

p-p53 (Ser 15): sc-101762

BACKGROUND

p53 is a DNA-binding, oligomerization domain- and transcription activation domain-containing tumor suppressor that upregulates growth arrest and apoptosis-related genes in response to stress signals, thereby influencing programmed cell death, cell differentiation and cell cycle control mechanisms. p53 localizes to the nucleus yet can be chaperoned to the cytoplasm by the negative regulator MDM2, an E3 ubiquitin ligase that is upregulated in the presence of active p53, where MDM2 polyubiquitinates p53 for proteasome targeting. p53 can assemble into tetramers in the absence of DNA, fluctuates between latent and active (DNA-binding) conformations, and is differentially activated through posttranslational modifications including phosphorylation and acetylation. Mutations in the DNA-binding domain (DBD) (amino acids 110-286) of p53 can compromise energetically favorable association with *cis* elements and are implicated in several human cancers. Phosphorylation of p53 at residue Thr 155 is mediated by the COP9 signalosome (CSN) and targets p53 to ubiquitin-26S Proteasome-dependent degradation.

CHROMOSOMAL LOCATION

Genetic locus: TP53 (human) mapping to 17p13.1.

SOURCE

p-p53 (Ser 15) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 15 phosphorylated p53 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-p53 (Ser 15) is recommended for detection of Ser 15 phosphorylated p53 of 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for p53 siRNA (h): sc-29435, p53 shRNA Plasmid (h): sc-29435-SH and p53 shRNA (h) Lentiviral Particles: sc-29435-V.

Molecular Weight of p-p53: 53 kDa.

Positive Controls: A-431 + PMA cell lysate: sc-2261, A-431 whole cell lysate: sc-2201 or HeLa + hydroxyurea cell lysate: sc-24682.

STORAGE

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

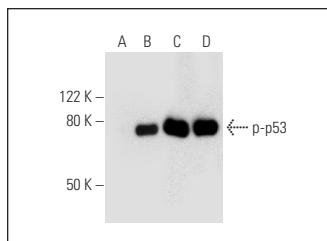
PROTOCOLS

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

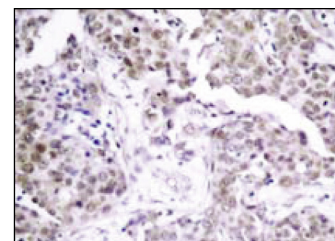
RESEARCH USE

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

DATA



Western blot analysis of p53 phosphorylation in untreated (A,C) and DNA-PK treated (B,D) p53 recombinant proteins. Antibodies tested include p-p53 (Ser 15): sc-101762 (A,B) and p53 (Pab 240): sc-99 (C,D).



p-p53 (Ser 15): sc-101762. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing nuclear staining.

SELECT PRODUCT CITATIONS

- Santos, C.R., et al. 2004. The vaccinia virus B1R kinase induces p53 down-regulation by an Mdm2-dependent mechanism. *Virology* 328: 254-265.
- Tanaka, A., et al. 2004. Expression of p53 family in scars. *J. Dermatol. Sci.* 34: 17-24.
- Liu, S., et al. 2009. p27-associated G₁ arrest induced by hinokitiol in human malignant melanoma cells is mediated via down-regulation of pRb, Skp2 ubiquitin ligase, and impairment of Cdk2 function. *Cancer Lett.* 286: 240-249.
- Folch, J., et al. 2009. Evaluation of pathways involved in pentachlorophenol-induced apoptosis in rat neurons. *Neurotoxicology* 30: 451-458.
- Llanos, S., et al. 2009. MSK2 inhibits p53 activity in the absence of stress. *Sci. Signal.* 2: ra57.
- Le Floch, N., et al. 2010. The p76(Rb) and p100(Rb) truncated forms of the Rb protein exert antagonistic roles on cell death regulation in human cell lines. *Biochem. Biophys. Res. Commun.* 399: 173-178.
- Lee, W.T., et al. 2010. Bax is upregulated by p53 signal pathway in the SPE B-induced apoptosis. *Mol. Cell. Biochem.* 343: 271-279.
- Zhang, Y., et al. 2010. Inhibition of the p53-MDM2 interaction by adenovirus delivery of ribosomal protein L23 stabilizes p53 and induces cell cycle arrest and apoptosis in gastric cancer. *J. Gene Med.* 12: 147-156.
- Segreto, H.R., et al. 2011. Phosphorylation and cytoplasmic localization of MAPK p38 during apoptosis signaling in bone marrow granulocytes of mice irradiated *in vivo* and the role of amifostine in reducing these effects. *Acta Histochem.* 113: 300-307.
- Cabello, C.M., et al. 2011. DCPIP (2,6-dichlorophenolindophenol) as a genotype-directed redox chemotherapeutic targeting NQO1*2 breast carcinoma. *Free Radic. Res.* 45: 276-292.
- Zajkowicz, A. and Rusin, M. 2011. The activation of the p53 pathway by the AMP mimetic AICAR is reduced by inhibitors of the ATM or mTOR kinases. *Mech. Ageing Dev.* 132: 543-551.