10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

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

Mouse Monoclonal Antibody [Clone SPM350]
Catalog # AH10652

Product Information

Application	WB, IF, FC, IHC-P
Primary Accession	P12004
Other Accession	5111, 147433, 728886
Reactivity	Human, Mouse, Rat, Zebrafish, Monkey, Pig, Chicken, Yeast, Drosophila
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG2a, kappa
Clone Names	SPM350
Calculated MW	28769

Additional Information

Gene ID	5111
Other Names	Proliferating cell nuclear antigen, PCNA, Cyclin, PCNA
Application Note	WB~~1:1000 IF~~1:50~200 FC~~1:10~50 IHC-P~~N/A
Format	200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.
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.

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

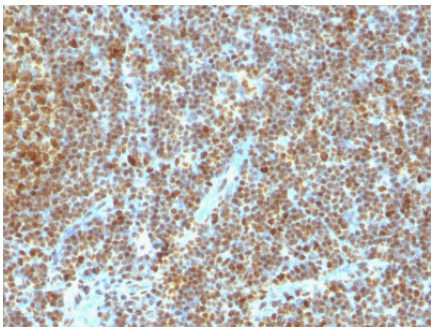
Background

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.

References

Waseem NH & Lane DP. 1990. J Cell Sci. 96:121-9. | Hall PA et al. 1990. J. Pathol. 162(4):285-94. | Landberg G & Roos G. 1991. Cancer Res. 51 (17):4570-4. | Woods AL et al. 1991. Histopathol. 19(1):21-7 | Yu,CC. et al. 1991. Histopathol. 19(1):29-33

Images



Formalin-fixed, paraffin-embedded human Tonsil stained with PCNA Monoclonal Antibody (SPM350)