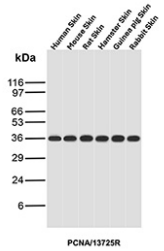
PCNA Proliferation Marker Antibody [clone PCNA/13725R] (V5964)

Catalog No.	Formulation	Size
V5964-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5964-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V5964SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

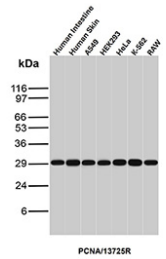
Recombinant RABBIT MONOCLONAL

Bulk quote request

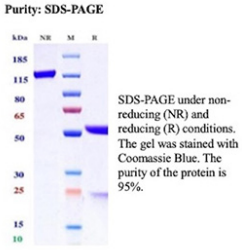
Species Reactivity	Human, Mouse, Rat, Hamster, Rabbit, Guinea pig
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	PCNA/13725R
UniProt	P12004
Localization	Nucleus. Cytoplasm.
Applications	Western Blot : 2-4ug/ml
Limitations	This PCNA Proliferation Marker antibody is available for research use only.



Western blot analysis of PCNA Proliferation Marker antibody in multi-species skin lysates. Western blot was performed using PCNA Proliferation Marker antibody (clone PCNA/13725R) on human skin, mouse skin, rat skin, hamster skin, guinea pig skin, and rabbit skin tissue lysates. A clear immunoreactive band is detected at approximately 29 kDa in all species tested, consistent with the predicted molecular weight of Proliferating Cell Nuclear Antigen. The conserved band size across species reflects the high sequence conservation of PCNA among mammals. The detected signal corresponds to the predicted molecular weight under reducing conditions. PCNA is a nuclear replication factor expressed in proliferating cells within skin tissue, and the consistent band pattern supports specific recognition of endogenous PCNA across multiple mammalian species.



Western blot analysis of PCNA Proliferation Marker antibody in human and mouse lysates. Western blot was performed using PCNA Proliferation Marker antibody (clone PCNA/13725R) on human intestine, human skin, A549, HEK293, HeLa, K-562, and mouse Raw cell lysates. A distinct immunoreactive band is detected at approximately 29 kDa across all lanes, consistent with the predicted molecular weight of Proliferating Cell Nuclear Antigen. The uniform band intensity reflects the constitutive expression of PCNA in actively proliferating cells and tissues. The detected signal aligns with the predicted molecular weight under reducing conditions. PCNA is a nuclear replication factor expressed during S phase, and its consistent detection across multiple proliferative cell types supports specific recognition of endogenous PCNA.



SDS-PAGE Analysis of PCNA Proliferation Marker antibody (PCNA/13725R) of Purity and Integrity of Antibody.

Description

PCNA Proliferation Marker antibody, also known as Proliferating Cell Nuclear Antigen antibody, recognizes a nuclear replication factor commonly referred to as PCNA and Cyclin. PCNA is encoded by the PCNA gene located on chromosome 20p12 and is a highly conserved protein essential for DNA synthesis and genome maintenance. The protein localizes to the nucleus, where it forms discrete replication foci during S phase and serves as a central coordinator of DNA replication and repair. PCNA expression is tightly linked to cell cycle progression and is markedly elevated in actively dividing cells, making it one of the most widely used biomarkers of cellular proliferation.

As a DNA sliding clamp, PCNA forms a homotrimeric ring that encircles double-stranded DNA and enhances the processivity of DNA polymerase delta and epsilon. By anchoring polymerases to the replication fork, it ensures efficient and continuous DNA synthesis. Beyond replication, PCNA functions as a molecular scaffold that recruits proteins involved in chromatin assembly, cell cycle regulation, and DNA damage response pathways. Through interactions with numerous PCNA-interacting protein motifs, it integrates replication with repair processes such as base excision repair, mismatch repair, and translesion synthesis.

PCNA activity is dynamically regulated by post-translational modifications including ubiquitination, phosphorylation, and sumoylation. These modifications alter binding partner selection and help determine whether a cell engages high-fidelity repair pathways or damage tolerance mechanisms. The nuclear distribution pattern of PCNA changes throughout the cell cycle, reflecting its role in coordinating DNA synthesis and checkpoint control. This dynamic regulation underlies its value as a proliferation marker in both experimental and clinical contexts.

Elevated PCNA expression is observed in a wide range of malignancies, including breast, colorectal, lung, prostate, and hematologic cancers. Strong nuclear staining correlates with increased growth fraction and is commonly used to assess tumor proliferative index. In non-neoplastic tissues, PCNA expression highlights regenerating or developmentally active cell populations, supporting its use in studies of tissue renewal and stem cell biology.

PCNA Proliferation Marker antibody supports investigation of cell cycle kinetics, DNA replication dynamics, and tumor growth biology. Recombinant monoclonal clone PCNA/13725R recognizes PCNA and is suitable for detecting proliferating cells in relevant research applications.

Application Notes

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

Immunogen

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

Storage

PCNA Proliferation Marker antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.