

# p-p53 (9F4): sc-81511

## 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.

## REFERENCES

- Hupp, T.R., et al. 1992. Regulation of the specific DNA binding function of p53. *Cell* 71: 875-886.
- Levine, A.J. 1997. p53, the cellular gatekeeper for growth and division. *Cell* 88: 323-331.
- Craig, A.L., et al. 1999. Novel phosphorylation sites of human tumour suppressor protein p53 at Ser 20 and Thr 18 that disrupt the binding of MDM2 (mouse double minute 2) protein are modified in human cancers. *Biochem. J.* 342: 133-141.
- Soussi, T., et al. 2000. p53 website and analysis of p53 gene mutations in human cancer: forging a link between epidemiology and carcinogenesis. *Hum. Mutat.* 15: 105-113.
- Sakaguchi, K., et al. 2000. Damage-mediated phosphorylation of human p53 Threonine 18 through a cascade mediated by a casein 1-like kinase. Effect on MDM2 binding. *J. Biol. Chem.* 275: 9278-9283.
- Minamoto, T., et al. 2001. Distinct pattern of p53 phosphorylation in human tumors. *Oncogene* 20: 3341-3347.

## CHROMOSOMAL LOCATION

Genetic locus: TP53 (human) mapping to 17p13.1; Trp53 (mouse) mapping to 11 B3.

## SOURCE

p-p53 (9F4) is a mouse monoclonal antibody raised against a synthetic phosphopeptide corresponding to amino acid residues surrounding Ser 392 of p53 of human origin.

## PRODUCT

Each vial contains 50 µg IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

## APPLICATIONS

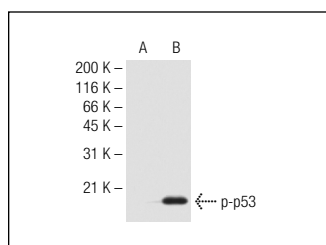
p-p53 (9F4) is recommended for detection of Ser 392 phosphorylated p53 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for p53 siRNA (h): sc-29435, p53 siRNA (m): sc-29436, p53 shRNA Plasmid (h): sc-29435-SH, p53 shRNA Plasmid (m): sc-29436-SH, p53 shRNA (h) Lentiviral Particles: sc-29435-V and p53 shRNA (m) Lentiviral Particles: sc-29436-V.

Molecular Weight of p-p53: 53 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, A-431 + PMA cell lysate: sc-2261 or A-431 + EGF whole cell lysate: sc-2202.

## DATA



p-p53 (9F4): sc-81511. Western blot analysis of phosphorylated recombinant C-terminal fragment of p53 incubated with Casein Kinase II in the absence (A) or presence (B) of ATP.

## SELECT PRODUCT CITATIONS

- Abdelfadil, E., et al. 2013. Thymoquinone induces apoptosis in oral cancer cells through p38β inhibition. *Am. J. Chin. Med.* 41: 683-696.

## 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](http://www.scbt.com) for detailed protocols and support products.