Recombinant PCNA protein (His tag)

Catalog Number	537516
Synonyms	PCNA; Cyclin
Species	Human
Expression System	E. coli
Accession	P12004
Molecular Weight	Predictes a molecular mass of 30.42 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 33 kDa band.

Product Information

Sequence Region	1-261
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 1-261 aa (P12004) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Proliferating Cell Nuclear Antigen (PCNA) (Cyclin) fragment (residues 1-261) is a high-purity, soluble protein designed for structural and biochemical studies. This fragment represents a stable and functional unit of PCNA, enabling researchers to explore its critical roles in DNA replication, repair, and damage response pathways with reliability and precision. Proliferating Cell Nuclear Antigen (PCNA) is an essential auxiliary protein for DNA polymerases delta and epsilon, significantly enhancing processivity during leading-strand elongation in eukaryotic DNA replication. It plays a pivotal role in DNA damage response (DDR) by acting as a central loading platform at replication forks to coordinate DNA repair and tolerance mechanisms. Monoubiquitinated PCNA recruits translesion synthesis polymerases, while 'Lys-63'-linked polyubiquitination facilitates error-free repair via recombination. PCNA also stimulates the 3'-5' exonuclease and 3'-phosphodiesterase activities of APEX2 when loaded onto DNA. Subcellularly, PCNA localizes to the nucleus, forming foci at sites of DNA replication and damage, and colocalizes with proteins such as CREBBP, EP300, POLD1, SMARCA5/SNF2H, and BAZ1B/WSTF, particularly during S phase or under oxidative stress conditions.