

PCNA (PC11): sc-53407

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

- 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.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: PCNA (human) mapping to 20p13; PcnA (mouse) mapping to 2 F2.

SOURCE

PCNA (PC11) is a mouse monoclonal antibody raised against protein A-PCNA fusion obtained from pC2T of rat origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PCNA (PC11) is recommended for detection of PCNA of mouse, rat and human 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 (starting dilution 1:50, dilution range 1:50-1:500) 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, PCNA siRNA (m): sc-29441, PCNA shRNA Plasmid (h): sc-29440-SH, PCNA shRNA Plasmid (m): sc-29441-SH, PCNA shRNA (h) Lentiviral Particles: sc-29440-V and PCNA shRNA (m) Lentiviral Particles: sc-29441-V.

Molecular Weight of PCNA: 36 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Ramos cell lysate: sc-2216 or Jurkat whole cell lysate: sc-2204.

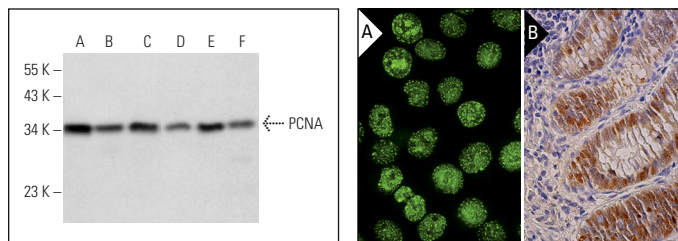
RESEARCH USE

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

STORAGE

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

DATA



PCNA (PC11): sc-53407. Western blot analysis of PCNA expression in CCRF-CEM (A), A-431 (B), MOLT-4 (C), MCF7 (D), Jurkat (E) and Ramos (F) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

PCNA (PC11): sc-53407. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing nuclear staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Floer, M., et al. 2008. Role of MutS homolog 2 (MSH2) in intestinal myofibroblast proliferation during Crohn's disease stricture formation. *Am. J. Physiol. Gastrointest. Liver Physiol.* 295: G581-G590.
- Singh, B., et al. 2011. Partial inhibition of estrogen-induced mammary carcinogenesis in rats by tamoxifen: balance between oxidant stress and estrogen responsiveness. *PLoS ONE* 6: e25125.
- Calaf, G.M., et al. 2012. Effect of curcumin on irradiated and estrogen-transformed human breast cell lines. *Int. J. Oncol.* 40: 436-442.
- Espinosa, A.M., et al. 2013. Mitosis is a source of potential markers for screening and survival and therapeutic targets in cervical cancer. *PLoS ONE* 8: e55975.
- Ruan, Y., et al. 2015. Autophagy inhibition enhances isorhamnetin-induced mitochondria-dependent apoptosis in non-small cell lung cancer cells. *Mol. Med. Rep.* 12: 5796-5806.
- Yu, X.J., et al. 2016. Harmine combined with paclitaxel inhibits tumor proliferation and induces apoptosis through down-regulation of cyclooxygenase-2 expression in gastric cancer. *Oncol. Lett.* 12: 983-988.
- Tripathi, K., et al. 2017. Detection and evaluation of estrogen DNA-adducts and their carcinogenic effects in cultured human cells using biotinylated estradiol. *Mol. Carcinog.* 56: 1010-1020.
- Song, T., et al. 2018. Formononetin protects against balloon injury-induced neointima formation in rats by regulating proliferation and migration of vascular smooth muscle cells via the TGF-β1/Smad3 signaling pathway. *Int. J. Mol. Med.* 42: 2155-2162.

CONJUGATES

See **PCNA (PC10): sc-56** for PCNA antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.