PCNA Antibody – Mouse Monoclonal

PRODUCT OVERVIEW

Product Name	PCNA, Monoclonal Antibody
Full Product Name	PCNA (Proliferating Cell Nuclear Antigen, DNA Polymerase Delta Auxiliary Protein, OTTHUMP00000030189, OTTHUMP00000030190, MGC8367) (M 750)
Product Gene Name	anti-PCNA antibody
Clonality	Monoclonal
Isotype	IgG2a,k
Clone Number	3A9
Host	Mouse
Species Reactivity	Human
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with MaxLight750.
Purity/Purification	Purified
Specificity	Recognizes human PCNA.
Preparation and Storage	Store product at 4 degree C in the dark. DO NOT FREEZE! Stable at 4 degree C for 12 months after receipt as an undiluted liquid. Dilute required amo prior to immediate use. Further dilutions can be made in assay buffer. Caution: MaxLight750 conjugates are sensitive to light. For maximum recovery o centrifuge the original vial prior to removing the cap.
Molecular Weight	28,769 Da
OMIM	176740
3D Structure	ModBase 3D Structure for P12004
Immunogen	Recombinant protein corresponding to aa152-261 from human PCNA with GST tag. MW of the GST tag alone is 26kD.
Immunogen Sequence	SHIGDAVVISCAKDGVKFSASGELGNGNIKLSQTSNVDKEEEAVTIEMNEPVQLTFALRYLNFFTKATPLSSTVTLSMSADVPLVVEYKIADMGHLKYYLAP
Conjugate	MaxLight750
Product Categories/Family for anti-PCNA antibody	Antibodies; Nuclear Proteins
Applications Tested/Suitable for anti-PCNA antibody	FLISA, Immunofluorescence (IF), Western Blot (WB)
Application Notes for anti-PCNA antibody	Applications are based on unconjugated antibody.
Related Product Information for anti-PCNA antibody	The protein encoded by this gene is found in the nucleus and is a cofactor of DNA polymerase delta. The encoded protein acts as a homotrimer and he increase the processivity of leading strand synthesis during DNA replication. In response to DNA damage, this protein is ubiquitinated and is involved ir RAD6-dependent DNA repair pathway. Two transcript variants encoding the same protein have been found for this gene. Pseudogenes of this gene ha described on chromosome 4 and on the X chromosome.

Other Notes	Small volumes of anti-PCNA antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necess centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional may apply.
Searchable Terms for PCNA purchase	MBS6236943 is an antibody targeting PCNA. Also known as PCNA (Proliferating Cell Nuclear Antigen, DNA Polymerase Delta Auxiliary Protein, OTTHUMP00000030189, OTTHUMP00000030190, MGC8367) (MaxLight 750). Reactive in Human. Host: Mouse.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for PCNA. It may not necessarily be applicable to this product.

NCBI GI #	4505641
NCBI GeneID	5111
NCBI Accession #	NP_002583
UniProt Primary Accession #	P12004
UniProt Secondary Accession #	B2R897; D3DW02
UniProt Related Accession #	P12004
GenBank Nucleotide #	NM_002592.2
NCBI Official Full Name	proliferating cell nuclear antigen
NCBI Official Synonym Full Names	proliferating cell nuclear antigen
NCBI Official Symbol	PCNA
NCBI Official Synonym Symbols	ATLD2
UniProt Protein Name	Proliferating cell nuclear antigen
UniProt Synonym Protein Names	Cyclin
Protein Family	Probable DNA polymerase sliding clamp
UniProt Gene Name	PCNA
UniProt Synonym Gene Names	PCNA
UniProt Entry Name	PCNA_HUMAN
NCBI Protein Information	proliferating cell nuclear antigen

UniProt Comments for PCNA	PCNA: This protein is an auxiliary protein of DNA polymerase delta and is involved in the control of eukaryotic DNA replication by increasing the polymerase's processibility during elongation of the leading strand. 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. Homotrimer. Forms a complex with activator 1 heteropentamer in the presence of ATP. Interacts with EXO1, POLH, POLK, DNMT1, ERCC5, FEN1, CDC6 and POLDIP2. Interacts with APEX2; this interaction is triggered by reactive oxygen species and increased by misincorporation of uracil in nuclear DNA. Forms a ternary complex with DNTTIP2 and core histone. Interacts with KCTD10 and PPP1R15A. Interacts with POLD1, POLD3 and POLD4. Interacts with BAZ1B; the interaction is direct. Interacts with HLTF and SHPRH. Interacts with NUDT15. Interaction is disrupted in response to UV irradiation and acetylation. Interacts with p21Cip1/p21(CIP1) and CDT1; interacts via their PIP-box which also recruits the DCX(DTL) complex. Interacts with DDX11. Interacts with EGFR; positively regulates PCNA. Interacts with C12orf48/PARI. Interacts with SMARCAD1. Belongs to the PCNA family. Protein type: DNA replication; Cell cycle regulation Chromosomal Location of Human Ortholog: 20pter-p12 Cellular Component: nucleoplasm; centrosome; PCNA complex; nuclear replication fork; DNA replication factor C complex; cytoplasm; nucleus Molecular Function: identical protein binding; protein binding; DNA polymerase processivity factor activity; MutLalpha complex binding; purine-specific mismatch base pair DNA N-glycosylase activity; dinucleotide insertion or deletion binding; receptor tyrosine kinase binding Biological Process: mismatch repair; positive regulation of deoxyribonuclease activity; heart development; DNA strand elongation during DNA replication; response to lipid; DNA repair; leading strand elongation; telomere maintenance via semi-conservative replication; G1/S-specific transcription in mitotic cell cycle; cell proliferation; bypass DNA synthesis; response to cadmium ion; epithelial cell differentiation; nucleotide-excision repair; base-excision repair; transcription-coupled nucleotide-excision repair; telomere maintenance via recombination; nucleotide-excision repair, DNA gap filling; mitotic cell cycle; telomere maintenance; regulation of DNA replication; G1/S transition of mitotic cell cycle Disease: Ataxia-telangiectasia-like Disorder 2
Research Articles on PCNA	**1.** The here presented evidence that the PCNA inner surface is highly regulated to control DNA damage resistance represents a new concept that offers new opportunities to develop tools to manipulate the DNA damage response in cancer treatment. [review]
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