

p21 Waf1/Cip1 (12D1) Rabbit mAb (Alexa Fluor® 555 Conjugate)



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

Applications	Species Cross-Reactivity*	Isotype
IF-IC Endogenous	H, Mk	Rabbit IgG

Description: This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 555 fluorescent dye and tested in-house for 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.

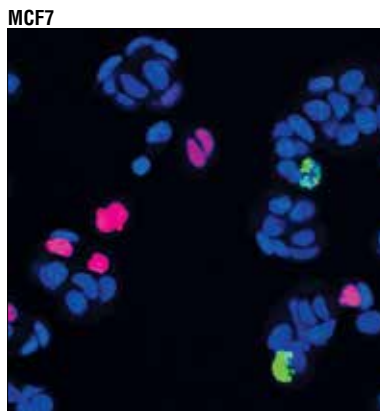
Background: The tumor suppressor protein p21 Waf1/Cip1 acts as an inhibitor of cell cycle progression. It functions in stoichiometric relationships forming heterotrimeric complexes with cyclins and cyclin-dependent kinases. In association with CDK2 complexes, it serves to inhibit kinase activity and 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 is 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® 555 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* 101, 403-410.



Confocal immunofluorescent analysis of MCF7 cells using p21 Waf1/Cip1 (12D1) Rabbit mAb (Alexa Fluor® 555 Conjugate) (red) and Phospho-Histone H3 (Ser10) (D2C8) XP® Rabbit mAb (Alexa Fluor® 488 Conjugate) #3465 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Entrez-Gene ID #1026
UniProt ID #P38936

Storage: Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. *Protect from light. Do not freeze.*

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

Recommended Antibody Dilutions:

Immunofluorescence (IF-IC) 1:50

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

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