3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

PCNA, His-tagged, human recombinant, expressed in *E. coli* cells

Catalog Number **SRP5117**
Storage Temperature –70 °C

Synonym: MGC8367

Product Description

PCNA is a nuclear protein whose appearance correlates with the proliferative state of the cells and is a cofactor of DNA polymerase delta. PCNA is a homotrimer and helps increase the processivity of leading strand synthesis during DNA replication. In response to DNA damage, PCNA is ubiquitinated and is involved in the RAD6-dependent DNA repair pathway. Immuno-fluorescence studies have shown p300 may play a role in DNA repair synthesis through its interaction with PCNA. *In vitro* and *in vivo* p300 forms a complex with PCNA that does not depend on the S phase of the cell cycle and stimulates DNA synthesis *in vitro*.[1] PCNA interacts with the Williams syndrome transcription factor (WSTF) allowing it to target to DNA replication foci, that then allows recruitment of SNF2H.[2]

Recombinant, full-length, human PCNA was expressed by *E. coli* cells using an N-terminal His tag. The gene accession number is NM_002592. Recombinant protein stored in 50 mM sodium phosphate, pH 7.0, 300 mM NaCl, 150 mM imidazole, 0.1 mM PMSF, 0.25 mM DTT, and 25% glycerol.

Molecular mass: ~37 kDa

Purity: 70–95% (SDS-PAGE, see Figure 1)

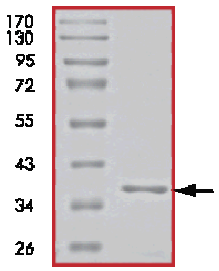
Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

The product ships on dry ice and storage at –70 °C is recommended. After opening, aliquot into smaller quantities and store at –70 °C. Avoid repeated handling and multiple freeze/thaw cycles.

Figure 1.
SDS-PAGE Gel of Typical Lot
70–95% (densitometry)



References

1. Hasan, S. et al., Transcription coactivator p300 binds PCNA and may have a role in DNA repair synthesis. Nature, **410**, 387-391 (2001).
2. Poot, R.A. et al., The Williams syndrome transcription factor interacts with PCNA to target chromatin remodelling by ISWI to replication foci. Nature Cell Biol., **6**, 1236-1244 (2004).

RC,MAM 11/11-1