



## ***DB051: PCNA (C19)***

### **Background:**

The evolutionarily conserved protein PCNA, or cyclin, was first characterized as a DNA polymerase accessory protein. It functions as a DNA sliding clamp for DNA polymerase delta and epsilon, and is an key component of for eukaryotic chromosomal DNA replication (1-3). In more recent research PCNA has been linked to an increasing number of cellular functions, these include cell cycle regulation, DNA repair, Okazaki fragment joining, DNA methylation, and chromatin assembly (2,4, &5). In cell cycle regulation p21 interacts with PCNA, which inhibits DNA replication (2,5). It has also been described that high levels of PCNA in the presence of p53 will lead to DNA repair (4). PCNA is also a very useful marker of cellular proliferation as it is seen most prominently expressed during the S phase of the cell cycle (6).

### **Origin:**

PCNA (C19) is provided as an affinity purified rabbit polyclonal antibody, raised against a peptide mapping to the carboxy terminus of human PCNA.

### **Product Details:**

Each vial contains 200 µg/ml of affinity purified rabbit IgG PCNA (C19)DB051, in 1 ml PBS containing 0.1 % sodium azide and 0.2% gelatin.

### **Competition Studies:**

A blocking peptide is also available, *DB051P*, for use in competition studies. Each vial contains 100 µg of peptide in 0.5 ml PBS with 0.1% sodium azide and 100 µg BSA.

### **Specificity:**

PCNA (C19)DB051 reacts with PCNA of mouse, rat, and human origin by western blotting, immunoprecipitation and immunohistochemistry. Western blotting starting dilution 1:200.

### **Storage:**

Store this product at 4° C, do not freeze. The product is stable for one year from the date of shipment.

### **References:**

1. Kelman Z. 1997. PCNA: structure, functions and interactions. *Oncogene* 14(6):629-40.
2. Tsurimoto T. 1999. PCNA binding proteins. *Front Biosci* 4:D849-D858.
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4. Pauneshku T., Mittal S., Protic M., Oryhon J., Korolev S.V., Joachimiak A., Woloschak G.E. 2001. Proliferating cell nuclear antigen (PCNA): ringmaster of the genome. *Int J Radiat Biol* 77(10):1007-1021.
5. Rossig L., Jadidi A.S., Urbich C., Badorff C., Zeiher A.M., Dimmeler S. 2001. Akt-dependent phosphorylation of p21(Cip1) regulates PCNA binding and proliferation of endothelial cells. *Mol Cell Biol* 21(16):5644-5657.
6. Celis J.E., Madsen P., Nielsen S., Celis A. 1986. Nuclear patterns of cyclin (PCNA) antigen distribution subdivide S-phase in cultured cells—some applications of PCNA antibodies. *Leuk Res* 10(3):237-249.