

# p-p21 Waf1/Cip1 (C-8): sc-377514

## BACKGROUND

It is now well established that cyclins play a positive role in promoting cell cycle transitions via their ability to associate with and activate their cognate cyclin-dependent kinases (Cdks). Cdk2 associates with cyclins A, D and E, and has been implicated in the control of the G<sub>1</sub> to S phase transition in mammals. A novel Cdk-interacting protein, designated p21 Waf1/Cip1, Cip1 or WAF1, has been identified in cyclin A, cyclin D1, cyclin E and Cdk2 immunoprecipitates. p21 Waf1/Cip1 is a potent, tight-binding inhibitor of Cdks and can inhibit the phosphorylation of Rb by cyclin A-Cdk 2, cyclin E-Cdk2, cyclin D1-Cdk4 and cyclin D2-Cdk4 complexes. Expression of p21 Waf1/Cip1 is inducible by wildtype, but not mutant, p53. The mouse homolog of p21 Waf1/Cip1 is designated CAP20.

## REFERENCES

1. Harper, J.W., et al. 1993. The p21 Cdk-interacting protein Cip1 is a potent inhibitor of G<sub>1</sub> cyclin-dependent kinases. *Cell* 75: 805-816.
2. El-Deiry, W.S., et al. 1993. WAF1, a potential mediator of p53 tumor suppression. *Cell* 75: 817-825.
3. Luo, Y., et al. 1995. Cell-cycle inhibition by independent CDK and PCNA binding domains in p21<sup>Cip1</sup>. *Nature* 375: 159-161.
4. Gorospe, M., et al. 1997. p21 Waf1/Cip1 protects against p53-mediated apoptosis of human melanoma cells. *Oncogene* 14: 929-935.
5. Cayrol, C. and Ducommun, B. 1998. Interaction with cyclin-dependent kinases and PCNA modulates proteasome-dependent degradation of p21. *Oncogene* 17: 2437-2444.
6. Asada, M., et al. 1999. Apoptosis inhibitory activity of cytoplasmic p21<sup>Cip1</sup>/WAF1 in monocytic differentiation. *EMBO J.* 18: 1223-1234.
7. Scott, M.T., et al. 2000. Reversible phosphorylation at the C-terminal regulatory domain of p21 Waf1/Cip1 modulates proliferating cell nuclear antigen binding. *J. Biol. Chem.* 275: 11529-11537.

## CHROMOSOMAL LOCATION

Genetic locus: CDKN1A (human) mapping to 6p21.2; Cdkn1a (mouse) mapping to 17 A3.3.

## SOURCE

p-p21 Waf1/Cip1 (C-8) is a mouse monoclonal antibody epitope corresponding to a short amino acid sequence containing Ser 146 phosphorylated p21 Waf1/Cip1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-377514 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

p-p21 Waf1/Cip1 (C-8) is recommended for detection of Ser 146 phosphorylated p21 Waf1/Cip1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-p21 Waf1/Cip1 (C-8) is also recommended for detection of correspondingly phosphorylated p21 Waf1/Cip1 in additional species, including canine, bovine and porcine.

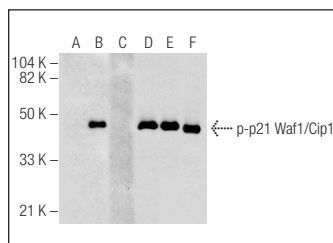
Suitable for use as control antibody for p21 Waf1/Cip1 siRNA (h): sc-29427, p21 Waf1/Cip1 siRNA (m): sc-29428, p21 Waf1/Cip1 shRNA Plasmid (h): sc-29427-SH, p21 Waf1/Cip1 shRNA Plasmid (m): sc-29428-SH, p21 Waf1/Cip1 shRNA (h) Lentiviral Particles: sc-29427-V and p21 Waf1/Cip1 shRNA (m) Lentiviral Particles: sc-29428-V.

Molecular Weight of p-p21 Waf1/Cip1: 21 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Lambda Phosphatase: sc-200312A and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Western blot analysis of p21 Waf1/Cip1 phosphorylation in untreated (A,D), human recombinant PKC α treated (B,E) and human recombinant PKC α and lambda protein phosphatase (sc-200312A) treated (C,F) human recombinant p21 Waf1/Cip1 fusion proteins. Antibodies tested include p-p21 Waf1/Cip1 (C-8): sc-377514 (A,B,C) and p21 (C-19): sc-397 (D,E,F).

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.