abcam

ab265585

Anti-PCNA antibody [PC10]

Lab Essentials

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	pH: 6.8 - 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Rat Pcna. Database link P04961
Clone number	PC10
Purification technique	Affinity purification

Reactivity data

IP

Tested

Species	Mouse
Dilution info	-
Notes	20 µl/1 mg lysate

Expected

Species	Human

Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/100 - 1/500
Notes	Epitope retrieval with citrate buffer pH6.0 is recommended for FFPE tissue sections.

Species	Human
Dilution info	1/100 - 1/500
Notes	Epitope retrieval with citrate buffer pH6.0 is recommended for FFPE tissue sections.

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/500

Notes	Epitope retrieval with citrate buffer pH6.0 is recommended for FFPE cell sections

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1 µL for 10^6 Cells
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information 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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	PCNA or Proliferating Cell Nuclear Antigen functions as a sliding clamp for DNA polymerases during DNA replication. This important role enables it to coordinate the orderly duplication of the genome by increasing the processivity of DNA polymerase δ. PCNA weighs approximately 29 kDa and forms a homotrimeric ring structure. It is expressed in the nucleus of cells often found abundantly in proliferating cells. Aside from its main name some people also refer to it as PC10.
Biological function summary	This protein serves a core function in cell cycle regulation and DNA repair. PCNA acts as a scaffold for the assembly of numerous proteins involved in DNA processing forming part of the replication fork complex. It interacts with cyclins and cyclin-dependent kinases (CDKs) linking DNA synthesis to cell cycle progression. Furthermore PCNA partners with proteins involved in DNA mismatch repair base excision repair and nucleotide excision repair.
Pathways	PCNA is integral in the DNA replication and repair pathways. It closely associates with the p21 protein which regulates the cell cycle by inhibiting cyclin-CDK complexes upon DNA damage. PCNA also plays a part in the ubiquitin-proteasome pathway where its modification by ubiquitin impacts how cells respond to DNA damage. This modification recruits specific proteins for DNA repair highlighting its central role in maintaining genomic stability.
Associated diseases and disorders	PCNA is linked to cancer and autoimmune diseases. Its overexpression is common in various cancers reflecting its role in cell proliferation and the cell cycle. PCNA antibodies are sometimes found in the serum of patients with systemic lupus erythematosus (SLE) a connection also related to alterations in the p21 protein pathway. The interaction between PCNA and disease-specific proteins emphasizes its importance in both cell proliferation and immune system disorders.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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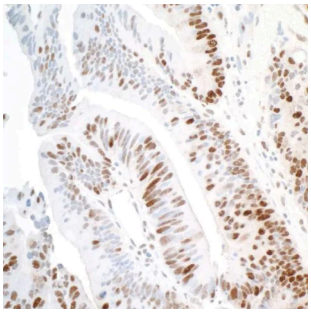
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-PCNA antibody [PC10] (ab265585)

PCNA Immunocytochemistry/ Immunofluorescence staining using mouse Anti-PCNA antibody

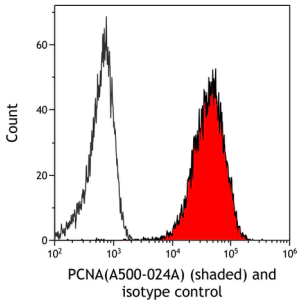
Formalin-fixed, paraffin-embedded H226 cells stained for PCNA using ab265585 at 1/100 dilution in ICC/IF analysis. Substrate: DAB.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PCNA antibody [PC10] (ab265585)

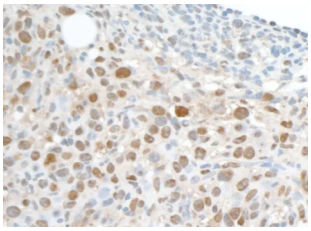
PCNA Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-PCNA antibody

Formalin-fixed, paraffin-embedded human colon carcinoma tissue stained for PCNA using ab265585 at 1/100 dilution in immunohistochemical analysis. Substrate: DAB



Flow Cytometry - Anti-PCNA antibody [PC10] (ab265585)

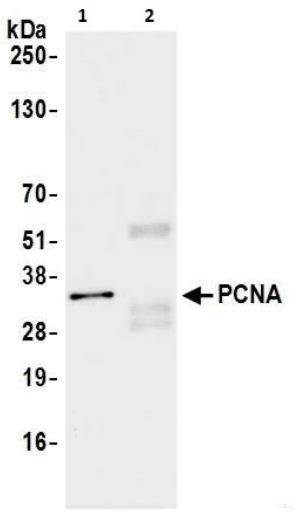
Flow cytometry overlay histogram of 4% formaldehyde fixed Jurkat cells permeabilized with 90% methanol labeling PCNA with ab265585 at 1 µl per 1 x 10^6 cells (shaded) compared with a Isotype control (unshaded). Secondary antibody details, DyLight® 488-conjugated goat anti-mouse IgG (ab96879).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PCNA antibody [PC10] (ab265585)

PCNA Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-PCNA antibody

Formalin-fixed, paraffin-embedded mouse colon carcinoma tissue stained for PCNA using ab265585 at 1/100 dilution in immunohistochemical analysis. Substrate: DAB



Immunoprecipitation - Anti-PCNA antibody [PC10] (ab265585)

PCNA was immunoprecipitated from 1 mg TCMK-1 cell lysate using ab265585 at 20 µl/mg lysate. Western blot was performed on the immunoprecipitate using ab265585 at 1/1000 dilution.
Lane 1: ab265585 IP in TCMK-1 whole cell lysate.
Lane 2: Control IgG.

All lanes:
Immunoprecipitation - Anti-PCNA antibody [PC10] (ab265585)

Developed using the ECL technique.

Predicted band size: 29 kDa

Exposure time: 3min

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