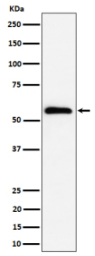
PNKP Antibody / Polynucleotide kinase 3 phosphatase [clone 30P00] (FY12077)

Catalog No.	Formulation	Size
FY12077	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	30P00
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	Q96T60
Applications	Western blot: 1:500-1:2000 Immunohistochemistry: 1:50-1:200 Immunoprecipitation: 1:50
Limitations	This PNKP antibody is available for research use only.



Western blot analysis of PNK / PNKP expression in human HeLa cell lysate using PNKP antibody. Predicted molecular weight ~57 kDa.

Description

PNKP antibody detects polynucleotide kinase 3'-phosphatase, a DNA repair enzyme with dual kinase and phosphatase activities. PNKP processes DNA ends by phosphorylating 5' termini and dephosphorylating 3' termini, preparing them for ligation during single-strand and double-strand break repair. This enzyme functions in multiple repair pathways, including base excision repair and non-homologous end joining, ensuring genomic stability after DNA damage.

Research using PNKP antibody has revealed the protein's significance in neurodegenerative diseases and cancer. Mutations in PNKP cause neurological disorders such as microcephaly with seizures and developmental delay (MCSZ), where defective DNA repair leads to progressive neuronal loss. In oncology, PNKP is upregulated in certain tumors, where it contributes to resistance against radiation and chemotherapy by repairing therapy-induced DNA damage. Targeting PNKP is therefore a promising therapeutic strategy to sensitize tumors to genotoxic treatments.

PNKP also plays a role in maintaining mitochondrial DNA integrity, protecting cells from oxidative stress. Its activity is essential for neuronal survival and for preventing age-related genomic instability. Understanding PNKP regulation provides insight into how cells balance repair efficiency with the risk of mutagenesis.

Antibodies against PNKP are validated for use in western blot, immunofluorescence, immunoprecipitation, and immunohistochemistry. These tools allow researchers to track DNA repair activity, analyze protein localization in nuclei and mitochondria, and explore mechanisms of therapy resistance. Clone-based antibodies ensure reproducible results across studies.

NSJ Bioreagents supplies this PNKP antibody to support research in DNA repair, neurobiology, and cancer therapeutics.

Application Notes

Optimal dilution of the PNKP antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human PNK / PNKP was used as the immunogen for the PNKP antibody.

Storage

Store the PNKP antibody at -20oC.

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