

#11850 Store at 4°C

p21 Waf1/Cip1 (12D1) Rabbit mAb (Alexa Fluor® 594 Conjugate)

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Entrez-Gene ID #1026
UniProt ID #P38936

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For Research Use Only. Not For Use In Diagnostic Procedures.

Applications IF-IC Endogenous	Species Cross-Reactivity* H, Mk	Isotype Rabbit IgG
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Description: This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 594 fluorescent dye and tested in-house for direct 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).

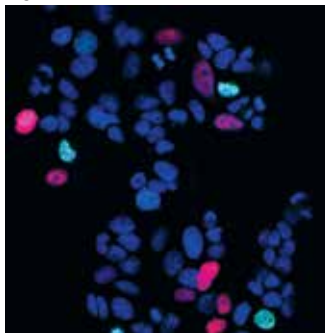
Specificity/Sensitivity: p21 Waf1/Cip1 (12D1) Rabbit mAb (Alexa Fluor® 594 Conjugate) recognizes endogenous levels of total p21 protein. The antibody does not cross-react with other CDK inhibitors.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human p21 protein.

Background References:

- (1) Pestell, R.G. et al. (1999) *Endocrine Rev.* 20, 501-534.
- (2) Cheng, J. et al. (1999) *EMBO J.* 18, 1571-1583.
- (3) Flores-Rozas, H. et al. (1994) *Proc. Natl. Acad. Sci. USA* 91, 8655-8659.
- (4) Wang, Y. and Prives, C. (1995) *Nature* 376, 88-91.
- (5) Sheaff, R.J. et al. (2000) *Cell* 5, 403-410.

MCF7



Confocal immunofluorescent analysis of MCF7 cells using p21 Waf1/Cip1 (12D1) Rabbit mAb (Alexa Fluor® 594 Conjugate) (red) and Phospho-Histone H3 (Ser10) (D2C8) XP® Rabbit mAb (Alexa Fluor® 488 Conjugate) #3465 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

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 antibodies. Protect from light. Do not freeze.

*Species cross-reactivity other than human is determined by western using the unconjugated antibody.

Recommended Antibody Dilutions:

Immunofluorescence (IF-IC) 1:50

The Alexa Fluor® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc., for research use only, except for use in combination with DNA microarrays. The Alexa Fluor® dyes (except for Alexa Fluor® 430 dye) are covered by pending and issued patents.

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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide Species Cross-Reactivity: H—human M—mouse R—rat Hm—hamster Mk—monkey 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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.