Store at 4°C

#8865

p21 Waf1/Cip1 (12D1) Rabbit mAb (PE Conjugate)

Cell Signaling TECHNOLOGY®

Orders ■ 877-616-CELL (2355)
orders@cellsignal.com
Support ■ 877-678-TECH (8324)
info@cellsignal.com
Web ■ www.cellsignal.com

rev. 03/08/16

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

Entrez-Gene ID #1026
UniProt ID #P38936

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

Description: This Cell Signaling Technology antibody is conjugated to phycoerythrin (PE) and tested in-house for direct flow cytometry 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 (PE Conjugate) detects 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:

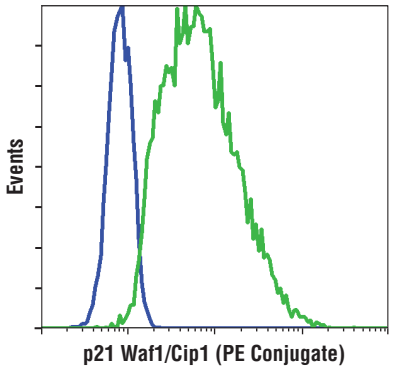
(1) Pestell, R.G. et al. (1999) *Endocrine Rev.* 20, 501-534.

(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.



Flow cytometric analysis of Jurkat (blue) and MCF7 (green) cells using p21 Waf1/Cip1 (12D1) Rabbit mAb (PE Conjugate).

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:

Flow Cytometry	1:50

For product 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.

U.S. Patent No. 5,675,063

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **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.