

**PCNA Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO2261a**

**Specification**

**PCNA Antibody - Product Information**

Application	<b>E, WB, FC, IHC</b>
Primary Accession	<a href="#">P12004</a>
Reactivity	<b>Human</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>IgG1</b>
Calculated MW	<b>28.7kDa KDa</b>

**Description**

The protein encoded by this gene is found in the nucleus and is a cofactor of DNA polymerase delta. The encoded protein acts as a homotrimer and helps increase the processivity of leading strand synthesis during DNA replication. In response to DNA damage, this protein is ubiquitinated and is involved in the RAD6-dependent DNA repair pathway. Two transcript variants encoding the same protein have been found for this gene. Pseudogenes of this gene have been described on chromosome 4 and on the X chromosome.

**Immunogen**

Purified recombinant fragment of human PCNA (AA: 53-196 ) expressed in E. Coli.

**Formulation**

Purified antibody in PBS with 0.05% sodium azide

**PCNA Antibody - Additional Information**

**Gene ID** 5111

**Other Names**

Proliferating cell nuclear antigen, PCNA, Cyclin, PCNA

**Dilution**

E~~1/10000  
WB~~1/500 - 1/2000  
FC~~1/200 - 1/400  
IHC~~1/200 - 1/1000

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

PCNA Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**PCNA Antibody - Protein Information**

## Name PCNA

### Function

Auxiliary protein of DNA polymerase delta and epsilon, is involved in the control of eukaryotic DNA replication by increasing the polymerase's processibility during elongation of the leading strand (PubMed:<a href="http://www.uniprot.org/citations/35585232" target="\_blank">35585232</a>). Induces a robust stimulatory effect on the 3'-5' exonuclease and 3'-phosphodiesterase, but not apurinic-apyrimidinic (AP) endonuclease, APEX2 activities. Has to be loaded onto DNA in order to be able to stimulate APEX2. Plays a key role in DNA damage response (DDR) by being conveniently positioned at the replication fork to coordinate DNA replication with DNA repair and DNA damage tolerance pathways (PubMed:<a href="http://www.uniprot.org/citations/24939902" target="\_blank">24939902</a>). Acts as a loading platform to recruit DDR proteins that allow completion of DNA replication after DNA damage and promote postreplication repair: Monoubiquitinated PCNA leads to recruitment of translesion (TLS) polymerases, while 'Lys-63'-linked polyubiquitination of PCNA is involved in error-free pathway and employs recombination mechanisms to synthesize across the lesion (PubMed:<a href="http://www.uniprot.org/citations/24695737" target="\_blank">24695737</a>).

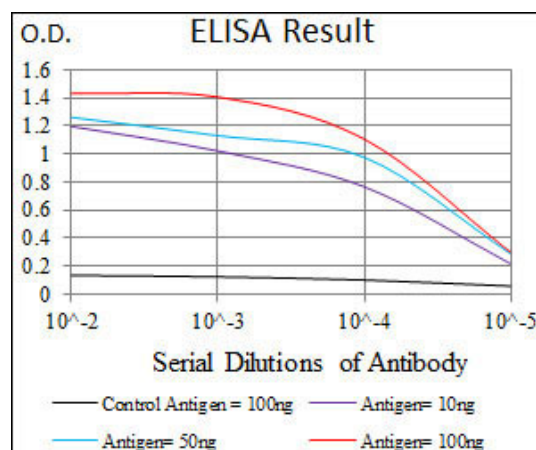
### Cellular Location

Nucleus. Note=Colocalizes with CREBBP, EP300 and POLD1 to sites of DNA damage (PubMed:24939902). Forms nuclear foci representing sites of ongoing DNA replication and vary in morphology and number during S phase (PubMed:15543136). Co-localizes with SMARCA5/SNF2H and BAZ1B/WSTF at replication foci during S phase (PubMed:15543136). Together with APEX2, is redistributed in discrete nuclear foci in presence of oxidative DNA damaging agents

## PCNA Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)



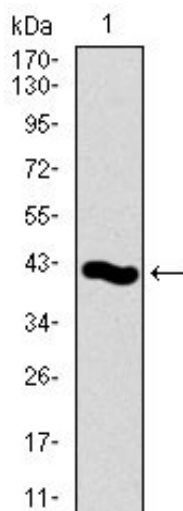


Figure 1: Western blot analysis using PCNA mAb against human PCNA recombinant protein. (Expected MW is 41.2 kDa)

