PCNA (human), functional

Product code	10-151 10-152
Size	20 µg 100 µg
Storage	-80℃. Avoid freeze-thaw cycles.
Product Description	Human PCNA was over-expressed in *E. coli* as a recombinant full-size protein without any tag and highly purified.
Concentration	1.0 mg/ml
Buffer	25 mM HEPES (pH 7.9), 1 mM EDTA, 0.01% Nonidet P40, 1 mM DTT, 2 µg/ml leupeptin, 0.1 mM PMSF, 75 mM NaCl, 50% glycerol.
Purity	Greater than 98% purity as determined by SDS-PAGE (Fig.1).
Application	1. Functional studies on DNA replication, recombination and repair. (Ref 2, 3, 5, 6, 7, 8, 9, 10). 2. Identification of proteins interacting with PCNA by using PCNA –conjugated resin. (Ref 1, 5) 3. Ubiquitination targets (Ref 4, 9, 10). 4. SDS-PAGE (Fig. 1). 5. Western blot (Fig. 2) . 6. Dot blot. 7. ELISA. Not tested for other applications.
Background	**PCNA (Proliferating cell nuclear antigen)** is a homotrimeric protein (261 aa; 29 kDa) known to act as a co-factor for DNA polymerase δ, which is responsible for leading strand DNA replication. **PCNA** was originally identified as an antigen that is expressed in the nuclei of cells during the DNA synthesis phase of the cell cycle. Crystal structure data suggests that a **PCNA** homotrimer ring encircles and slides along the DNA double helix. Multiple proteins involved in DNA replication, DNA repair, and cell cycle control bind to **PCNA** rather than directly associates with DNA, thus facilitating rapid processing of DNA. **PCNA** is a useful marker for DNA synthesis and some cancers. It is highly conserved among most amimals.
Data Link	UniProt KB P12004 (PCNA_HUMAN), P04961 (PCNA_RAT), P17918 (PCNA_MOUSE), Q9PTP1 (PCNA_ Zebrafish)
Please note: All products are FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES. NOT FOR MILITARY USE.	

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Data Images: 10-151, 10-152 PCNA (human)

Fig. 1. SDS-PAGE anlysis of purified PCNA protein.

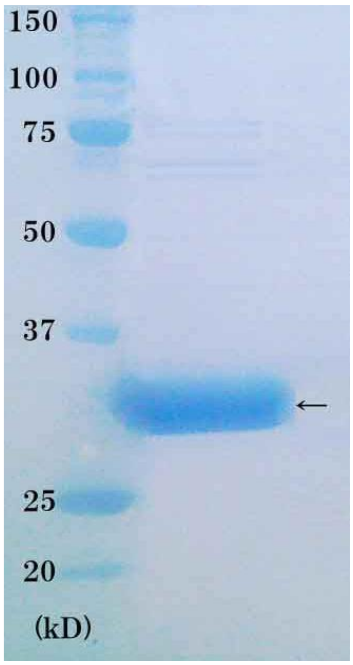
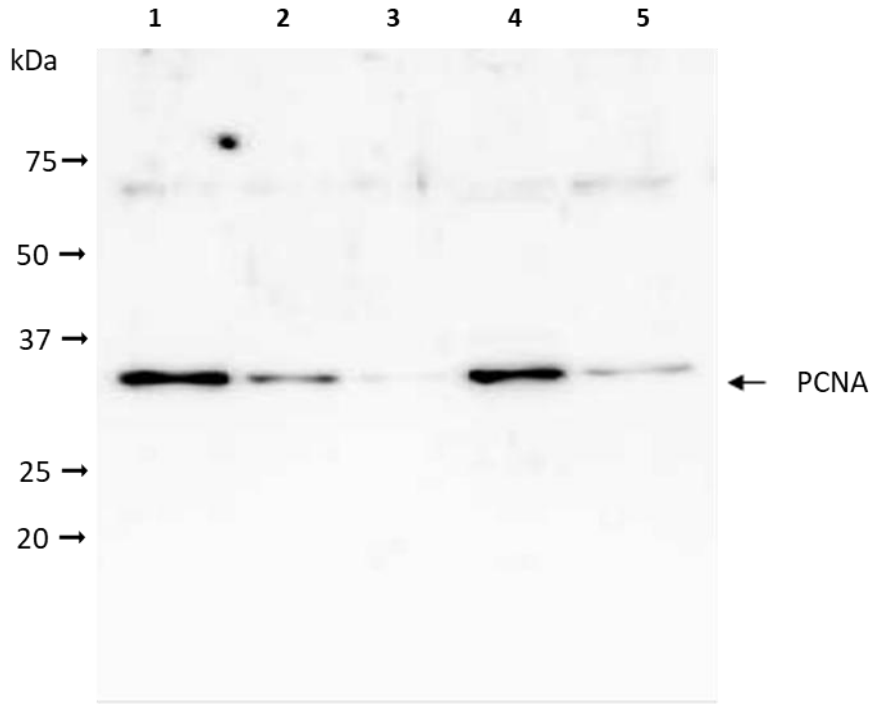


Fig. 2 Western Bloting of PCNA.



Lane 1; Purified PCNA (3 ng). Lane 2; Purified PCNA (1 ng). Lane 3; Purified PCNA (0.3 ng). Lane 4; Crude extract of Hela cells (10 µg). Lane 5; Crude extract of HeLa cells (2 µg) . Primary antibody is anti-PCNA antibody, BioAcademia # 70-080.

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References: This product has been used in the following References.

1. Ohta S. et al (2002) A proteomics approach to identify proliferating cell nuclear antigen (PCNA)-binding proteins in human cell lysates. Identification of the human CHL12/RFCs2-5 complex as a novel PCNA-binding protein. J Biol Chem 277: 40362-40367 PMID: 12171929.
2. Iida T. *et al* (2002) "PCNA clamp facilitates action of DNA cytosine methyltransferase 1 on hemimethylated DNA. Genes Cells 7: 997-1007 PMID: 12354094
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9. Tomida J, et al. (2008) DNA damage-induced ubiquitylation of RFC2 subunit of replication factor C complex. J Biol Chem. 283:9071-9. PMID: 18245774.
10. Tsuji Y, et al. (2008) Recognition of forked and single-stranded DNA structures by human RAD18 complexed with RAD6B protein triggers its recruitment to stalled replication forks. Genes Cells. 13:343-54. PMID: 18363965

Related product;

70-080 Anti- PCNA antibody, rabbit polyclonal

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