

PNK (A-4): sc-271525

BACKGROUND

Bifunctional polynucleotide phosphatase/kinase (PNK), also referred to as polynucleotide kinase-3'-phosphatase, is a member of the DNA 3' phosphatase family. PNK is the protein expressed by the gene PNKP and contains a 3'-phosphatase domain with similarity to L-2-haloacid dehalogenases and a reported ATP binding site. PNK is a nuclear protein that is involved in DNA repair following damage caused by radiation or oxidation. The protein catalyzes the phosphorylation of DNA at the hydroxy termini but can also dephosphorylate its 3'-phosphate termini. The highest levels of expression of PNK occur in testis, pancreas, spleen, kidney and heart.

REFERENCES

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- Fanta, M., et al. 2001. Production, characterization, and epitope mapping of monoclonal antibodies against human polydeoxyribonucleotide kinase. *Hybridoma* 20: 237-242.
- Meijer, M., et al. 2002. PNK1, a DNA kinase/phosphatase required for normal response to DNA damage by γ -radiation or camptothecin in *Schizosaccharomyces pombe*. *J. Biol. Chem.* 277: 4050-4055.
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- Zhu, H., et al. 2004. Characterization of polynucleotide kinase/phosphatase enzymes from mycobacteriophages ω and Cjw1 and vibriophage KVP40. *J. Biol. Chem.* 279: 26358-26369.
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CHROMOSOMAL LOCATION

Genetic locus: PNKP (human) mapping to 19q13.33; Pnkp (mouse) mapping to 7 B4.

SOURCE

PNK (A-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 457-477 near the C-terminus of PNK of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271525 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PNK (A-4) is recommended for detection of PNK 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).

Suitable for use as control antibody for PNK siRNA (h): sc-44826, PNK siRNA (m): sc-45370, PNK shRNA Plasmid (h): sc-44826-SH, PNK shRNA Plasmid (m): sc-45370-SH, PNK shRNA (h) Lentiviral Particles: sc-44826-V and PNK shRNA (m) Lentiviral Particles: sc-45370-V.

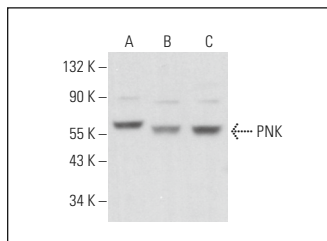
Molecular Weight of PNK: 60 kDa.

Positive Controls: PNK (h): 293T Lysate: sc-115119, F9 cell lysate: sc-2245 or RAW 264.7 whole cell lysate: sc-2211.

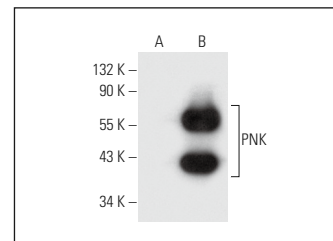
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG_κ BP-HRP: sc-516102 or m-IgG_κ 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-IgG_κ BP-FITC: sc-516140 or m-IgG_κ 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



PNK (A-4): sc-271525. Western blot analysis of PNK expression in Jurkat nuclear extract (A) and F9 (B) and RAW 264.7 (C) whole cell lysates.



PNK (A-4): sc-271525. Western blot analysis of PNK expression in non-transfected: sc-117752 (A) and human PNK transfected: sc-115119 (B) 293T whole cell lysates.

STORAGE

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

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.