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

**Applications**: IF-IC, Endogenous

**Species Cross-Reactivity**: H, Mk

**Isotype**: Rabbit IgG

**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 cdK2/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**:

**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.

**Recommended Antibody Dilutions**:
- Immunofluorescence (IF-IC): 1:50

**Confocal immunofluorescent analysis of MCF7 cells using p21 Waf1/Cip1 (12D1) Rabbit mAb (Alexa Fluor® 594 Conjugate) (red) and Phospho-Histone H3 (Ser10) (DC23) XP® Rabbit mAb (Alexa Fluor® 488 Conjugate) (green). Blue pseudocolor = DRAQ5® (fluorescent DNA dye).**

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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, Dq—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.