

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

- 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; 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.

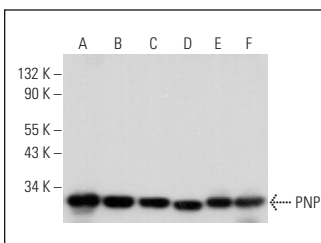
Molecular Weight of PNP: 32 kDa.

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

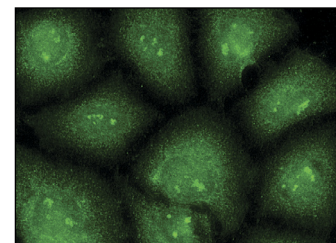
RECOMMENDED SUPPORT REAGENTS

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

- Cader, M.Z., et al. 2020. FAMIN is a multifunctional purine enzyme enabling the purine nucleotide cycle. *Cell* 180: 278-295.e23.
- 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.