

p-p21 Waf1/Cip1 (D-4): sc-377515

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 G₁ 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.

CHROMOSOMAL LOCATION

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

SOURCE

p-p21 Waf1/Cip1 (D-4) 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 IgG₃ 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-377515 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

p-p21 Waf1/Cip1 (D-4) 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), immunohistochemistry (including paraffin-embedded sections) (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 (D-4) is also recommended for detection of correspondingly phosphorylated p21 Waf1/Cip1 in additional species, including canine, bovine and porcine.

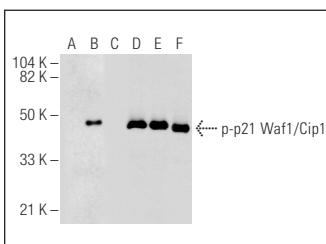
Suitable for use as control antibody for p21 Waf1/Cip1 siRNA (h): sc-29427, p21 Waf1/Cip1 siRNA (m): sc-29428, p21 Waf1/Cip1 shRNA Plasmid (h): sc-29427-SH, p21 Waf1/Cip1 shRNA Plasmid (m): sc-29428-SH, p21 Waf1/Cip1 shRNA (h) Lentiviral Particles: sc-29427-V and p21 Waf1/Cip1 shRNA (m) Lentiviral Particles: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

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

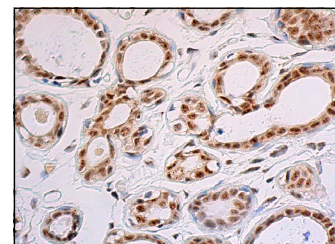
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

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-200312) treated (C,F) human recombinant p21 Waf1/Cip1 fusion proteins. Antibodies tested include p-p21 Waf1/Cip1 (D-4): sc-377515 (A,B,C) and p21 (C-19): sc-397 (D,E,F).



p-p21 Waf1/Cip1 (D-4): sc-377515. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing nuclear staining of glandular cells and myoepithelial cells.

SELECT PRODUCT CITATIONS

- Cao, X., et al. 2018. LncRNA-SNHG16 predicts poor prognosis and promotes tumor proliferation through epigenetically silencing p21 in bladder cancer. *Cancer Gene Ther.* 25: 10-17.
- Zhao, L., et al. 2018. Function of GCN5 in the TGF- β 1-induced epithelial-to-mesenchymal transition in breast cancer. *Oncol. Lett.* 16: 3955-3963.
- Luo, Z., et al. 2018. Reactive oxygen species mediated placental oxidative stress, mitochondrial content, and cell cycle progression through mitogen-activated protein kinases in intrauterine growth restricted pigs. *Reprod. Biol.* 18: 422-431.
- Mercurio, L., et al. 2020. Intracellular Insulin-like growth factor binding protein 2 (IGFBP2) contributes to the senescence of keratinocytes in psoriasis by stabilizing cytoplasmic p21. *Aging* 12: 6823-6851.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.