

p-p53 (Thr 18)-R: sc-16716-R

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 up-regulated 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 post-translational 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; Trp53 (mouse) mapping to 11 B3.

SOURCE

p-p53 (Thr 18)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Thr 18 phosphorylated p53 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-16716 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-p53 (Thr 18)-R is recommended for detection of Thr 18 phosphorylated p53 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (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-p53 (Thr 18)-R is also recommended for detection of correspondingly phosphorylated p53 in additional species, including equine and porcine.

Suitable for use as control antibody for p53 siRNA (h): sc-29435, p53 siRNA (m): sc-29436, p53 siRNA (r): sc-45917, sc-44218, sc-44219p53 shRNA Plasmid (h): sc-29435-SH, p53 shRNA Plasmid (m): sc-29436-SH, p53 shRNA Plasmid (r): sc-45917-SH, p53 shRNA (h) Lentiviral Particles: sc-29435-V, p53 shRNA (m) Lentiviral Particles: sc-29436-V and p53 shRNA (r) Lentiviral Particles: sc-45917-V.

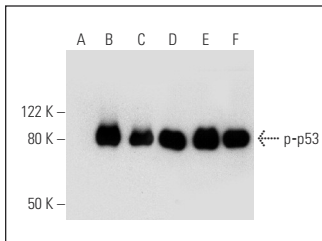
Molecular Weight of p-p53: 53 kDa.

Positive Controls: A-431 + EGF whole cell lysate: sc-2202, A-431 whole cell lysate: sc-2201 or MCF7 + etoposide cell lysate: sc-2281.

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) and Western Blotting Luminol Reagent: sc-2048. 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.

DATA



Western blot analysis of p53 phosphorylation in untreated (A, D), CHK 1 treated (B, E) and DNA-PK treated (C, F) p53 recombinant proteins. Antibodies tested include p-p53 (Thr 18)-R: sc-16716-R (A, B, C) and p53 (Pab 240): sc-99 (D, E, F).

SELECT PRODUCT CITATIONS

1. Yang, W.H., et al. 2006. Modification of p53 with O-linked N-acetylglucosamine regulates p53 activity and stability. *Nat. Cell Biol.* 8: 1074-1083.
2. Blanco, S., et al. 2006. The subcellular localization of vaccinia-related kinase-2 (VRK2) isoforms determines their different effect on p53 stability in tumour cell lines. *FEBS J.* 273: 2487-2504.

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.