

PNP (H-7): sc-365081

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

1. 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.
2. Fleischman, A., et al. 1998. Adenosine deaminase deficiency and purine nucleoside phosphorylase deficiency in common variable immunodeficiency. *Clin. Diagn. Lab. Immunol.* 5: 399-400.
3. Carlucci, F., et al. 2003. Capillary electrophoresis in diagnosis and monitoring of adenosine deaminase deficiency. *Clin. Chem.* 49: 1830-1838.
4. 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.
5. Canduri, F., et al. 2005. Crystal structure of human PNP complexed with hypoxanthine and sulfate ion. *Biochem. Biophys. Res. Commun.* 326: 335-338.
6. 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; Pnp (mouse) mapping to 14 C1.

SOURCE

PNP (H-7) 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_{2b} kappa light chain 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 for detailed protocols and support products.

APPLICATIONS

PNP (H-7) 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.

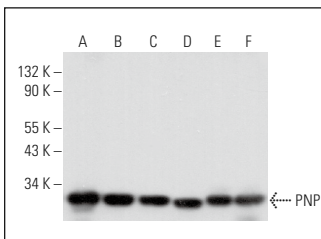
Positive Controls: HL-60 whole cell lysate: sc-2209, TF-1 cell lysate: sc-2412 or JAR cell lysate: sc-2276.

RECOMMENDED SUPPORT REAGENTS

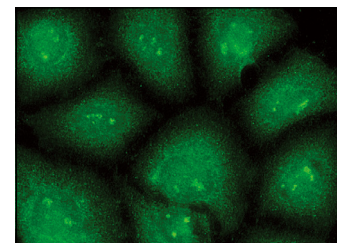
To ensure optimal results, the following support reagents are recommended:

- 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



PNP (H-7): sc-365081. Western blot analysis of PNP expression in HL-60 (A), TF-1 (B), JAR (C) and NIH/3T3 (D) whole cell lysates and rat liver (E) and rat spleen (F) tissue extracts.



PNP (H-7): sc-365081. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

SELECT PRODUCT CITATIONS

1. Cader, M.Z., et al. 2020. FAMIN is a multifunctional purine enzyme enabling the purine nucleotide cycle. *Cell* 180: 278-295.e23.
2. Saveljeva, S., et al. 2022. A purine metabolic checkpoint that prevents autoimmunity and autoinflammation. *Cell Metab.* 34: 106-124.e10.

RESEARCH USE

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