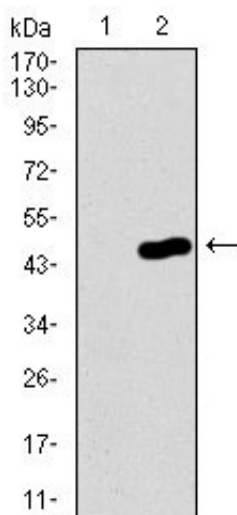


Figure 2: Western blot analysis using PCNA mAb against HEK293 (1) and PCNA (AA: 53-196)-hIgGFc transfected HEK293 (2) cell lysate.

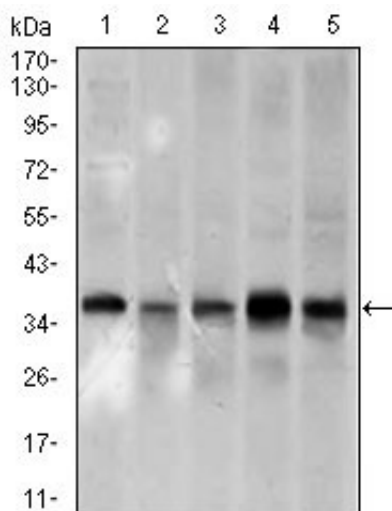


Figure 3: Western blot analysis using PCNA mouse mAb against A431 (1), HeLa (2), HepG2 (3), Raji (4), and MOLT4 (5) cell lysate.

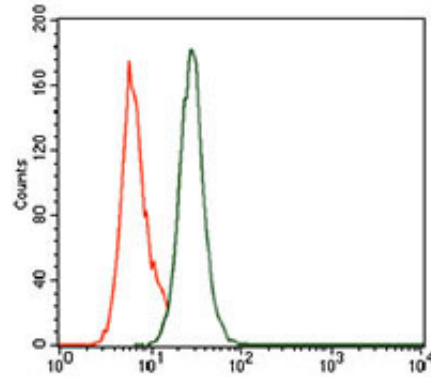


Figure 4: Flow cytometric analysis of MOLT4 cells using PCNA mouse mAb (green) and negative control (purple).

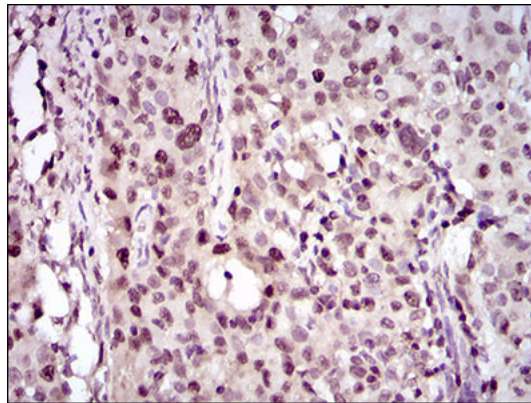


Figure 5: Immunohistochemical analysis of paraffin-embedded cervical cancer tissues using PCNA mouse mAb with DAB staining.

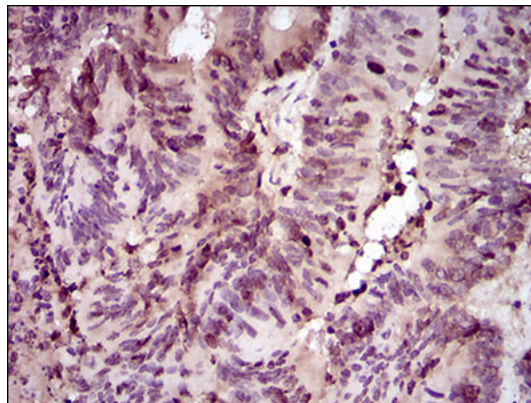


Figure 6: Immunohistochemical analysis of paraffin-embedded colon cancer tissues using PCNA mouse mAb with DAB staining.

#### PCNA Antibody - References

1. Cancer Res. 2012 Jul 1;72(13):3217-27.
2. PLoS One. 2012;7(1):e29416.