

p-p21 (Ser 146): sc-12902

BACKGROUND

The p53-inducible gene product, p21^{WAF1/CIP1}, plays a critical role in regulating the rate of tumor incidence. p21 is a kinase inhibitor that was originally identified as a cyclin-dependent kinase and PCNA-binding protein able to inhibit Cdk catalytic activity and as a gene whose expression was induced by the tumor suppressor protein p53. p21 contributes to the regulation of cell division, mediation of negative growth signals, differentiation and senescence, modulation of the apoptotic response and activation of certain cyclin-Cdks in response to mitogenic signals. Serine 146 is a phosphorylation site within the carboxy terminal regulatory domain of p21 and when modified *in vivo* influences p21-PCNA interactions.

REFERENCES

1. Harper, J.W., et al. 1993. The p21^{Cdk}-interacting protein Cip1 is a potent inhibitor of G₁ 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^{Cip1}. *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.

CHROMOSOMAL LOCATION

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

SOURCE

p-p21 (Ser 146) is available as either goat (sc-12902) or rabbit (sc-12902-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Ser 146 phosphorylated p21 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-12902 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

PROTOCOLS

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

APPLICATIONS

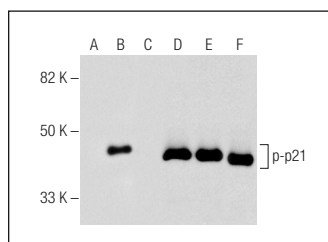
p-p21 (Ser 146) is recommended for detection of Ser 146 phosphorylated p21 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 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 (Ser 146) is also recommended for detection of correspondingly p21 in additional species, including canine, bovine and porcine.

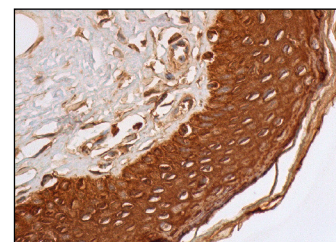
Suitable for use as control antibody for p21 siRNA (h): sc-29427, p21 siRNA (m): sc-29428, p21 shRNA Plasmid (h): sc-29427-SH, p21 shRNA Plasmid (m): sc-29428-SH, p21 shRNA (h) Lentiviral Particles: sc-29427-V and p21 shRNA (m) Lentiviral Particles: sc-29428-V.

Molecular Weight of p-p21: 21 kDa.

DATA



Western blot analysis of p21 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 fusion proteins. Antibodies tested include p-p21 (Ser 146)-R: sc-12902-R (A,B,C) and p21 (C-19): sc-397 (D,E,F).



p-p21 (Ser 146)-R: sc-12902-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human vulva/anal skin tissue showing cytoplasmic and nuclear staining of epidermal cells.

SELECT PRODUCT CITATIONS

1. Stabile, E., et al. 2003. Akt controls vascular smooth muscle cell proliferation *in vitro* and *in vivo* by delaying G₁/S exit. *Circ. Res.* 93: 1059-1065.
2. Zhan, Y., et al. 2005. Ets-1 is a critical regulator of Ang II-mediated vascular inflammation and remodeling. *J. Clin. Invest.* 116: 2319-2322.
3. del Aguila, C., et al. 2006. Encephalitozoon microsporidia modulates p53-mediated apoptosis in infected cells. *Int. J. Parasitol.* 36: 869-876.
4. Oh, Y.T., et al. 2007. Regulation of cyclin-dependent kinase inhibitor p21^{WAF1/CIP1} by protein kinase C δ -mediated phosphorylation. *Apoptosis* 12: 1339-1347.



Try **p-p21 (D-4): sc-377515** or **p-p21 (C-8): sc-377514**, our highly recommended monoclonal alternatives to p-p21 (Ser 146).