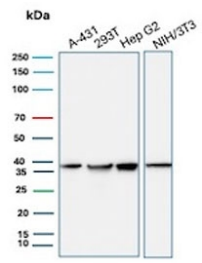
PCNA Antibody / Proliferating Cell Nuclear Antigen [clone PCNA/8696R] (V4827)

Catalog No.	Formulation	Size
V4827-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4827-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4827SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

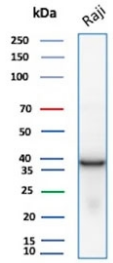
Recombinant RABBIT MONOCLONAL

Bulk quote request

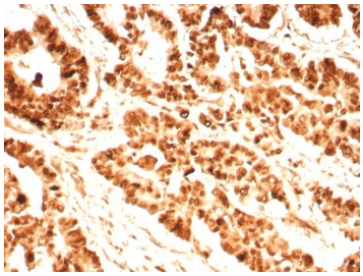
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	PCNA/8696R
Purity	Protein A/G affinity
UniProt	P12004
Localization	Nucleus, Cytoplasm
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT Western blot: 2-4ug/ml
Limitations	This PCNA antibody is available for research use only.



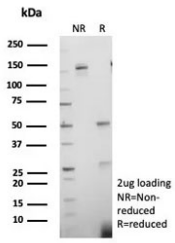
Western blot testing of human A431, 293T and HepG2 cell lysate and mouse NIH 3T3 cell lysate with PCNA antibody. Predicted molecular weight ~29 kDa, routinely observed at 29~36 kDa.



Western blot testing of human Raji cell lysate with PCNA antibody. Predicted molecular weight ~29 kDa, routinely observed at 29~36 kDa.



IHC staining of FFPE human prostate tissue with PCNA antibody (clone PCNA/8696R). Inset: PBS used in place of primary Ab (secondary Ab negative control). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



SDS-PAGE analysis of purified, BSA-free PCNA antibody (clone PCNA/8696R) as confirmation of integrity and purity.

Description

PCNA antibody, also known as Proliferating Cell Nuclear Antigen antibody, recognizes a nuclear protein commonly referred to as Cyclin and DNA polymerase delta auxiliary protein. Proliferating Cell Nuclear Antigen is encoded by the PCNA gene located on chromosome 20p12 and is a highly conserved component of the DNA replication machinery. PCNA is predominantly localized to the nucleus, where it functions as a sliding clamp that encircles DNA and coordinates replication and repair processes. It is strongly expressed in proliferating cells, particularly during the S phase of the cell cycle, and is widely used as a marker of cellular proliferation.

Proliferating Cell Nuclear Antigen plays a central role in DNA replication by acting as a processivity factor for DNA polymerase delta and epsilon. By forming a homotrimeric ring structure, it tethers polymerases and other replication factors to DNA, enhancing synthesis efficiency. PCNA also participates in multiple DNA repair pathways, including base excision repair, nucleotide excision repair, and mismatch repair, by recruiting repair enzymes to sites of DNA damage. PCNA antibody is frequently used in studies examining cell cycle progression, DNA replication dynamics, and tumor growth.

Structurally, Proliferating Cell Nuclear Antigen forms a toroidal homotrimer that creates a central channel for double-stranded DNA. Post-translational modifications such as ubiquitination and phosphorylation regulate PCNA interactions with distinct repair or tolerance factors, influencing pathway selection during DNA damage responses. Through interactions with numerous PCNA-interacting protein motifs, the protein acts as a central hub integrating replication, chromatin remodeling, and checkpoint signaling pathways.

Elevated PCNA expression is associated with increased proliferative activity in a wide range of malignancies, including breast, colorectal, lung, and prostate cancers. Its strong nuclear staining in dividing tumor cells makes it a widely used biomarker in pathology for assessing proliferation index. Beyond oncology, PCNA is essential for normal tissue renewal and regeneration, reflecting its fundamental role in maintaining genomic stability during cell division.

PCNA antibody supports research into cell cycle regulation, DNA replication, and genomic maintenance. Recombinant monoclonal clone PCNA/8696R recognizes Proliferating Cell Nuclear Antigen and is suitable for detecting PCNA expression in relevant research applications.

Application Notes

Optimal dilution of the PCNA antibody should be determined by the researcher.

Immunogen

Recombinant full-length human PCNA protein was used as the immunogen for the PCNA antibody.

Storage

Aliquot the PCNA antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Copyright © NSJ Bioreagents. All rights reserved.