

PCNA (PC10): sc-56



The Power to Question

BACKGROUND

The PCNA (proliferating cell nuclear antigen) protein is 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, the PCNA protein exhibits granular distribution and is absent from the nucleoli; however, in late S phase, it relocates to the nucleoli. Thus, in staining applications, the PCNA antibody exhibits nuclear staining. 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. Thus, only the synthesizing form is detectable by the PCNA antibody using this method.

CHROMOSOMAL LOCATION

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

SOURCE

PCNA (PC10) is a mouse monoclonal antibody raised against PCNA made in the protein A expression vector pR1T2T of rat origin.

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.

PCNA (PC10) is available conjugated to agarose (sc-56 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-56 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56 PE), fluorescein (sc-56 FITC), Alexa Fluor® 488 (sc-56 AF488), Alexa Fluor® 546 (sc-56 AF546), Alexa Fluor® 594 (sc-56 AF594) or Alexa Fluor® 647 (sc-56 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-56 AF680) or Alexa Fluor® 790 (sc-56 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, PCNA (PC10) is available conjugated to biotin (sc-56 B), 200 µg/ml, for WB, IHC(P) and ELISA; and to either TRITC (sc-56 TRITC, 200 µg/ml) or Alexa Fluor® 405 (sc-56 AF405, 200 µg/ml), 100 tests in 2 ml, for IF, IHC(P) and FCM.

APPLICATIONS

PCNA (PC10) 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 10⁶ cells).

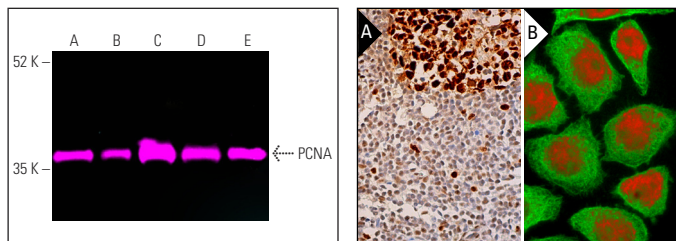
Suitable for use as control antibody for PCNA siRNA (h): sc-29440, PCNA siRNA (m): sc-29441, PCNA shRNA Plasmid (h): sc-29440-SH, PCNA shRNA Plasmid (m): sc-29441-SH, PCNA shRNA (h) Lentiviral Particles: sc-29440-V and PCNA shRNA (m) Lentiviral Particles: sc-29441-V.

Molecular Weight of PCNA: 36 kDa.

STORAGE

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

DATA



PCNA (PC10): sc-56. Fluorescent western blot analysis of PCNA expression in HCT-116 (A), HeLa (B), MOLT-4 (C), NIH/3T3 (D) and KNRK (E) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_{2a} BP-CFL 555: sc-542736.

PCNA (PC10): sc-56. 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 (A). PCNA (PC10) PE: sc-56 PE and α Tubulin (TU-02) FITC: sc-8035 FITC. Direct immunofluorescence staining of formalin-fixed HeLa cells showing nuclear (red) and cytoskeletal (green) localization (B).

SELECT PRODUCT CITATIONS

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- Mario, L.C., et al. 2016. Egg and fourth instar larvae gut of *Aedes aegypti* as a source of stem cells. *Tissue Cell* 48: 558-565.
- Wu, J., et al. 2017. Effect of curcumin on glycerol-induced acute kidney injury in rats. *Sci. Rep.* 7: 10114.
- Tusi, B.K., et al. 2018. Population snapshots predict early haematopoietic and erythroid hierarchies. *Nature* 555: 54-60.
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- Sang, S., et al. 2022. Feiyanning formula modulates the molecular mechanism of osimertinib resistance in lung cancer by regulating the Wnt/β-catenin pathway. *Front. Pharmacol.* 13: 1019451.
- Zhou, J., et al. 2023. SP1 impacts the primordial to primary follicle transition by regulating cholesterol metabolism in granulosa cells. *FASEB J.* 37: e22767.

RESEARCH USE

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

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