SANTA CRUZ BIOTECHNOLOGY, INC.

p-p53 (P53-18): sc-13580

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 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

1. Hupp, T.R., et al. 1992. Regulation of the specific DNA binding function of p53. Cell 71: 875-876.
2. Levine, A.J. 1997. p53, the cellular gatekeeper for growth and division. Cell 88: 323-331.
3. Ashcroft, M. and Vousden, K.H. 1999. Regulation of p53 stability. Oncogene 18: 7637-7643.
4. 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.
5. Chene, P. 2001. The role of tetramerization in p53 function. Oncogene 20: 2611-2617.
6. Bech-Otschir, D., et al. 2001. COP9 signalosome-specific phosphorylation targets p53 to degradation by the ubiquitin system. EMBO J. 20: 1630-1639.
7. Minamoto, T., et al. 2001. Distinct pattern of p53 phosphorylation in human tumors. Oncogene 20: 3341-3347.
8. LocusLink Report (LocusID: 7157). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

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

SOURCE

p-p53 (P53-18) is a mouse monoclonal antibody raised against phosphorylated Ser 378 and Ser 392 of p53 of human origin.

PRODUCT

Each vial contains 200 µg IgM in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

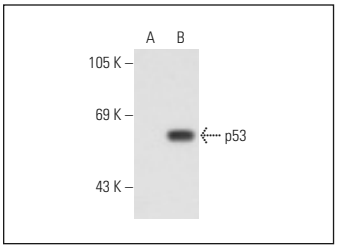
p-p53 (P53-18) is recommended for detection of dually phosphorylated Ser 378 and Ser 392 of p53 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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: p53 (h3): 293T Lysate: sc-158802, A-431 + PMA cell lysate: sc-2261 or A-431 whole cell lysate: sc-2201.

DATA



p-p53 (P53-18): sc-13580. Western blot analysis of p53 phosphorylation in non-transfected: sc-117752 (**A**) and human p53 transfected: sc-158802 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Trinei, M., et al. 2002. A p53-p66 Shc signalling pathway controls intracellular redox status, levels of oxidation-damaged DNA and oxidative stress-induced apoptosis. Oncogene 21: 3872-3878.
2. Deng, J., et al. 2011. Stratifin expression is a novel prognostic factor in human gliomas. Pathol. Res. Pract. 207: 674-679.
3. Mendes, F., et al. 2015. Effects of X-radiation on lung cancer cells: the interplay between oxidative stress and P53 levels. Med. Oncol. 32: 266.
4. Liu, Y., et al. 2016. Effects of recombinant human adenovirus-p53 on the regression of hepatic fibrosis. Int. J. Mol. Med. 38: 1093-1100.
5. Cao, S., et al. 2017. Potential malignant transformation in the gastric mucosa of immunodeficient mice with persistent *Mycoplasma penetrans* infection. PLoS ONE 12: e0180514.
6. Li, F.S., et al. 2019. BMP9 mediates the anticancer activity of evodiamine through HIF-1α/p53 in human colon cancer cells. Oncol. Rep. E-published.

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.