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PCNA Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10256

Specification

PCNA Antibody - Product Information

Application	**WB, IHC, IP**
Primary Accession	P12004
Other Accession	CAG38740.1
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**28769**

PCNA Antibody - Additional Information

Gene ID 5111

Application & Usage

Western blotting (0.5-4 µg/ml). Per researcher's feedback, it can also be used in immunoprecipitation and Immunohistochemistry (frozen & paraffin). However, the optimal conditions should be determined individually.

Other Names
PCNA, proliferating cell nuclear antigen

Target/Specificity
PCNA

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µg (0.2 mg/ml) affinity purified rabbit anti-PCNA polyclonal antibody in phosphate buffered saline (PBS), pH 7.2, containing 30% glycerol, 0.5% BSA, 0.01% thimerosal.

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
PCNA Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

PCNA 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.

PCNA 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

PCNA Antibody - Images

PCNA Antibody - Background

PCNA (Proliferating Cell Nuclear Antigen) is a 36 kDa protein also known as cyclin. In early S phase, PCNA has a very granular distribution and is absent from the nucleoli. At late S phase, PCNA is prominent in the nucleoli. There are two forms of PCNA protein present in cells, a soluble form sensitive to organic fixation and not involved in replication, and the other form is insoluble and is associated with ongoing DNA synthesis.