

p21 Waf1/Cip1 Antibody

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W, IP	Reactivity: M	Sensitivity: Endogenous	MW (kDa): 21	Source/Isotype: Rabbit	UniProt ID: #P39689	Entrez-Gene Id: 12575
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Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

p21 Waf1/Cip1 Antibody recognizes endogenous levels of total mouse p21 Waf1/Cip1 protein. This antibody does not recognize endogenous levels of human or rat p21 Waf1/Cip1 protein, but does weakly recognize overexpressed human p21 Waf1/Cip1 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro122 of mouse p21 Waf1/Cip1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

The tumor suppressor protein p21 Waf1/Cip1 acts as an inhibitor of cell cycle progression. It functions in stoichiometric relationships forming heterotrimeric complexes with cyclins and cyclin-dependent kinases. In association with CDK2 complexes, it serves to inhibit kinase activity and block progression through G1/S (1). However, p21 may also enhance assembly and activity in complexes of CDK4 or CDK6 and cyclin D (2). The carboxy-terminal region of p21 is sufficient to bind and inhibit PCNA, a subunit of DNA polymerase, and may coordinate DNA replication with cell cycle progression (3). Upon UV damage or during cell cycle stages when cdc2/cyclin B or CDK2/cyclin A are active, p53 is phosphorylated and upregulates p21 transcription via a p53-responsive element (4). Protein levels of p21 are downregulated through ubiquitination and proteasomal degradation (5).

Background References

1. Pestell, R.G. et al. (1999) *Endocrine Rev.* 20, 501-34.
2. Cheng, J. et al. (1999) *EMBO J.* 18, 1571-83.
3. Flores-Rozas, H. et al. (1994) *Proc. Natl. Acad. Sci. USA* 91, 8655-9.
4. Wang, Y. and Prives, C. (1995) *Nature* 376, 88-91.
5. Sheaff, R.J. et al. (2000) *Cell* 101, 403-10.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

M: Mouse

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