SANTA CRUZ BIOTECHNOLOGY, INC.

p53 (2Q375): sc-71820

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

p53, a DNA-binding, oligomerization domain- and transcription activation domain-containing tumor suppressor, 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. MDM2 is an E3 ubiquitin ligase that is upregulated in the presence of active p53, where it poly-ubiquitinates p53 for proteasome targeting. p53 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 of p53, amino acids 110-286, can compromise energetically-favorable association with *cis* elements and are implicated in several human cancers.

REFERENCES

1. Banks, L., et al. 1986. Isolation of human p53-specific monoclonal antibodies and their use in the studies of human p53 expression. Eur. J. Biochem. 159: 529-534.
2. Hupp, T.R., et al. 1992. Regulation of the specific DNA-binding function of p53. Cell 71: 875-886.

CHROMOSOMAL LOCATION

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

SOURCE

p53 (2Q375) is a mouse monoclonal antibody raised against p53-β galactosidase fusion protein.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p53 (2Q375) is recommended for detection of p53 of mouse, rat and human 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 siRNA (r): sc-45917, p53 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.

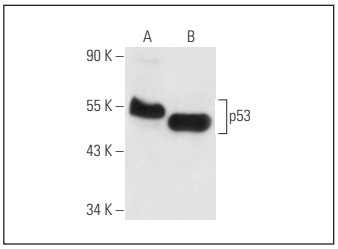
Molecular Weight of p53: 53 kDa.

Positive Controls: p53 (m): 293T Lysate: sc-125766, A-431 whole cell lysate: sc-2201 or mouse LacZ whole cell lysate: sc-364371.

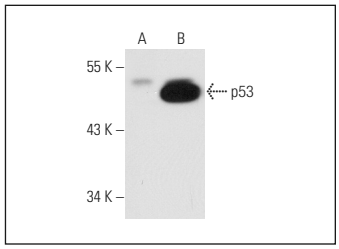
STORAGE

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

DATA



p53 (2Q375): sc-71820. Western blot analysis of p53 expression in A-431 (**A**) and mouse LacZ (**B**) whole cell lysates.



p53 (2Q375): sc-71820. Western blot analysis of p53 expression in non-transfected: sc-117752 (**A**) and mouse p53 transfected: sc-125766 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Liang, H.S., et al. 2009. Comparative analysis of protein expression in differentiated thyroid tumours: a multicentre study. J. Int. Med. Res. 37: 927-938.
2. Akbarnejad, Z., et al. 2017. Effects of extremely low-frequency pulsed electromagnetic fields (ELF-PEMFs) on glioblastoma cells (U87). Electromagn. Biol. Med. 36: 238-247.
3. Liu, J., et al. 2018. Alantolactone induces apoptosis and suppresses migration in MCF-7 human breast cancer cells via the p38 MAPK, NFκB and Nrf2 signaling pathways. Int. J. Mol. Med. 42: 1847-1856.
4. Yi, H., et al. 2018. Isosteviol protects free fatty acid- and high fat diet-induced hepatic injury via modulating PKC-β/p66Shc/ROS and ER stress pathways. Antioxid. Redox Signal. 30: 1949-1968.
5. Wang, D., et al. 2019. Proteasome inhibition boosts autophagic degradation of ubiquitinated-AGR2 and enhances the antitumor efficiency of bevacizumab. Oncogene 38: 3458-3474.
6. Zhang, Z., et al. 2019. Long non-coding RNA UCA1 relieves cardiomyocytes H9c2 injury aroused by oxygen-glucose deprivation via declining miR-122. Artif. Cells Nanomed. Biotechnol. 47: 3492-3499.
7. Li, L., et al. 2020. Ethanol extract of *Gynura bicolor* (GB) protects against UVB-induced photodamage of skin by inhibiting P53-mediated Bcl-2/BAX/Caspase-3 apoptosis pathway. Arch. Dermatol. Res. 312: 41-49.
8. Kucukler, S., et al. 2020. Zingerone attenuates vancomycin-induced hepatotoxicity in rats through regulation of oxidative stress, inflammation and apoptosis. Life Sci. 259: 118382.
9. Wang, Y., et al. 2021. Homeobox-A13 acts as a functional prognostic and diagnostic biomarker via regulating P53 and Wnt signaling pathways in lung cancer. Cancer Biomark. 31: 239-254.

RESEARCH USE

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