

### **PCNA Antibody**

Purified Mouse Monoclonal Antibody Catalog # A02261a

### **Specification**

### **PCNA Antibody - Product Information**

Application WB, IHC, FC, E

Primary Accession
Reactivity
Host
Clonality
Isotype
P12004
Human
Mouse
Monoclonal
IgG1

Calculated MW 28.7kDa KDa

**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**

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

#### **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>/a>).

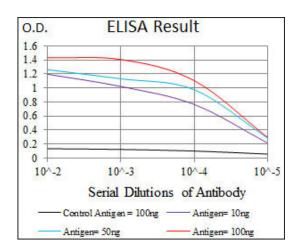
#### **Cellular Location**

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 Cytomety
- Cell Culture





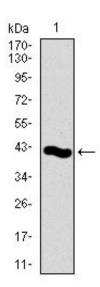


Figure 1: Western blot analysis using PCNA mAb against human PCNA recombinant protein. (Expected MW is 41.2 kDa)

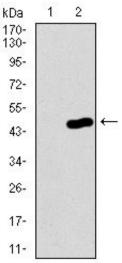


Figure 2: Western blot analysis using PCNA mAb against HEK293 (1) and PCNA (AA: 53-196)-hlgGFc transfected HEK293 (2) cell lysate.

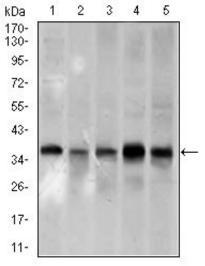


Figure 3: Western blot analysis using PCNA mouse mAb against A431 (1), HeLa (2), HepG2 (3), Raji (4), and MOLT4 (5) cell lysate.



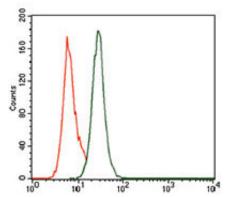


Figure 4: Flow cytometric analysis of MOLT4 cells using PCNA mouse mAb (green) and negative control (purple).

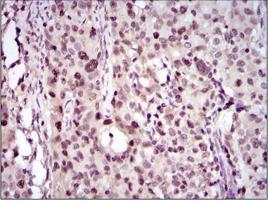


Figure 5: Immunohistochemical analysis of paraffin-embedded cervical cancer tissues using PCNA mouse mAb with DAB staining.

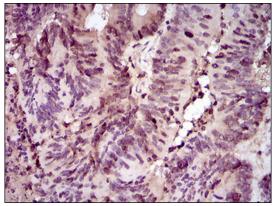


Figure 6: Immunohistochemical analysis of paraffin-embedded colon cancer tissues using PCNA mouse mAb with DAB staining.

# **PCNA Antibody - References**

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