

p-p53 (Ser 46): sc-101764

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: 875-876.
- Levine, A.J. 1997. p53, the cellular gatekeeper for growth and division. *Cell* 88: 323-331.
- Ashcroft, M., et al. 1999. Regulation of p53 stability. *Oncogene* 18: 7637-7643.
- 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.
- Blaydes, J.P., et al. 2000. Synergistic activation of p53-dependent transcription by two cooperating damage recognition pathways. *Oncogene* 19: 3829-3839.

CHROMOSOMAL LOCATION

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

SOURCE

p-p53 (Ser 46) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 46 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.

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.

APPLICATIONS

p-p53 (Ser 46) is recommended for detection of Ser 46 phosphorylated p53 of 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 shRNA Plasmid (h): sc-29435-SH and p53 shRNA (h) Lentiviral Particles: sc-29435-V.

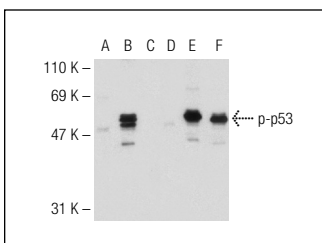
Molecular Weight of p-p53: 53 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HEK293 whole cell lysate: sc-45136 or A-431 + EGF whole cell lysate: sc-2202.

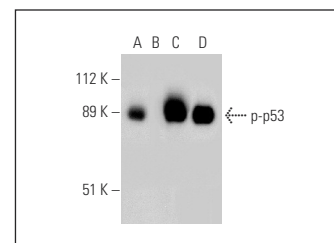
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Western blot analysis of p53 phosphorylation in non-transfected: sc-117752 (A, D), untreated human p53 transfected: sc-158802 (B, E) and lambda protein phosphatase (sc-200312A) treated human p53 transfected: sc-158802 (C, F) 293T whole cell lysates. Antibodies tested include p-p53 (Ser 46): sc-101764 (A, B, C) and p53 (Pab 240): sc-99 (D, E, F).



Western blot analysis of p53 phosphorylation in untreated (A, C) and lambda protein phosphatase (sc-200312A) treated (B, D) human recombinant p53. Antibodies tested include p-p53 (Ser 46): sc-101764 (A, B) and p53 (Pab 240): sc-99 (C, D).

SELECT PRODUCT CITATIONS

- Longe, H.O., et al. 2009. Telomere homolog oligonucleotides induce apoptosis in malignant but not in normal lymphoid cells: mechanism and therapeutic potential. *Int. J. Cancer* 124: 473-482.
- Huang, Y., et al. 2011. Phospho-ΔNp63α is a key regulator of the cisplatin-induced microRNAome in cancer cells. *Cell Death Differ.* 18: 1220-1230.

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Try **p-p53 (F-11): sc-377561**, our highly recommended monoclonal alternative to p-p53 (Ser 46).