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Anti-PCNA (RABBIT) Antibody
PCNA Antibody
Catalog # ASR5378

Specification

Anti-PCNA (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Human**
Clonality	**Polyclonal**
Application	**WB, E, I, LCI**
Application Note	**This affinity purified antibody has been tested for use in ELISA, immunoprecipitation, and western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 29-36 kDa in size corresponding to PCNA protein by western blotting in the appropriate cell lysate or extract.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an internal region of human PCNA protein.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-PCNA (RABBIT) Antibody - Additional Information

Gene ID 5111

Other Names
5111

Purity
This affinity purified antibody is directed against human PCNA protein. The product was affinity purified from monospecific antiserum by immunoaffinity chromatography. A BLAST analysis was used to suggest cross reactivity with PCNA protein from human, monkey, dog, mouse, rat, bovine, chicken, fish and Xenopus based on 100% homology with the immunizing sequence. Reactivity against homologues from other sources is not known.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-PCNA (RABBIT) 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: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

Anti-PCNA (RABBIT) 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

Anti-PCNA (RABBIT) Antibody - Images

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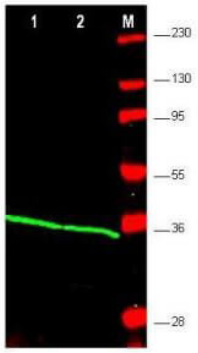

Western blot using Rockland's affinity purified anti-PCNA antibody shows detection of PCNA protein. Lane 1: HEK293 whole cell extracts (p/n W09-000-365). Lane 2: Jurkat whole cell extracts (p/n W09-001-370). Approximately 25 µg of lysate was loaded per lane onto a 4-20% gradient gel followed by transfer to nitrocellulose. After blocking, the membrane was incubated with the primary antibody diluted to 1:1000. The membrane was washed and reacted with a 1:10,000 dilution of IRDye® 800 Conjugated Affinity Purified Goat-anti-Rabbit IgG [H&L] MX10 (p/n 611-132-122) (800 nm channel, green). Molecular weight estimation was made by comparison to prestained MW markers indicated at the right (lane M, 700 nm channel, red). Other detection systems will yield similar results.

Anti-PCNA (RABBIT) Antibody - Background

The proliferating cell nuclear antigen (PCNA) is an auxiliary protein of DNA polymerase delta and is involved in the control of eukaryotic DNA replication by increasing the processibility of DNA polymerase during elongation of the leading strand. PCNA is expressed in the nucleus of all proliferating cells and is pivotal for DNA synthesis and cell cycle progression. In response to DNA damage, PCNA is mono-ubiquitinated and is involved in mismatch-provoked excision. PCNA is a useful marker for DNA synthesis and is highly conserved among most species.