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#8587

p21 Waf1/Cip1 (12D1) Rabbit mAb (Alexa Fluor® 647 Conjugate)



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

Applications: IF-IC, FC-FP	Reactivity: H Mk	Sensitivity: Endogenous	Source/Isotype: Rabbit IgG	UniProt ID: #P38936	Entrez-Gene Id: 1026
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Product Usage Information	Application Immunofluorescence (Immunocytochemistry) Flow Cytometry (Fixed/Permeabilized)	Dilution 1:400 - 1:1600 1:50
Storage	Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.	
Specificity / Sensitivity	p21 Waf1/Cip1 (12D1) Rabbit mAb (Alexa Fluor® 647 Conjugate) detects endogenous levels of total p21 protein. The antibody does not cross-react with other CDK inhibitors.	
Species predicted to react based on 100% sequence homology:	Dog	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human p21 protein.	
Product Description	This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 647 fluorescent dye and tested in-house for direct flow cytometry and immunofluorescent analysis in human cells. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated p21 Waf1/Cip1 (12D1) Rabbit mAb #2947.	
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) <i>Endocrine Rev.</i> 20, 501-34. 2. Cheng, J. et al. (1999) <i>EMBO J.</i> 18, 1571-83. 3. Flores-Rozas, H. et al. (1994) <i>Proc. Natl. Acad. Sci. USA</i> 91, 8655-9. 4. Wang, Y. and Prives, C. (1995) <i>Nature</i> 376, 88-91. 5. Sheaff, R.J. et al. (2000) <i>Cell</i> 101, 403-10.	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Applications Key	IF-IC: Immunofluorescence (Immunocytochemistry) FC-FP: Flow Cytometry (Fixed/Permeabilized)
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected
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