogs. PNP deficiency is a rare autosomal recessive genetic disease associated with a severe defect in T-lymphocyte function and neurologic disorder in children, comprising four percent of combined immunodeficiency cases. Children with PNP deficiency are highly prone to infections, autoimmune disorders, neurological impairment and cancer.

## REFERENCES

- Narayana, S.V., et al. 1997. Refined structure of purine nucleoside phosphorylase at 2.75 Å resolution. *Acta Crystallogr. D Biol. Crystallogr.* 53: 131-142.
- Fleischman, A., et al. 1998. Adenosine deaminase deficiency and purine nucleoside phosphorylase deficiency in common variable immunodeficiency. *Clin. Diagn. Lab. Immunol.* 5: 399-400.
- Carlucci, F., et al. 2003. Capillary electrophoresis in diagnosis and monitoring of adenosine deaminase deficiency. *Clin. Chem.* 49: 1830-1838.
- Zang, Y., et al. 2005. Identification of a subversive substrate of trichomonas vaginalis purine nucleoside phosphorylase and the crystal structure of the enzyme-substrate complex. *J. Biol. Chem.* 280: 22318-22325.
- Canduri, F., et al. 2005. Crystal structure of human PNP complexed with hypoxanthine and sulfate ion. *Biochem. Biophys. Res. Commun.* 326: 335-338.
- Canduri, F., et al. 2005. New catalytic mechanism for human purine nucleoside phosphorylase. *Biochem. Biophys. Res. Commun.* 327: 646-649.

## CHROMOSOMAL LOCATION

Genetic locus: PNP (human) mapping to 14q11.2; Pnp2/Pnp (mouse) mapping to 14 C1.

## SOURCE

PNP (D-11) is a mouse monoclonal antibody raised against amino acids 95-150 mapping within an internal region of PNP of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## 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) for detailed protocols and support products.

## APPLICATIONS

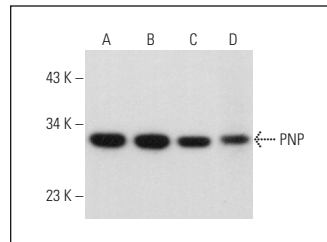
PNP (D-11) is recommended for detection of PNP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PNP siRNA (h): sc-45991, PNP siRNA (m): sc-45992, PNP shRNA Plasmid (h): sc-45991-SH, PNP shRNA Plasmid (m): sc-45992-SH, PNP shRNA (h) Lentiviral Particles: sc-45991-V and PNP shRNA (m) Lentiviral Particles: sc-45992-V.

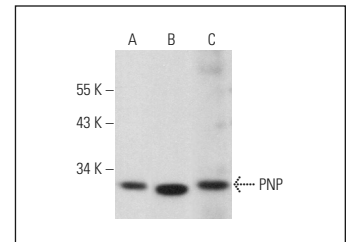
Molecular Weight of PNP: 32 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HL-60 whole cell lysate: sc-2209 or TF-1 cell lysate: sc-2412.

## DATA



PNP (D-11): sc-271890. Western blot analysis of PNP expression in HL-60 (A), TF-1 (B) and JAR (C) whole cell lysates and rat liver tissue extract (D).



PNP (D-11): sc-271890. Western blot analysis of PNP expression in I-11.15 (A) and NIH/3T3 (B) whole cell lysates and rat spleen tissue extract (C).

## SELECT PRODUCT CITATIONS

- Li, S., et al. 2022. Metabolism drives macrophage heterogeneity in the tumor microenvironment. *Cell Rep.* 39: 110609.

## RESEARCH USE

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