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

PCNA / Cyclin Antibody (clone PC10 (a.k.a. 3F81))

Mouse Monoclonal Antibody
Catalog # ALS15205

Specification

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

Application	**IHC**
Primary Accession	P12004
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: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

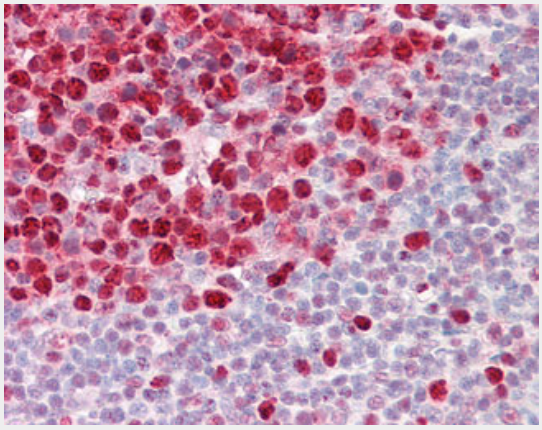
Nucleus. Note=Colocalizes with CREBBP, EP300 and POLD1 to sites of DNA damage (PubMed:24939902). Forms nuclear foci representing sites of ongoing DNA replication and vary in morphology and number during S phase (PubMed:15543136). Co-localizes with SMARCA5/SNF2H and BAZ1B/WSTF at replication foci during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

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

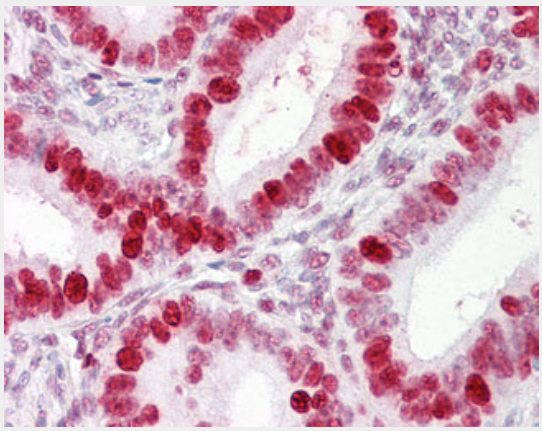
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- 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.