SANTA CRUZ BIOTECHNOLOGY, INC.

PCNA (6D645): sc-71858

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The proliferating cell nuclear antigen (PCNA), a protein synthesized in early G_1 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.

CHROMOSOMAL LOCATION

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

SOURCE

PCNA (6D645) is a mouse monoclonal antibody raised against rat PCNA made in the protein A expression vector pR1T2T.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PCNA (6D645) is recommended for detection of PCNA p36 protein expressed at high levels in proliferating cells of mouse, rat, human, insect and *S. pombe* 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

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: C6 whole cell lysate: sc-364373, HeLa whole cell lysate: sc-2200 or A-431 whole cell lysate: sc-2201.

STORAGE

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

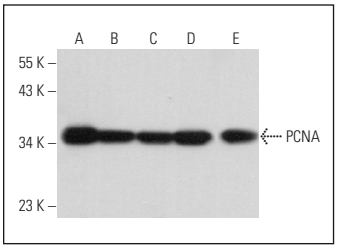
PROTOCOLS

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

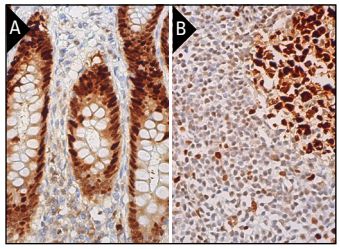
RESEARCH USE

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

DATA



PCNA (6D645): sc-71858. Western blot analysis of PCNA expression in HeLa (**A**), PC-12 (**B**), C6 (**C**), NIH/3T3 (**D**) and A-431 (**E**) whole cell lysates.



PCNA (6D645): sc-71858. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing nuclear staining of glandular cells and lymphoid cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear staining of cells in germinal center and cells in non-germinal center (**B**).

SELECT PRODUCT CITATIONS

1. Ning, B., et al. 2013. Traumatic brain injury induces a downregulation of MSK1 in rat brain cortex. J. Mol. Neurosci. 49: 380-386.
2. Jiang, A.G., et al. 2015. Short hairpin RNA targeting Akt1 and PI3K/p85 suppresses the proliferation and self-renewal of lung cancer stem cells. Mol. Med. Rep. 12: 363-370.
3. Du, D.S., et al. 2016. Effects of Cdc42 on the proliferation and invasion of gastric cancer cells. Mol. Med. Rep. 13: 550-554.
4. Glover, M., et al. 2017. Influence of chronic inflammation on Bcl-2 and PCNA expression in prostate needle biopsy specimens. Oncol. Lett. 14: 3927-3934.
5. Guo, X., et al. 2019. The inhibitive effect of sh-HIF1A-AS2 on the proliferation, invasion, and pathological damage of breast cancer via targeting miR-548c-3p through regulating HIF-1α/VEGF pathway *in vitro* and *vivo*. Onco Targets Ther. 12: 825-834.
6. Tan, H., et al. 2020. Peimine inhibits the growth and motility of prostate cancer cells and induces apoptosis by disruption of intracellular calcium homeostasis through Ca^{2+}/CaMKII/JNK pathway. J. Cell. Biochem. 121: 81-92.
7. Huang, G., et al. 2021. The prognosis and risk factors of baseline high peritoneal transporters on patients with peritoneal dialysis. J. Cell. Mol. Med. 25: 8628-8644.
8. Shi, Y., et al. 2021. Requirement of histone deacetylase 6 for interleukin-6 induced epithelial-mesenchymal transition, proliferation, and migration of peritoneal mesothelial cells. Front. Pharmacol. 12: 722638.

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.