SANTA CRUZ BIOTECHNOLOGY, INC.

p53 (2Q366): sc-71818

BACKGROUND

P53, 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 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) of p53, amino acids 110-286, can compromise energetically favorable association with *cis* elements and are implicated in several human cancers.

CHROMOSOMAL LOCATION

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

SOURCE

p53 (2Q366) is a mouse monoclonal antibody raised against SV40 transformed B4 cells of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p53 (2Q366) is available conjugated to either phycoerythrin (sc-71818 PE) or fluorescein (sc-71818 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

p53 (2Q366) is recommended for detection of a conserved, denaturation-resistant determinant of the p53 protein 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 flow cytometry (1 µg per 1 x 10^6 cells).

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: MCF7 whole cell lysate: sc-2206, A-431 whole cell lysate: sc-2201 or mouse LacZ whole cell lysate: sc-364371.

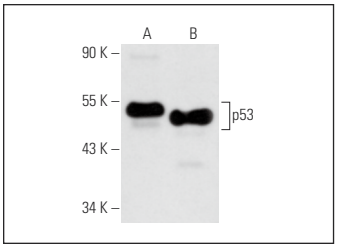
STORAGE

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

RESEARCH USE

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

DATA



p53 (2Q366): sc-71818. Western blot analysis of p53 expression in A-431 (**A**) and mouse LacZ (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wang, J.X., et al. 2011. MiR-499 regulates mitochondrial dynamics by targeting calcineurin and dynamin-related protein-1. Nat. Med. 17: 71-78.
2. Lin, Y., et al. 2012. The mouse Mageb18 gene encodes a ubiquitously expressed type I MAGE protein and regulates cell proliferation and apoptosis in melanoma B16-F0 cells. Biochem. J. 443: 779-788.
3. Fang, E.F., et al. 2014. Defective mitophagy in XPA via PARP-1 hyperactivation and NAD^+/SIRT1 reduction. Cell 157: 882-896.
4. Li, X., et al. 2014. Di-(2-ethylhexyl) phthalate inhibits DNA replication leading to hyperPARylation, SIRT1 attenuation, and mitochondrial dysfunction in the testis. Sci. Rep. 4: 6434.
5. Mansour, N.M., et al. 2015. Decoy receptor DcR1 is induced in a p50/Bcl3-dependent manner and attenuates the efficacy of temozolomide. Cancer Res. 75: 2039-2048.
6. Chesnokova, V., et al. 2016. Growth hormone is permissive for neoplastic colon growth. Proc. Natl. Acad. Sci. USA 113: E3250-E3259.
7. Voce, D.J., et al. 2019. Temozolomide treatment induces lncRNA MALAT1 in an NFκB and p53 codependent manner in glioblastoma. Cancer Res. 79: 2536-2548.
8. Matsunaga, T., et al. 2023. Supersulphides provide airway protection in viral and chronic lung diseases. Nat. Commun. 14: 4476.

PROTOCOLS

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

CONJUGATES

See **p53 (DO-1): sc-126** for p53 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.