



**POLYCLONAL ANTIBODY**

*For research use only. Not for clinical diagnosis.*

**Catalog No. 70-080EX**

## Anti Proliferating Cell Nuclear Antigen (PCNA)

### BACKGROUND

**Proliferating cell nuclear antigen (PCNA)** is a 29 kDa homotrimeric protein known to act as a co-factor for DNA polymerase delta, 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 can encircle and slide along the DNA double helix. Multiple proteins involved in DNA replication, DNA repair, and cell cycle control bind to **PCNA** rather than directly associating with DNA, thus facilitating fast processing of DNA. **PCNA** is a useful marker for DNA synthesis and is highly conserved among most species.

<b>Product type</b>	Primary antibodies
<b>Host</b>	Rabbit
<b>Source</b>	
<b>Form</b>	Antiserum added with 0.05% sodium azide
<b>Volume</b>	100 µL
<b>Concentration</b>	
<b>Specificity</b>	
<b>Antigen</b>	Immunized with a large amount of highly purified recombinant human PCNA (full-size, no-tag , catalogue #10-151)
<b>Isotype</b>	

- Application notes**
1. Western blotting (1/2,000 dilution)
  2. Immuno-precipitation (assay dependent)
  3. Immuno-fluorescence staining / Immuno-cytochemistry (1/100~1/1,000 dilution)
  4. Dot blot (1/500~1/2,000). Could detect less than 0.3 ng of PCNA
  5. ELISA (1/500~1/2,000). Could detect less than 1 ng of PCNA by direct ELISA.

Other applications have not been tested.

Optimal dilutions/concentrations should be determined by the end user.

Data Link : Swiss-Prot [P12004](#) (human), [P04961](#) (rat),  
[P17918](#) (mouse), [Q9PTP1](#) (Zebrafish)

**Cross reactivity** Reacts specifically with mammalian PCNA including human, mouse, and rat.  
May react with PCNA of chicken and Xenopus due to the highly conserved sequences.

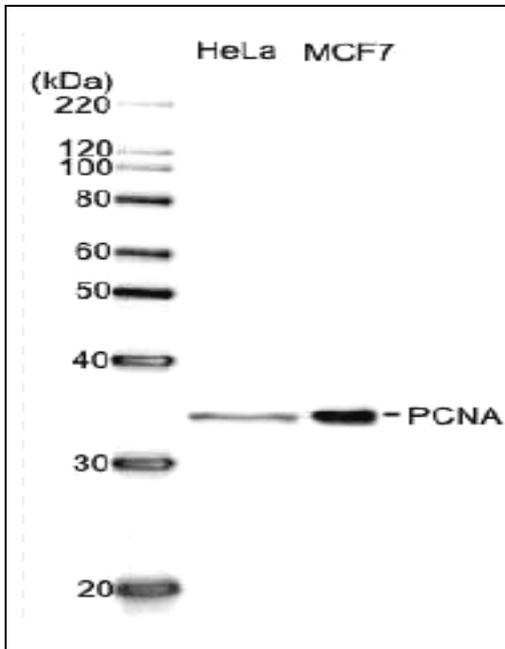
**Storage** Sent at 4°C or -20°C. Aliquot and store at -20°C.

**References** Friedberg EC *et al* (2006) *DNA repair and mutagenesis* , 2<sup>nd</sup> Edition, ASM Press  
(Text book well-written) Washington, D.C.

