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Goat Anti-PNKP / PNK Antibody
Peptide-affinity purified goat antibody
Catalog # AF1843a

Specification

Goat Anti-PNKP / PNK Antibody - Product Information

Application	**WB, E**
Primary Accession	Q96T60
Other Accession	NP_009185, 11284
Reactivity	**Human**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**57076**

Goat Anti-PNKP / PNK Antibody - Additional Information

Gene ID 11284

Other Names
Bifunctional polynucleotide phosphatase/kinase, DNA 5'-kinase/3'-phosphatase, Polynucleotide kinase-3'-phosphatase, Polynucleotide 3'-phosphatase, 3.1.3.32, 2'(3')-polynucleotidase, Polynucleotide 5'-hydroxyl-kinase, 2.7.1.78, PNKP

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-PNKP / PNK Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-PNKP / PNK Antibody - Protein Information

Name PNKP {ECO:0000303|PubMed:10446192, ECO:0000312|HGNC:HGNC:9154}

Function
Plays a key role in the repair of DNA damage, functioning as part of both the non-homologous end-joining (NHEJ) and base excision repair (BER) pathways (PubMed:10446192, PubMed:10446193, PubMed:15385968, PubMed:<a

href="http://www.uniprot.org/citations/20852255" target="_blank">20852255, PubMed:28453785). Through its two catalytic activities, PNK ensures that DNA termini are compatible with extension and ligation by either removing 3'-phosphates from, or by phosphorylating 5'-hydroxyl groups on, the ribose sugar of the DNA backbone (PubMed:10446192, PubMed:10446193).

Cellular Location
Nucleus. Chromosome. Note=Localizes to site of double-strand breaks.

Tissue Location
Expressed in many tissues with highest expression in spleen and testis, and lowest expression in small intestine (PubMed:10446192). Expressed in higher amount in pancreas, heart and kidney and at lower levels in brain, lung and liver (PubMed:10446193)

Goat Anti-PNKP / PNK Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-PNKP / PNK Antibody - Images

Goat Anti-PNKP / PNK Antibody - Background

This locus represents a gene involved in DNA repair. In response to ionizing radiation or oxidative damage, the protein encoded by this locus catalyzes 5' phosphorylation and 3' dephosphorylation of nucleic acids. Mutations at this locus have been associated with microcephaly, seizures, and developmental delay.

Goat Anti-PNKP / PNK Antibody - References

Polymorphisms in the base excision repair pathway and graft-versus-host disease. Arora M, et al. Leukemia, 2010 Aug. PMID 20574454.
Variation within DNA repair pathway genes and risk of multiple sclerosis. Briggs FB, et al. Am J Epidemiol, 2010 Jul 15. PMID 20522537.
Association between genetic variants in the base excision repair pathway and outcomes after hematopoietic cell transplantations. Thyagarajan B, et al. Biol Blood Marrow Transplant, 2010 Aug. PMID 20226869.
Mutations in PNKP cause microcephaly, seizures and defects in DNA repair. Shen J, et al. Nat Genet, 2010 Mar. PMID 20118933.
Specific recognition of a multiply phosphorylated motif in the DNA repair scaffold XRCC1 by the FHA domain of human PNK. Ali AA, et al. Nucleic Acids Res, 2009 Apr. PMID 19155274.