SANTA CRUZ BIOTECHNOLOGY, INC.

p-p53 (3H2806): sc-71786

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. Minamoto, T., et al. 2001. Distinct pattern of p53 phosphorylation in human tumors. Oncogene 20: 3341-3347.
7. Bech-Otschir, D., et al. 2001. COP9 signalosome-specific phosphorylation targets p53 to degradation by the ubiquitin system. EMBO J. 20: 1630-1639.

CHROMOSOMAL LOCATION

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

SOURCE

p-p53 (3H2806) is a mouse monoclonal antibody raised against a C-terminal phosphopeptide corresponding to amino acids 378-393 of p53 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

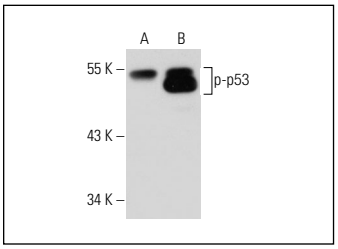
p-p53 (3H2806) is recommended for detection of Ser 392 phosphorylated p53 of mouse, rat, human, porcine and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); not recommended for detection of dephosphorylated p53.

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: p53 (m): 293T Lysate: sc-125766, MCF7 + etoposide cell lysate: sc-2281 or A-431 + EGF whole cell lysate: sc-2202.

DATA



p-p53 (3H2806): sc-71786. Western blot analysis of p53 phosphorylation in non-transfected: sc-117752 (**A**) and mouse p53 transfected: sc-125766 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Mizutani, N., et al. 2007. Dose-dependent differential regulation of cytokine secretion from macrophages by fractalkine. J. Immunol. 179: 7478-7487.
2. Hong, M.Y., et al. 2012. Effect of c-Jun NH_2-terminal kinase-mediated p53 expression on neuron autophagy following traumatic brain injury in rats. Chin. Med. J. 125: 2019-2024.
3. Kim, S.H. and Park, J.W. 2019. IDH2 deficiency impairs cutaneous wound healing via Ros-dependent apoptosis. Biochim. Biophys. Acta Mol. Basis Dis. 1865: 165523.
4. Rahman, H., et al. 2021. Aspirin protects melanocytes and keratinocytes against UVB-induced DNA damage *in vivo*. J. Invest. Dermatol. 141: 132-141.e3.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.