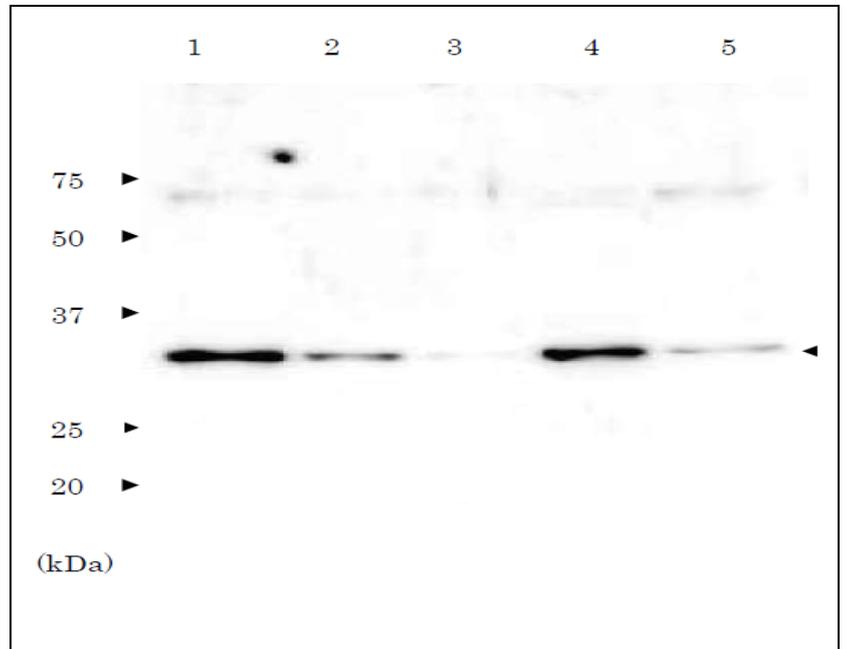


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Related product #10-151EX PCNA, functional



**Fig.1 Western blot of PCNA in the whole cell extracts.** PCNA protein band was identified in HeLa cell extract (10  $\mu$ g) and MCF7 extract (20  $\mu$ g) by WB using this antibody at 1/2,000 dilution.



**Fig.2 Western Blot 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  $\mu$ g). Lane 5; Crude extract of HeLa cells (2  $\mu$ g) . As primary antibody, this antibody was used at 1/2,000 dilution. Purified PCNA is a full-size recombinant without any tag (catalogue #10-151)

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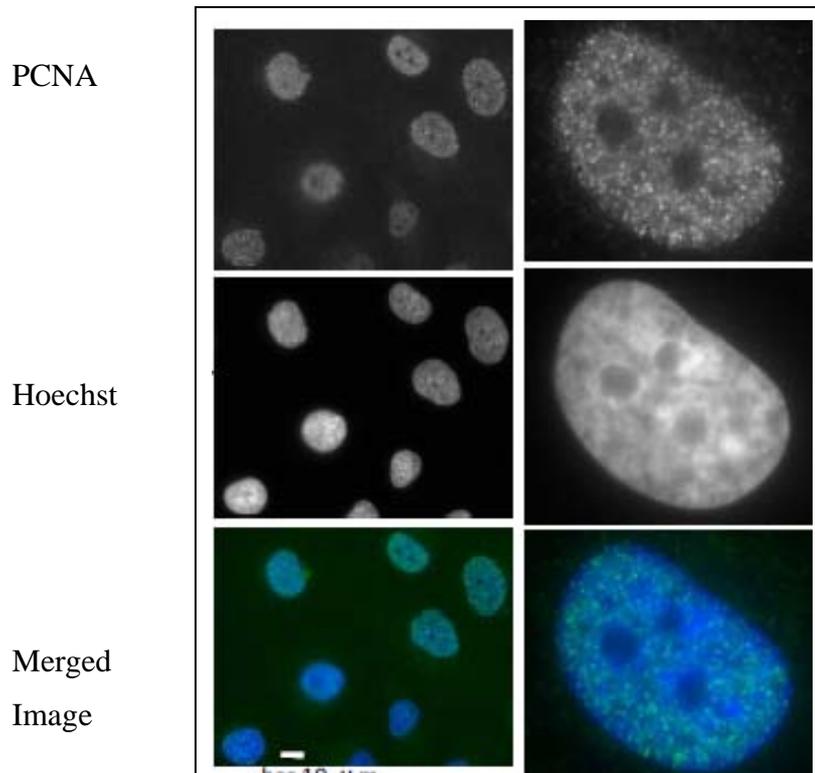


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## Anti Proliferating Cell Nuclear Antigen (PCNA)



**Fig.3 Immuno-fluorescence staining of PCNA. in GM0637 cells (human fibroblast ).** Cells were fixed with 4% paraformaldehyde for 10 min, washed 3 times with PBS, permeabilized with 0.5% Triton for 5 min, washed for 3 times with PBS and added with the antibody to give 1/100 dilution and incubated at 37°C for 30 min. After washing with PBS 3 times, cells were incubated for 30 min with goat anti-rabbit IgG conjugated with Alexa 488 at 1/10,000 dilution and washed 3 times with PBS. Then they were stained with Hechst for 1 min and mounted with vectashield.

PCNA foci were detected in the nuclei of proliferating cells.

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