SANTA CRUZ BIOTECHNOLOGY, INC.

p-p53 (mSer 20): sc-18078

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 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: Trp53 (mouse) mapping to 11 B3.

SOURCE

p-p53 (mSer 20)-R is available as goat (sc-18078) and rabbit (sc-18078-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Ser-20 (m) phosphorylated p-p53 of mouse 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-18078 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 (mSer 20) is recommended for detection of p53 phosphorylated at Ser 20 of mouse, rat, and monkey 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

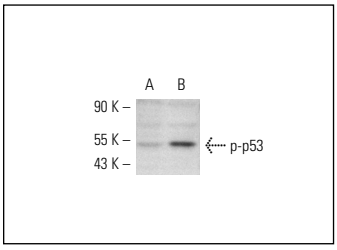
Suitable for use as control antibody for p53 siRNA (m): sc-29436, p53 shRNA Plasmid (m): sc-29436-SH and p53 shRNA (m) Lentiviral Particles: sc-29436-V.

Molecular Weight of p53: 53 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-18078): use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), for rabbit primary antibody (sc-18078-R): 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: for goat primary antibody (sc-18078): use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941, for rabbit primary antibody (sc-18078-R): 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



p-p53 (mSer 20)-R: sc-18078-R. Western blot analysis of p53 phosphorylation in untreated (**A**) and UV treated (**B**) COS whole cell lysates.

SELECT PRODUCT CITATIONS

1. Amaral, J.D., et al. 2007. p53 is a key molecular target of ursodeoxycholic acid in regulating apoptosis. J. Biol. Chem. 282: 34250-34259.
2. Suman, S., et al. 2012. Administration of ON 01210.Na after exposure to ionizing radiation protects bone marrow cells by attenuating DNA damage response. Radiat. Oncol. 7: 6.
3. Jean, J.C., et al. 2013. Transcription factor Klf4, induced in the lung by oxygen at birth, regulates perinatal fibroblast and myofibroblast differentiation. PLoS ONE 8: e54806.

PROTOCOLS

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