

**PCNA / Cyclin Antibody (clone PC10 (a.k.a. 3F81))**  
**Mouse Monoclonal Antibody**  
**Catalog # ALS15205****Specification**

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**PCNA / Cyclin Antibody (clone PC10 (a.k.a. 3F81)) - Product Information**

Application	IHC
Primary Accession	<a href="#">P12004</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	29kDa KDa

**PCNA / Cyclin Antibody (clone PC10 (a.k.a. 3F81)) - Additional Information****Gene ID** 5111**Other Names**

Proliferating cell nuclear antigen, PCNA, Cyclin, PCNA

**Reconstitution & Storage**

Store at 4°C, avoid repeated freeze thaw cycles.

**Precautions**

PCNA / Cyclin Antibody (clone PC10 (a.k.a. 3F81)) is for research use only and not for use in diagnostic or therapeutic procedures.

**PCNA / Cyclin Antibody (clone PC10 (a.k.a. 3F81)) - 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:<a href="http://www.uniprot.org/citations/35585232" target="\_blank">35585232</a>). 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:<a href="http://www.uniprot.org/citations/24939902" target="\_blank">24939902</a>). 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:<a href="http://www.uniprot.org/citations/24695737" target="\_blank">24695737</a>).

**Cellular Location**

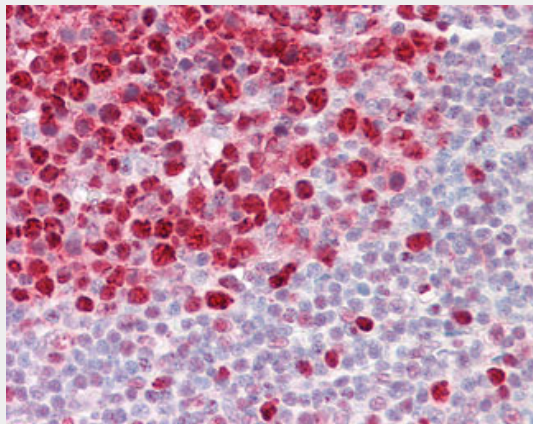
Nucleus Note=Colocalizes with CREBBP, EP300 and POLD1 to sites of DNA damage (PubMed:24939902). Forms nuclear foci representing sites of ongoing DNA replication and vary in morphology and number during S phase (PubMed:15543136). Co-localizes with SMARCA5/SNF2H and BAZ1B/WSTF at replication foci during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

### **PCNA / Cyclin Antibody (clone PC10 (a.k.a. 3F81)) - Protocols**

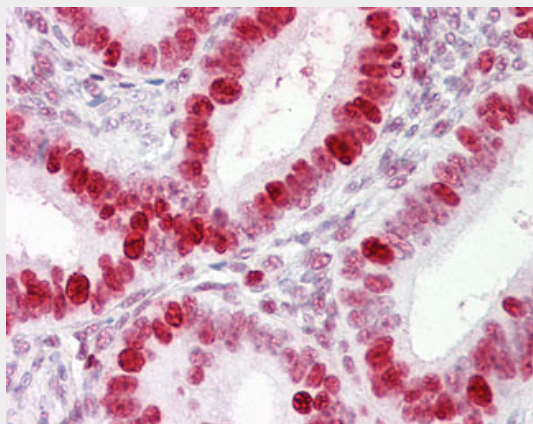
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### **PCNA / Cyclin Antibody (clone PC10 (a.k.a. 3F81)) - Images**



Anti-PCNA / Cyclin antibody IHC of human tonsil.



Anti-PCNA / Cyclin antibody IHC of human uterus.

### **PCNA / Cyclin Antibody (clone PC10 (a.k.a. 3F81)) - Background**

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.

#### **PCNA / Cyclin Antibody (clone PC10 (a.k.a. 3F81)) - References**

Almendral J.M.,et al.Proc. Natl. Acad. Sci. U.S.A. 84:1575-1579(1987).  
Travali S.,et al.J. Biol. Chem. 264:7466-7472(1989).  
Ota T.,et al.Nat. Genet. 36:40-45(2004).  
Deloukas P.,et al.Nature 414:865-871(2001).  
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.