Human PCNA Protein (His Tag)

Catalog Number: **12131-H07B**

General Information

Gene Name Synonym:

ATLD2

Protein Construction:

A DNA sequence encoding the mature form of human PCNA (P12004) (Met 1-Ser 261) was expressed, with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Met

Molecular Mass:

The recombinant human PCNA consists of 280 amino acids and has a calculated molecular mass of 31 kDa. It migrates as an approximately 36 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 50mM Na3PO4, 300mM NaCl, 10% glycerol, pH 7.0, 2mM DTT

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

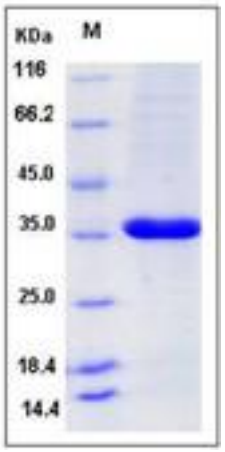
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Proliferating Cell Nuclear Antigen (PCNA) is a protein only expresse in nomal proliferate cells and cancer cells. It is central to both DNA replication and repair. One of the well-established functions for PCNA is its role as the processivity factor for DNA polymerase delta and epsilon. PCNA tethers the polymerase catalytic unit to the DNA template for rapid and processive DNA synthesis. Two forms of PCNA exist in cells: (i) a detergent-insoluble trimeric form stably associated with the replicating forks during S phase and (ii) a soluble form in quiescent cells in G1 and G2 phases. PCNA forms a toroidal trimer in S phase with replication factor-C (RF-C) and DNA in an ATP-dependent manner and enables the loading of DNA polymerase delta and epsilon onto the complex. The close association of PCNA with kinase complexes involved in cell cycle machinery indicates that PCNA has a regulatory role in cell cycle progression. PCNA also participates in the processing of branched intermediates that arise during the lagging strand DNA synthesis.

References

1.Balajee AS, *et al.* (2001) Chromatin-bound PCNA complex formation triggered by DNA damage occurs independent of the ATM gene product in human cells. Nucleic Acids Res. 29 (6): 1341-51. 2.Ducoux M, *et al.* (2001) Mediation of proliferating cell nuclear antigen (PCNA)-dependent DNA replication through a conserved p21(Cip1)-like PCNA-binding motif present in the third subunit of human DNA polymerase delta. J Biol Chem. 276 (52): 49258-66. 3.Tetsuo I, *et al.* (2002) PCNA clamp facilitates action of DNA cytosine methyltransferase 1 on hemimethylated DNA. Genes Cells. 7(10): 997-1007.