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# p21 Waf1/Cip1 (12D1) Rabbit mAb



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|   |  |                                   |                        |                                      |                               |                                |
|---|--|-----------------------------------|------------------------|--------------------------------------|-------------------------------|--------------------------------|
| <b>Applications:</b><br>W, W-S, IP, IHC-P,<br>IF-IC, FC-FP        | <b>Reactivity:</b><br>H Mk   | <b>Sensitivity:</b><br>Endogenous | <b>MW (kDa):</b><br>21 | <b>Source/Isotype:</b><br>Rabbit IgG | <b>UniProt ID:</b><br>#P38936 | <b>Entrez-Gene Id:</b><br>1026 |
| <b>Product Usage Information</b>                                  | <b>Application</b>   |                                   |                        |                                      | <b>Dilution</b>               |                                |
|   | Western Blotting   |                                   |                        |                                      | 1:1000                        |                                |
|   | Simple Western™  |                                   |                        |                                      | 1:10 - 1:50                   |                                |
|   | Immunoprecipitation  |                                   |                        |                                      | 1:50                          |                                |
|   | Immunohistochemistry (Paraffin)  |                                   |                        |                                      | 1:50                          |                                |
|   | Immunofluorescence (Immunocytochemistry)   |                                   |                        |                                      | 1:400 - 1:800                 |                                |
|   | Flow Cytometry (Fixed/Permeabilized)   |                                   |                        |                                      | 1:100 - 1:400                 |                                |
| <b>Storage</b>  | Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.   |                                   |                        |                                      |                               |                                |
|   | For a carrier free (BSA and azide free) version of this product see product #19399.  |                                   |                        |                                      |                               |                                |
| <b>Specificity/Sensitivity</b>                                    | p21 Waf1/Cip1 (12D1) Rabbit mAb detects endogenous levels of total p21 protein. The antibody does not cross-react with other CDK inhibitors. Non-specific cytoplasmic staining was observed in normal small intestine epithelium, alveolar macrophages, and kidney proximal tubules by immunohistochemistry.   |                                   |                        |                                      |                               |                                |
| <b>Species predicted to react based on 100% sequence homology</b> | Dog  |                                   |                        |                                      |                               |                                |
| <b>Source / Purification</b>                                      | Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy-terminus of human p21.   |                                   |                        |                                      |                               |                                |
| <b>Background</b>   | 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). |                                   |                        |                                      |                               |                                |
| <b>Background References</b>                                      | <ol style="list-style-type: none"> <li>1. Pestell, R.G. et al. (1999) <i>Endocrine Rev.</i> 20, 501-34.</li> <li>2. Cheng, J. et al. (1999) <i>EMBO J.</i> 18, 1571-83.</li> <li>3. Flores-Rozas, H. et al. (1994) <i>Proc. Natl. Acad. Sci. USA</i> 91, 8655-9.</li> <li>4. Wang, Y. and Prives, C. (1995) <i>Nature</i> 376, 88-91.</li> <li>5. Sheaff, R.J. et al. (2000) <i>Cell</i> 101, 403-10.</li> </ol>   |                                   |                        |                                      |                               |                                |

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| <b>Species Reactivity</b>   | Species reactivity is determined by testing in at least one approved application (e.g., western blot).  |
| <b>Western Blot Buffer</b>  | 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.  |
| <b>Applications Key</b>     | <b>W:</b> Western Blotting <b>W-S:</b> Simple Western™ <b>IP:</b> Immunoprecipitation <b>IHC-P:</b> Immunohistochemistry (Paraffin) <b>IF-IC:</b> Immunofluorescence (Immunocytochemistry) <b>FC-FP:</b> Flow Cytometry (Fixed/Permeabilized) |
| <b>Cross-Reactivity Key</b> | <b>H:</b> Human <b>Mk:</b> Monkey   |

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