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PCNA Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2835C

Product Information

Application	WB, IHC-P, IF, FC, E
Primary Accession	P12004
Other Accession	P04961, P17918, P61258, P57761, Q9DEA3, Q3ZBW4
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Chicken, Hamster, Monkey, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB17485
Calculated MW	28769
Antigen Region	89-117

Additional Information

Gene ID	5111
Other Names	Proliferating cell nuclear antigen, PCNA, Cyclin, PCNA
Target/Specificity	This PCNA antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 89-117 amino acids from the Central region of human PCNA.
Dilution	WB~~1:1000 IHC-P~~1:100~500 IF~~1:10~50 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation 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 (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PCNA
Function	Confers DNA tethering and processivity to DNA polymerases and other proteins (PubMed:24695737, PubMed:24939902, PubMed:35585232).

Auxiliary protein of DNA polymerase delta and epsilon, is involved in the control of DNA replication by increasing the polymerases' processivity 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

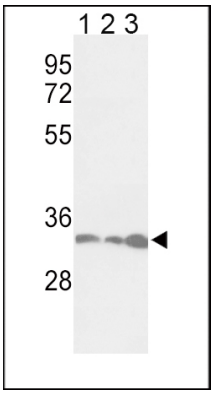
Background

PCNA is found in the nucleus and is a cofactor of DNA polymerase delta. This 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.

References

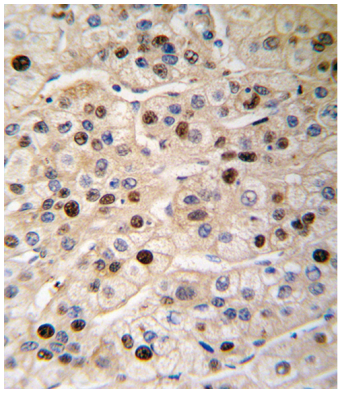
Wang,Y., J. Cell. Biochem. 106 (3), 409-413 (2009)
Maga,G., Proc. Natl. Acad. Sci. U.S.A. 105 (52), 20689-20694 (2008)
Acharya,N., Proc. Natl. Acad. Sci. U.S.A. 105 (46), 17724-17729 (2008)

Images

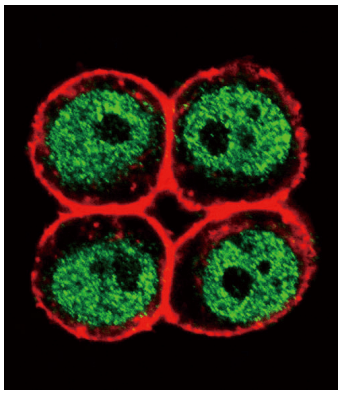


Western blot analysis of PCNA Antibody (Center) (Cat.#AP2835c) in Jurkat(lane 1), Hela(lane 2), 293(lane 3) cell line lysates (35ug/lane). PCNA (arrow) was detected using the purified Pab.

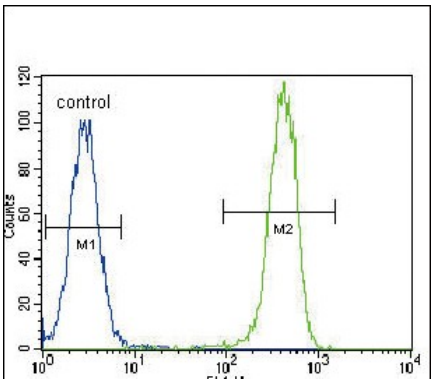
Formalin-fixed and paraffin-embedded human hepatocarcinoma tissue reacted with PCNA antibody (Center) (Cat. #AP2835c), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use



of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Confocal immunofluorescent analysis of PCNA Antibody (Center)(Cat#AP2835c) with Hela cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green).Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red).



PCNA Antibody (Center) (Cat. #AP2835c) flow cytometric analysis of Hela cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.