

PCNA (PC8): sc-53409

BACKGROUND

The proliferating cell nuclear antigen (PCNA), a protein synthesized in early G₁ and S phases of the cell cycle, functions in cell cycle progression, DNA replication and DNA repair. In early S phase, PCNA exhibits granular distribution and is absent from the nucleoli, however, in late S phase, it relocates to the nucleoli. PCNA exists in two basic forms, one involved in ongoing DNA replication, which localizes specifically to the nucleus, and a second, soluble form, not implicated in constant synthesis. Interestingly, the latter form degrades in the presence of organic solvents, rendering it undetectable by histological methods in tissues using organic fixatives, and thus also providing a method of visualizing only the synthesizing form.

REFERENCES

1. Bravo, R., et al. 1987. Existence of two populations of cyclin/proliferating cell nuclear antigen during the cell cycle: association with DNA replication sites. *J. Cell Biol.* 105: 1549-1554.
2. Waseem, N., et al. 1990. Monoclonal antibody analysis of the proliferating cell nuclear antigen (PCNA). Structural conservation and the detection of a nucleolar form. *J. Cell Sci.* 96: 121-129.
3. Woods, A.L., et al. 1991. The assessment of proliferating cell nuclear antigen (PCNA) immunostaining in primary gastrointestinal lymphomas and its relationship to histological grade, S+G₂+M phase fraction (flow cytometric analysis) and prognosis. *Histopathology* 19: 21-27.
4. Baida, A., et al. 2003. Germline mutations at microsatellite loci in homozygous and heterozygous mutants for mismatch repair and PCNA genes in *Drosophila*. *DNA Repair* 2: 827-833.
5. Thacker, S.A., et al. 2003. The contribution of E2F-regulated transcription to *Drosophila* PCNA gene function. *Curr. Biol.* 13: 53-58.
6. Hong, R., et al. 2003. The human proliferating cell nuclear antigen regulates transcriptional coactivator p300 activity and promotes transcriptional repression. *J. Biol. Chem.* 278: 44505-44513.
7. Kwon, E., et al. 2004. Armadillo/pangolin regulates PCNA and DREF promoter activities. *Biochim. Biophys. Acta* 1679: 256-262.
8. Lopez, A., et al. 2005. Germline genomic instability in PCNA mutants of *Drosophila*: DNA fingerprinting and microsatellite analysis. *Mutat. Res.* 570: 253-265.

CHROMOSOMAL LOCATION

Genetic locus: PCNA (human) mapping to 20p12.3.

SOURCE

PCNA (PC8) is a mouse monoclonal antibody raised against protein A-PCNA fusion obtained from pC2T of rat origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG₃ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PCNA (PC8) is recommended for detection of PCNA of human and yeast origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)], immunofluorescence and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PCNA siRNA (h): sc-29440.

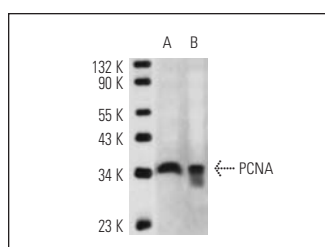
Molecular Weight of PCNA: 36 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, MOLT-4 cell lysate: sc-2233 or HeLa nuclear extract: sc-2120.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

DATA



PCNA (PC8): sc-53409. Western blot analysis of PCNA expression in A-431 whole cell lysate (A) and Hep G2 nuclear extract (B).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.