

p-p53 (Ser 6): sc-135630

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

- Levine, A.J. 1997. p53, the cellular gatekeeper for growth and division. *Cell* 88: 323-331.
- Ko, L.J., et al. 1997. p53 is phosphorylated by CDK7-cyclin H in a p36MAT1-dependent manner. *Mol. Cell. Biol.* 17: 7220-7229.
- Sakaguchi, K., et al. 1998. DNA damage activates p53 through a phosphorylation-acetylation cascade. *Genes Dev.* 12: 2831-2841.
- Jabbur, J.R., et al. 2000. DNA damage-induced phosphorylation of p53 at serine 20 correlates with p21 and Mdm-2 induction *in vivo*. *Oncogene* 19: 6203-6208.
- Dumaz, N., et al. 2001. Critical roles for the serine 20, but not the serine 15, phosphorylation site and for the polyproline domain in regulating p53 turnover. *Biochem. J.* 359: 459-464.
- Chene, P. 2001. The role of tetramerization in p53 function. *Oncogene* 20: 2611-2617.

CHROMOSOMAL LOCATION

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

SOURCE

p-p53 (Ser 6) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 6 of p53 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml 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.

APPLICATIONS

p-p53 (Ser 6) is recommended for detection of Ser 6 phosphorylated p53 of human origin and correspondingly phosphorylated Ser 9 of mouse 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 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.

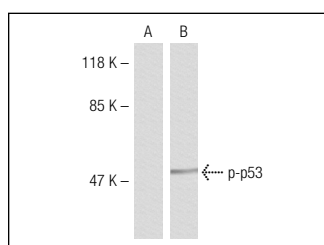
Molecular Weight of p-p53: 53 kDa.

Positive Controls: A-431 + EGF whole cell lysate: sc-2202, MCF7 + etoposide cell lysate: sc-2281 or UV-treated HT-29 cell extracts.

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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



p-p53 (Ser 6): sc-135630. Western blot analysis of phosphorylated p53 expression in untreated (A) and UV-treated (B) HT-29 cell extracts.

SELECT PRODUCT CITATIONS

- Duan, W.J., et al. 2011. Silibinin activated p53 and induced autophagic death in human fibrosarcoma HT1080 cells via reactive oxygen species-38 and c-Jun N-terminal kinase pathways. *Biol. Pharm. Bull.* 34: 47-53.

RESEARCH USE

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