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PCNA Antibody (C-term)

Mouse Monoclonal Antibody (Mab)
Catalog # AW5198

Product Information

Application	WB, IHC
Primary Accession	P12004
Other Accession	P04961, P61258, P57761, Q3ZBW4
Reactivity	Human, Mouse
Predicted	Rat
Host	Mouse
Clonality	Monoclonal
Calculated MW	28769
Isotype	IgG1
Antigen Source	Human

Additional Information

Gene ID	5111
Antigen Region	236-261
Other Names	PCNA;Proliferating cell nuclear antigen; Proliferating cell nuclear antigen; Cyclin
Dilution	WB~~1:1000 IHC~~1:100~500
Target/Specificity	This PCNA antibody is generated from mice immunized with a KLH conjugated synthetic peptide between 236-261 amino acids from the C-terminal region of human PCNA.
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 (C-term) 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

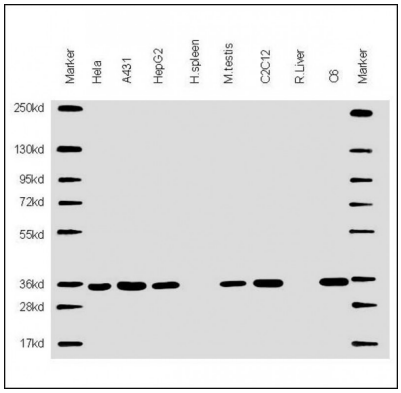
Background

This protein is an 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.

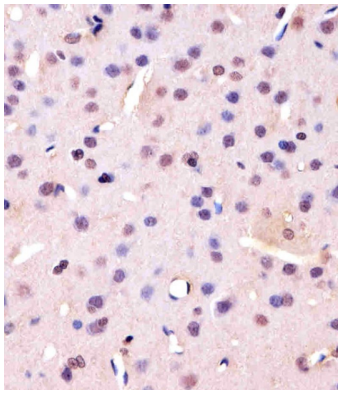
References

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.

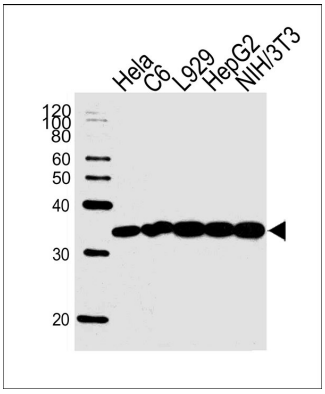
Images



All lanes : Anti-PCNA Antibody (C-term) at1:3000 dilution Lane 1: Hela whole cell lysate Lane 2: A431 whole cell lysate Lane 3: HepG2 whole cell lysate Lane 4: human spleen lysate Lane 5: mouse Testis lysate Lane 6: C2C12 whole cell lysate Lane 7: rat Liver lysate Lane 8: C6 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 36 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



AM2237b staining PCNA in Rat brain 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 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



Western blot analysis of lysates from Hela,rat C6,L929,HepG2,mouse NIH/3T3 cell line (from left to right), using PCNA Antibody (C-term)(Cat. #AW5198). AW5198 was diluted at 1:1000 at each lane. A goat anti-mouse IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.Lysates at 20ug per lane.

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