

# PNK (H-300): sc-67036

## 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 translation product of 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 gamma-radiation or camptothecin in *Schizosaccharomyces pombe*. *J. Biol. Chem.* 277: 4050-4055.
- Plo, I., et al. 2003. Association of XRCC1 and tyrosyl DNA phosphodiesterase (TDP1) for the repair of topoisomerase I-mediated DNA lesions. *DNA Repair* 2: 1087-1100.
- Martins, A., et al. 2005. An end-healing enzyme from *Clostridium thermocellum* with 5' kinase, 2', 3' phosphatase and adenyltransferase activities. *RNA* 11: 1271-1280.
- Bernstein, N.K., et al. 2005. The molecular architecture of the mammalian DNA repair enzyme, polynucleotide kinase. *Mol. Cell* 17: 657-670.

## CHROMOSOMAL LOCATION

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

## SOURCE

PNK (H-300) is a rabbit polyclonal antibody raised against amino acids 222-521 mapping at the C-terminus of PNK of human origin.

## PRODUCT

Each vial contains 200 µg IgG 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.

## APPLICATIONS

PNK (H-300) is recommended for detection of PNK of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

PNK (H-300) is also recommended for detection of PNK in additional species, including equine, canine and porcine.

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.

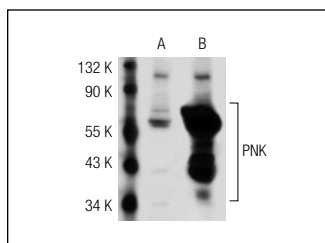
Molecular Weight of PNK: 60 kDa.

Positive Controls: PNK (h): 293T Lysate: sc-115119, HeLa whole cell lysate: sc-2200 or Jurkat nuclear extract: sc-2132.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



PNK (H-300): sc-67036. Western blot analysis of PNK expression in non-transfected: sc-117752 (A) and human PNK transfected: sc-115119 (B) 293T whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.