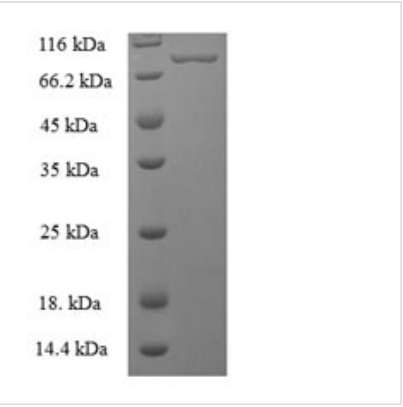
Recombinant Human Bifunctional polynucleotide phosphatase/kinase (PNKP)

Product Code	CSB-EP857031HU
Relevance	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. Through its two catalytic activities, PNK ensures that DNA termini are compatible with extension and ligation by either roving 3'-phosphates from, or by phosphorylating 5'-hydroxyl groups on, the ribose sugar of the DNA backbone.
Abbreviation	Recombinant Human PNKP protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q96T60
Alias	DNA 5'-kinase/3'-phosphatasePolynucleotide kinase-3'-phosphatase 2 domains:Polynucleotide 3'-phosphatase (EC:3.1.3.32) ;2'(3')-polynucleotidasePolynucleotide 5'-hydroxyl-kinase (EC:2.7.1.78)
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MGEVEAPGRLWLESPPGGAPPIFLPSDGQALVLGRGPLTQVTDRKCSRTQVE LVADPETRTVAVKQLGVNPSTTGTQELKPGLEGSLGVGDTLYLVNGLHPLTLR WEETRTPESQPDTPPGTPLVSQDEKRDAELPKKRMRKSNPGWENLEKLLVFT AAGVKPQGKVAGFDLDGTLITTRSGKVFPTGPSDWRILYPEIPRKLRELEAEGY KLVIFTNQMSIGRGKLPAEEFKAKVEAVVEKLGVPFQVLVATHAGLYRKPVTG MWDHLQEQANDGTPISIGDSIFVGDAAGRPANWAPGRKKKDFSCADRLFALN LGLPFATPEEFFLKWPAAGFELPAFDPRTVSRSGPLCLPESRALLSASPEVVV AVGFPGAGKSTFLKKHLVSAGYVHVNRDTLGSWQRCVTTCETALKQGKRVAI DNTNPDAASRARYVQCARAAGVPCRCFLFTATLEQARHNNRFREMTDSSHIP VSDMVMYGYRKQFEAPTLAEGFSAILEIPFRLWVEPRLGRLYCQFSEG
Research Area	Epigenetics and Nuclear Signaling
Source	E.coli
Target Names	PNKP
Expression Region	1-521aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-SUMO-tagged
Mol. Weight	73.1kDa

Protein Length	Full Length

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Intact human bifunctional polynucleotide phosphatase/kinase (PNKP) cDNA (1-521aa) with an N-terminal 6xHis-SUMO-tag was expressed in the E.coli. The forming protein is the recombinant full-length human PNKP protein. The purity of this protein is greater than 90% determined by SDS-PAGE. Under reducing conditions, the gel showed a molecular weight band of about 90 kDa. This recombinant PNKP protein may be applied for specific antibody production or in the studies of epigenetics and nuclear signaling.

PNKP is a DNA repair factor possessing both DNA 5'-kinase and DNA 3'-phosphatase activities to modify the ends of a DNA break before ligation. In addition to its role in DNA repair, PNKP plays an important role in normal neurogenesis and also exerts crucial genome maintenance functions after its completion. PNKP mutations are associated with a spectrum of neurodevelopmental disorders, such as microcephaly, seizures, and developmental delay (MCSZ) to ataxia with oculomotor apraxia type 4 (AOA4).

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.
Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.