

# p21 Waf1/Cip1 (F-8): sc-271610

## 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

- Sherr, C.J. 1993. Mammalian G<sub>1</sub> cyclins. *Cell* 73: 1059-1065.
- 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.
- El-Deiry, W.S., et al. 1993. WAF1, a potential mediator of p53 tumor suppression. *Cell* 75: 817-825.
- Hunter, T. 1993. Braking the cycle. *Cell* 75: 839-841.

## CHROMOSOMAL LOCATION

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

## SOURCE

p21 Waf1/Cip1 (F-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 124-164 at the C-terminus of p21 Waf1/Cip1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p21 Waf1/Cip1 (F-8) is available conjugated to agarose (sc-271610 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271610 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271610 PE), fluorescein (sc-271610 FITC), Alexa Fluor® 488 (sc-271610 AF488), Alexa Fluor® 546 (sc-271610 AF546), Alexa Fluor® 594 (sc-271610 AF594) or Alexa Fluor® 647 (sc-271610 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271610 AF680) or Alexa Fluor® 790 (sc-271610 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271610 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## STORAGE

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

## APPLICATIONS

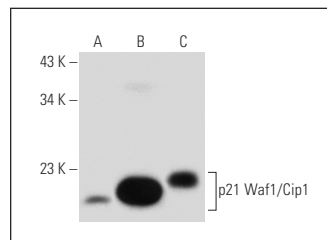
p21 Waf1/Cip1 (F-8) is recommended for detection of p21 Waf1/Cip1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50,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

p21 Waf1/Cip1 (F-8) is also recommended for detection of p21 Waf1/Cip1 in additional species, including canine and porcine.

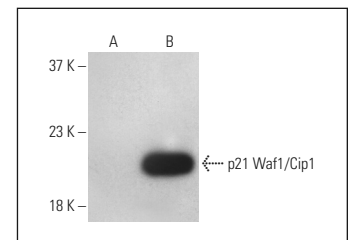
Suitable for use as control antibody for p21 Waf1/Cip1 siRNA (h): sc-29427, p21 Waf1/Cip1 siRNA (m): sc-29428, p21 Waf1/Cip1 shRNA Plasmid (h): sc-29427-SH, p21 Waf1/Cip1 shRNA Plasmid (m): sc-29428-SH, p21 Waf1/Cip1 shRNA (h) Lentiviral Particles: sc-29427-V and p21 Waf1/Cip1 shRNA (m) Lentiviral Particles: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

Molecular Weight of p21 Waf1/Cip1: 21 kDa.

## DATA



p21 Waf1/Cip1 (F-8): sc-271610. Western blot analysis of p21 Waf1/Cip1 expression in non-transfected 293T: sc-117752 (A), mouse p21 Waf1/Cip1 transfected 293T: sc-122305 (B) and C32 (C) whole cell lysates.



p21 Waf1/Cip1 (F-8) HRP: sc-271610 HRP. Direct western blot analysis of p21 Waf1/Cip1 expression in non-transfected: sc-117752 (A) and mouse p21 Waf1/Cip1 transfected: sc-122305 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Fukada, K., et al. 2005. CD28 is required for induction and maintenance of immunological memory in toxin-reactive CD4<sup>+</sup> T cells *in vivo*. *Cell. Immunol.* 238: 103-112.
- Wang, Z. and Ji, F. 2018. Downregulation of microRNA-17-5p inhibits drug resistance of gastric cancer cells partially through targeting p21. *Oncol. Lett.* 15: 4585-4591.
- Xu, X., et al. 2019. Atg7 mediates renal tubular cell apoptosis in vancomycin nephrotoxicity through activation of PKC-δ. *FASEB J.* 33: 4513-4524.
- Wang, Y., et al. 2020. Carnitine palmitoyltransferase 1C contributes to progressive cellular senescence. *Aging* 12: 6733-6755.
- Romeo, M.A., et al. 2021. p53-R273H sustains Ros, pro-inflammatory cytokine release and mTOR activation while reducing autophagy, mitophagy and UCP2 expression, effects prevented by wtp53. *Biomolecules* 11: 344.

## RESEARCH USE

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