

## Mouse Anti-PCNa (ready to use)antibody (BH0011)

BH0011

<b>Product Name</b>	PCNA(ready to use)
<b>Chinese Name</b>	人增殖 The nucleus 抗原单克隆抗体（工作液）
<b>Alias</b>	Cyclin; DNA polymerase delta auxiliary protein; HGCN8729; MGC8367; Mutagen-sensitive 209 protein; Pcn/cyclin; PCNAR; Polymerase delta accessory protein; Proliferating Cell Nuclear Antigen
<b>Research Area</b>	Tumour Cell biology Cyclin transcriptional regulatory factor
<b>Immunogen Species</b>	Mouse
<b>Clonality</b>	Monoclonal
<b>Clone NO.</b>	10E9
<b>React Species</b>	Human,
<b>Applications</b>	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1:50-100（Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
<b>Theoretical molecular weight</b>	29kDa
<b>Cellular localization</b>	The nucleus
<b>Form</b>	Liquid
<b>immunogen</b>	KLH conjugated synthetic peptide derived from human PCNA
<b>Lsotype</b>	IgG
<b>Purification</b>	affinity purified by Protein A
<b>Buffer Solution</b>	1M PBS(pH7.4) with 1% BSA and 0.1% Proclin300

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<b>Storage</b>	Store at 2-8 °C for one year. Avoid repeated freeze/thaw cycles.
<b>Attention</b>	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
<b>PubMed</b>	<a href="#">PubMed</a> Proliferating cell nuclear antigen (PCNA) is a 28kDa nuclear protein associated with the cell cycle, a nuclear protein vital for cellular DNA synthesis. Proliferating cell nuclear antigen was originally identified by immunofluorescence as a nuclear protein whose appearance correlated with the proliferate state of the cell. PCNA is required for replication of DNA in vitro and has been identified as the auxiliary protein (cofactor) for DNA polymerase delta. The anti-PCNA antibodies react with the nuclei of proliferating cells. PCNA is essential for cellular DNA synthesis and is also required for the in vitro replication of simian virus 40 (SV40) DNA where it acts to coordinate leading and lagging strand synthesis at the replication fork. The PCNA protein may fulfil several separate roles in the cell nucleus associated with changes in its antigenic structure.
<b>Product Detail</b>	<p><b>Function:</b> 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. 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.</p> <p><b>Subunit:</b> 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 (By similarity). 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 CDKN1A/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 PARPBP. Interacts (when ubiquitinated) with SPRTN; leading to enhance RAD18-mediated PCNA ubiquitination. Interacts (when</p>

polyubiquitinated) with ZRANB3. Interacts with SMARCAD1. Interacts with CDKN1C. Interacts with KIAA0101/PAF15 (via PIP-box).

**Subcellular Location:**

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.

**Post-translational modifications:**

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.

Acetylated in response to UV irradiation. Acetylation disrupts interaction with NUDT15 and promotes degradation.

Phosphorylated. Phosphorylation at Tyr-211 by EGFR stabilizes chromatin-associated PCNA.

**Similarity:**

Belongs to the PCNA family.

**SWISS:**

P12004

**Gene ID:**

5111

**Database links:**

[Entrez Gene: 5111](#) Human

[Omin: 176740](#) Human

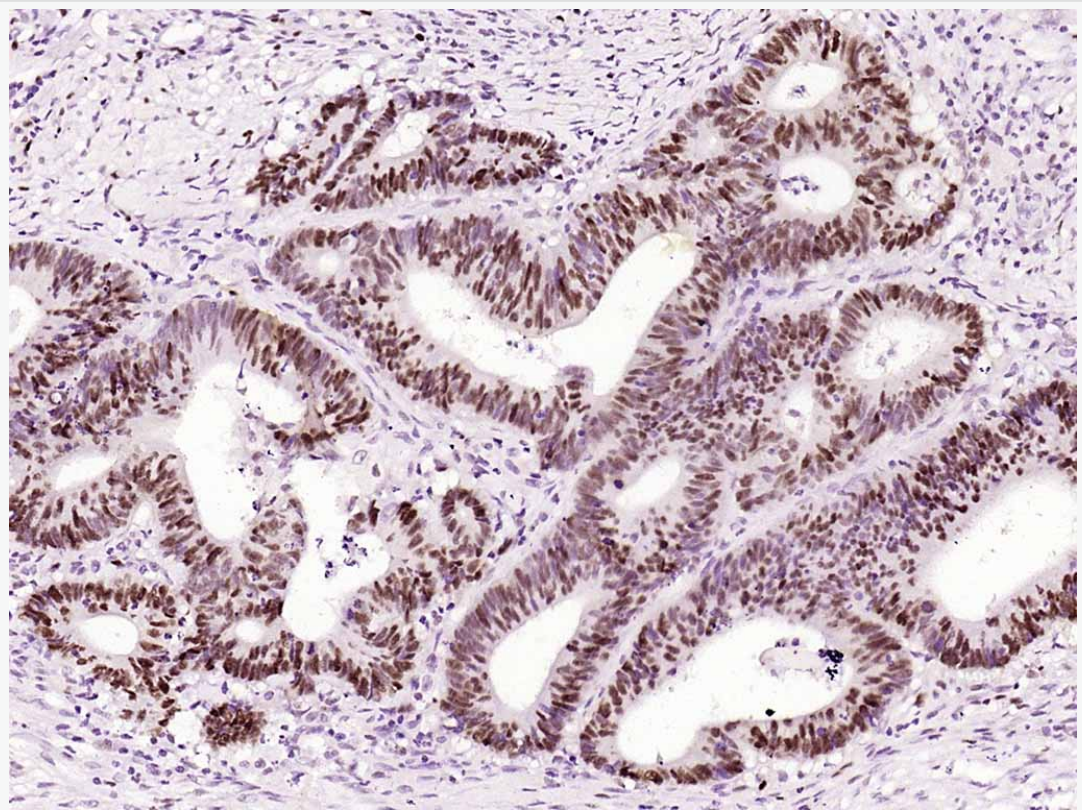
[SwissProt: P12004](#) Human

[Unigene: 147433](#) Human

[Unigene: 728886](#) Human

PCNA 是一种仅在增殖细胞中合成或表达的核内多肽，其表达和合成与细胞周期有关。主要表达于增殖细胞的 S 期、G1 期和 G2 初期。PCNA 主要作为判断各种恶性 Tumour(包括胃肠道癌肿、乳腺癌、肝癌、膀胱癌等)细胞增殖和其恶性程度的一种指标。

**Product  
Picture**



Paraformaldehyde-fixed, paraffin embedded (human colon carcinoma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (PCNA) Monoclonal



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Antibody, Unconjugated (BH0011) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Mouse)(sp-0024) instructions and DAB staining.