

## ARG62605 anti-PCNA antibody [PC10]

Package: 100 µl, 50 µl  
Store at: -20°C

### Summary

Product Description	Mouse Monoclonal antibody [PC10] recognizes PCNA
Tested Reactivity	Hu, Ms, Rat, Chk, Dm, Mk, Pgn, Pig, Zfsh
Tested Application	FACS, ICC/IF, IHC-Fr, IHC-P, IP, WB
Host	Mouse
Clonality	Monoclonal
Clone	PC10
Isotype	IgG2a
Target Name	PCNA
Species	Rat
Immunogen	Protein A-rat PCNA (proliferating cell nuclear antigen) fusion obtained from pC2T
Conjugation	Un-conjugated
Alternate Names	PCNA; ATLD2; Cyclin; Proliferating cell nuclear antigen

### Application Instructions

Application table	Application	Dilution
	FACS	1 µg/10 <sup>6</sup> cells
	ICC/IF	0.5 - 1 µg/ml.
	IHC-Fr	Assay-dependent
	IHC-P	0.5 - 1 µg/ml
	IP	Assay-dependent
	WB	0.01 - 1 µg/ml
Application Note	ICC/IF: Methanol fixed samples. IHC-P: Antigen Retrieval: Heat mediated in Citrate buffer (pH 6.0) * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	
Positive Control	HEK293	

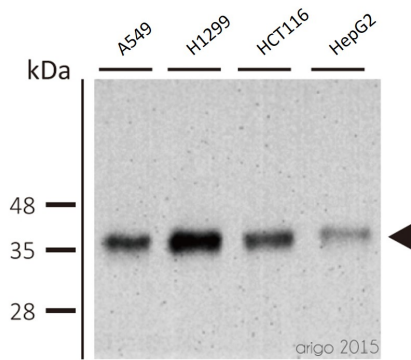
### Properties

Form	Liquid
Buffer	PBS (pH 7.6), 0.02% Sodium azide and 0.4M arginine.
Preservative	0.02% Sodium azide

Concentration	0.2 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

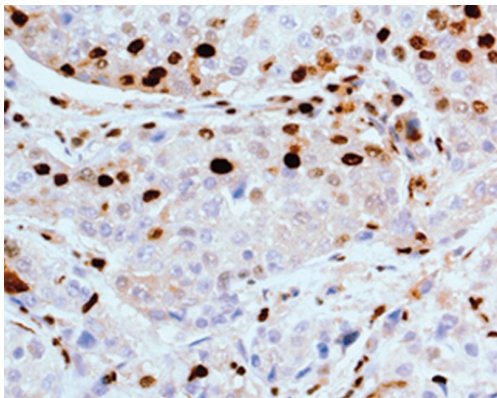
## Bioinformation

Gene Symbol	Pcna
Gene Full Name	proliferating cell nuclear antigen
Background	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 helps increase the processivity of leading strand synthesis during DNA replication. In response to DNA damage, this protein is ubiquitinated and is involved in the RAD6-dependent DNA repair pathway. Two transcript variants encoding the same protein have been found for this gene. Pseudogenes of this gene have been described on chromosome 4 and on the X chromosome. [provided by RefSeq, Jul 2008]
Function	Auxiliary protein of DNA polymerase delta and is involved in the control of eukaryotic DNA replication by increasing the polymerase's processivity 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. 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. 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 (By similarity). [UniProt]
Highlight	Related products: <a href="#">PCNA antibodies</a> ; <a href="#">PCNA Duos / Panels</a> ; <a href="#">Anti-Mouse IgG secondary antibodies</a> ;
Research Area	Cancer antibody; Cell Biology and Cellular Response antibody; Controls and Markers antibody; Gene Regulation antibody
Calculated Mw	29 kDa
PTM	Phosphorylated. Phosphorylation at Tyr-211 by EGFR stabilizes chromatin-associated PCNA. Acetylated by CREBBP and p300/EP300; preferentially acetylated by CREBBP on Lys-80, Lys-13 and Lys-14 and on Lys-77 by p300/EP300 upon loading on chromatin in response to UV irradiation (PubMed:24939902, PubMed:19419956). Lysine acetylation disrupts association with chromatin, hence promoting PCNA ubiquitination and proteasomal degradation in response to UV damage in a CREBBP- and EP300-dependent manner (PubMed:24939902). Acetylation disrupts interaction with NUDT15 and promotes degradation (PubMed:19419956). Ubiquitinated (PubMed:24939902, PubMed:20227374). Following DNA damage, can be either monoubiquitinated to stimulate direct bypass of DNA lesions by specialized DNA polymerases or polyubiquitinated to promote recombination-dependent DNA synthesis across DNA lesions by template switching mechanisms. Following induction of replication stress, monoubiquitinated by the UBE2B-RAD18 complex on Lys-164, leading to recruit translesion (TLS) polymerases, which are able to synthesize across DNA lesions in a potentially error-prone manner. An error-free pathway also exists and requires non-canonical polyubiquitination on Lys-164 through 'Lys-63' linkage of ubiquitin moieties by the E2 complex UBE2N-UBE2V2 and the E3 ligases, HLTF, RNF8 and SHPRH. This error-free pathway, also known as template switching, employs recombination mechanisms to synthesize across the lesion, using as a template the undamaged, newly synthesized strand of the sister chromatid. Monoubiquitination at Lys-164 also takes place in undamaged proliferating cells, and is mediated by the DCX(DTL) complex, leading to enhance PCNA-dependent translesion DNA synthesis. Sumoylated during S phase. Methylated on glutamate residues by ARMT1/C6orf211.
Cellular Localization	Nucleus. Note: Forms nuclear foci representing sites of ongoing DNA replication and vary in morphology and number during S phase. Together with APEX2, is redistributed in discrete nuclear foci in presence of oxidative DNA damaging agents. [uniprot: P12004]



ARG62605 anti-PCNA antibody [PC10] WB image

Western blot: A549, H1299, HCT116 and HepG2 cell lysates stained with ARG62605 anti-PCNA antibody [PC10] at 0.2 µg/ml.



ARG62605 anti-PCNA antibody [PC10] IHC-P image

Immunohistochemistry: formalin-fixed, paraffin-embedded human breast carcinoma tissue stained with PCNA antibody [PC10] (ARG62605).