

**PCNA Antibody [Knockout Validated]  
Purified Mouse Monoclonal Antibody (Mab)  
Catalog # AM8545b****Specification**

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**PCNA Antibody [Knockout Validated] - Product Information**

Application	WB, FC, IHC-P,E
Primary Accession	<a href="#">P12004</a>
Other Accession	<a href="#">P61258</a>
Reactivity	Human
Host	Mouse
Clonality	monoclonal
Isotype	IgG1,k
Calculated MW	28769

**PCNA Antibody [Knockout Validated] - Additional Information****Gene ID** 5111**Other Names**

Proliferating cell nuclear antigen, PCNA, Cyclin, PCNA

**Target/Specificity**

This PCNA antibody is generated from a mouse immunized with a recombinant protein of human PCNA.

**Dilution**

WB~~1:2000

FC~~1:25

IHC-P~~1:25

E~~Use at an assay dependent concentration.

**Format**

Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

**Storage**

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

**Precautions**

PCNA Antibody [Knockout Validated] is for research use only and not for use in diagnostic or therapeutic procedures.

**PCNA Antibody [Knockout Validated] - 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:[35585232](#)). 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:[24939902](#)). 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:[24695737](#)).

#### Cellular Location

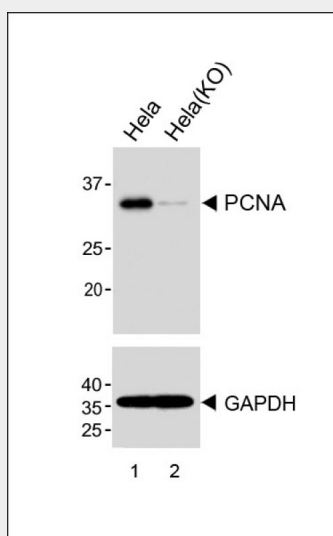
Nucleus. Note=Colocalizes with CREBBP, EP300 and POLD1 to sites of DNA damage (PubMed:[24939902](#)). Forms nuclear foci representing sites of ongoing DNA replication and vary in morphology and number during S phase (PubMed:[15543136](#)). Co-localizes with SMARCA5/SNF2H and BAZ1B/WSTF at replication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

#### PCNA Antibody [Knockout Validated] - Protocols

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

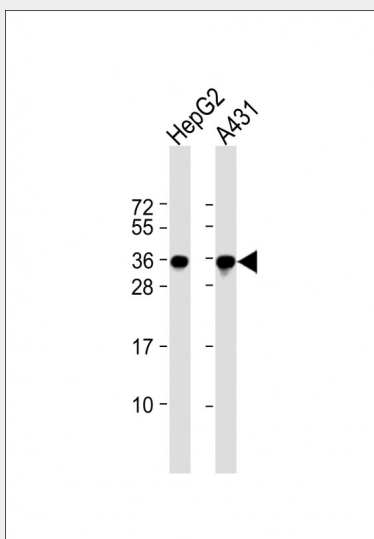
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### PCNA Antibody [Knockout Validated] - Images

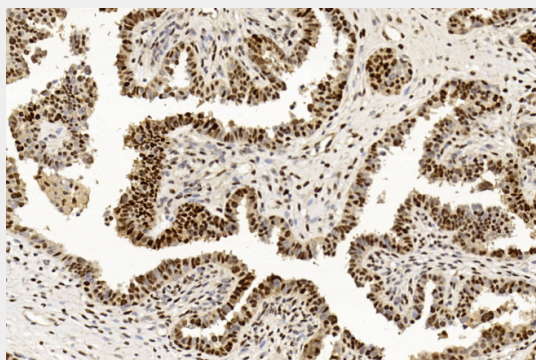


All lanes : Anti-PCNA Antibody (C-term) at 1:1000 dilution (upper) Lane 1: HeLa Lane 2: HeLa-Knockout Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Mouse IgG, (H+L),

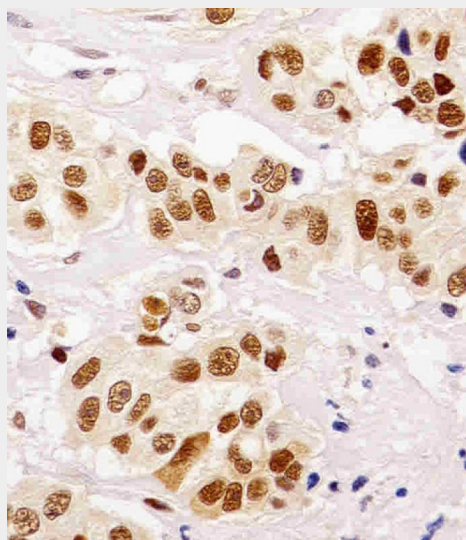
Peroxidase conjugated (ASP1613) at 1/8000 dilution. Predicted band size : 28 kDa



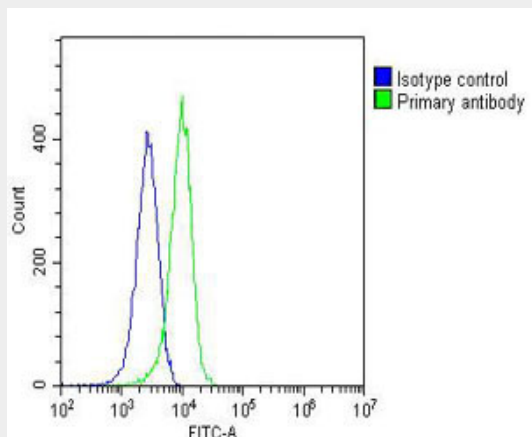
All lanes : Anti-PCNA Antibody at 1:2000 dilution Lane 1: HepG2 whole cell lysate Lane 2: A431 whole cell lysate Lysates/proteins at 20  $\mu$ g per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 29 kDa Blocking/Dilution buffer: 5% NFDm/TBST.



Immunohistochemical analysis of paraffin-embedded Human Ovarian cancer section using Pink1(Cat#AM8545b). AM8545b was diluted at 1:2000 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.



AM8545b staining PCNA in human breast carcinoma tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0.5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hour at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



Overlay histogram showing Hela cells stained with AM8545b (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then incubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AM8545b, 1:25 dilution) for 60 min at 37°C. The secondary antibody used was Goat-Anti-Mouse IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed (OJ192088) at 1/200 dilution for 40 min at 37°C. Isotype control antibody (blue line) was mouse IgG1 (1 µg/1x10<sup>6</sup> cells) used under the same conditions. Acquisition of >10,000 events was performed.

### PCNA Antibody [Knockout Validated] - Background

Auxiliary protein of DNA polymerase delta and is involved in the control of eukaryotic DNA replication by increasing the polymerase's processibility during elongation of the leading strand. 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. 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.

### PCNA Antibody [Knockout Validated] - References

Almendral J.M., et al. Proc. Natl. Acad. Sci. U.S.A. 84:1575-1579 (1987).  
Travali S., et al. J. Biol. Chem. 264:7466-7472 (1989).  
Ota T., et al. Nat. Genet. 36:40-45 (2004).  
Deloukas P., et al. Nature 414:865-871 (2001).  
Mural R.J., et al. Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.

### PCNA Antibody [Knockout Validated] - Citations

- [Circ\\_0046599 Promotes the Development of Hepatocellular Carcinoma by Regulating the miR-1258/RPN2 Network](#)

