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PCNA (Proliferating Cell Nuclear Antigen) (G1- & S-phase Marker) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone PCNA/694]
Catalog # AH12050

Specification

PCNA (Proliferating Cell Nuclear Antigen) (G1- & S-phase Marker) Antibody - With BSA and Azide - Product Information

Application	**,1,2,3,4,**
Primary Accession	P12004
Other Accession	5111, 147433, 728886
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**Mouse / IgG2a, kappa**
Calculated MW	**36kDa KDa**

PCNA (Proliferating Cell Nuclear Antigen) (G1- & S-phase Marker) Antibody - With BSA and Azide - Additional Information

Gene ID 5111

Other Names
Proliferating cell nuclear antigen, PCNA, Cyclin, PCNA

Storage
Store at 2 to 8°C.Antibody is stable for 24 months.

Precautions
PCNA (Proliferating Cell Nuclear Antigen) (G1- & S-phase Marker) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

PCNA (Proliferating Cell Nuclear Antigen) (G1- & S-phase Marker) Antibody - With BSA and Azide - 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).

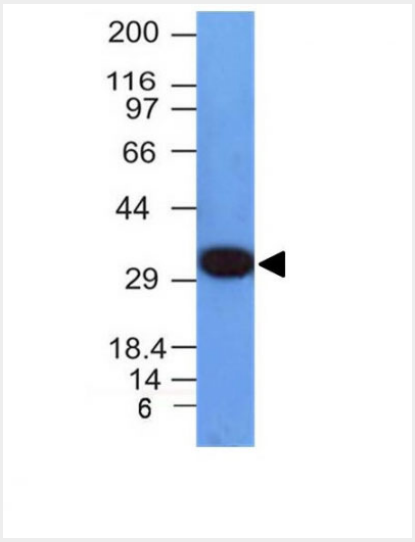
Cellular Location
Nucleus Note=Colocalizes with CREBBP, EP300 and POLD1 to sites of DNA damage (PubMed:24939902). Forms nuclear foci representing sites of ongoing DNA replication and vary in morphology and number during S phase (PubMed:15543136). Co-localizes with SMARCA5/SNF2H and BAZ1B/WSTF at replication foci during S phase (PubMed:15543136). Together with APEX2, is redistributed in discrete nuclear foci in presence of oxidative DNA damaging agents.

PCNA (Proliferating Cell Nuclear Antigen) (G1- & S-phase Marker) Antibody - With BSA and Azide - Protocols

Provided below are standard protocols that you may find useful for product applications.

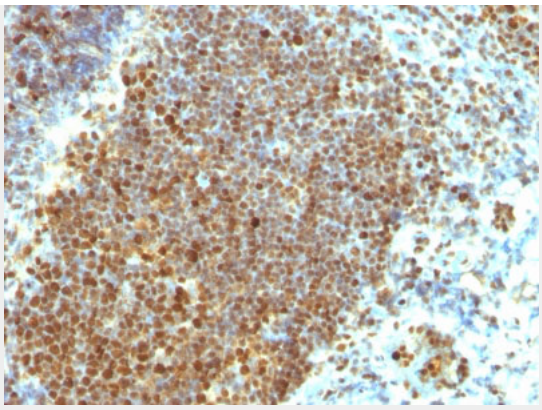
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PCNA (Proliferating Cell Nuclear Antigen) (G1- & S-phase Marker) Antibody - With BSA and Azide - Images



Western Blot Analysis of HepG2 Cell Lysate using PCNA Monoclonal Antibody (PCNA/694)

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Formalin-fixed, paraffin-embedded human Tonsil stained with PCNA Monoclonal Antibody (PCNA/694)

PCNA (Proliferating Cell Nuclear Antigen) (G1- & S-phase Marker) Antibody - With BSA and Azide - Background

Recognizes a non-histone protein of 36kDa, which is identified as proliferating cell nuclear antigen (PCNA). It is also known as cyclin or polymerase delta auxiliary protein. Elevated expression of PCNA/cyclin has been shown in the nucleus during late G1 phase immediately before the onset of DNA synthesis, becoming maximal during S-phase and declining during G2 and M phases. This MAb is excellent for multiple applications.

PCNA (Proliferating Cell Nuclear Antigen) (G1- & S-phase Marker) Antibody - With BSA and Azide - References

Waseem NH & Lane DP. 1990. J Cell Sci. 96:121-9. | Hall PA et al. 1990. J. Pathol. 162(4):285-94