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### Box 1 | Basic Info

<b>Cat. No.</b>	ABP-PAB-10185
<b>Animal ID</b>	RC40104
<b>Host</b>	Rabbit
<b>Reactivity</b>	Human
<b>Format</b>	Purified
<b>Accession number</b>	NM_000389
<b>Amount</b>	100 µg

**Alternative Name(s):** P21, CIP1, SDI1, WAF1, CAP20, CDKN1, MDA-6, DNA synthesis inhibitor, CDK-interaction protein 1, wild-type p53-activated fragment 1, melanoma differentiation associated protein 6

## CDKN1A, WAF1, cyclin-dependent kinase inhibitor 1A polyclonal antibody

Cyclin-dependent kinase inhibitor 1A (CDKN1A), also called p21 or CIP1, is a potent cyclin-dependent kinase inhibitor. CDKN1A binds to and inhibits the activity of cyclin-CDK2 and -CDK4 complexes, and thus functions as a regulator of cell cycle progression at G1. The expression of CDKN1A is tightly controlled by the tumor suppressor protein p53, through which this protein mediates the p53-dependent cell cycle G1 phase arrest in response to a variety of stress stimuli. CDKN1A can interact with proliferating cell nuclear antigen (PCNA), a DNA polymerase accessory factor, and plays a regulatory role in S phase DNA replication and DNA damage repair. CDKN1A is specifically cleaved by CASP3-like caspases, which thus leads to a dramatic activation of CDK2, and may be instrumental in the execution of apoptosis following caspase activation. CDKN1A phosphorylation by AKT/PKB enhances protein stability and promotes cell survival. Phosphorylation is influenced by protein kinase p38 alpha and JNK1.

### Buffers

Purified rabbit polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column and eluted out with both high and low pH buffers and neutralized immediately after elution then followed by dialysis against PBS.

### Immunogen

N/A

### Application:

Tested by peptide-specific ELISA (1:1,000).

### Storage:

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C. Avoid repeated freeze-thaw cycles.

### References:

1. Ijichi H, Otsuka M, Tateishi K, Ikenoue T, Kawakami T, Kanai F, Arakawa Y, Seki N, Shimizu K, Miyazono K, Kawabe T, Omata M: S mad4-independent regulation of p21/WAF1 by transforming growth factor-beta. *Oncogene* 23(5): 1043-1051 (2004).
2. Chopin V, Toillon RA, Jouy N, Le Bourhis X: P21(WAF1/ CIP1) is dispensable for G1 arrest, but indispensable for apoptosis induced by sodium butyrate in MCF-7 breast cancer cells. *Oncogene* 23(1): 21-29 (2004).
3. Jin Y, Lee H, Zeng SX, Dai MS, Lu H: MDM2 promotes p21waf1/cip1 proteasomal turnover independently of ubiquitylation. *EMBO J.* 22(23): 6365-6377 (2003).
4. Xiong Y, Hannon GJ, Zhang H, Casso D, Kobayashi R, Beach D: p21 is a universal inhibitor of cyclin kinases. *Nature* 366(6456): 701-704 (1993).
5. el-Deiry WS, Tokino T, Velculescu VE, Levy DB, Parsons R, Trent JM, Lin D, Mercer WE, Kinzler KW, Vogelstein B: WAF1, a potential mediator of p53 tumor suppression. *Cell* 75(4): 817-825 (1993).
6. Harper JW, Adami GR, Wei N, Keyomarsi K, Elledge SJ: The p21 Cdk-interacting protein Cip1 is a potent inhibitor of G1 cyclin-dependent kinases. *Cell* 75(4): 805-816 (1993).