

# p53 (2B2.71): sc-71819

## 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 (2B2.71) is a mouse monoclonal antibody raised against SV40 transformed B4 cells of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p53 (2B2.71) is available conjugated to either phycoerythrin (sc-71819 PE) or fluorescein (sc-71819 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

## APPLICATIONS

p53 (2B2.71) 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<sup>6</sup> 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, mouse LacZ whole cell lysate: sc-364371 or A-431 whole cell lysate: sc-2201.

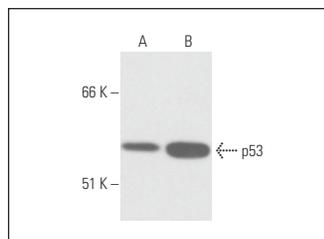
## STORAGE

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

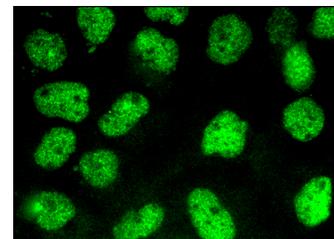
## RESEARCH USE

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

## DATA



p53 (2B2.71): sc-71819. Western blot analysis of p53 expression in A-431 (A) and mouse LacZ (B) whole cell lysates.



p53 (2B2.71): sc-71819. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

- Pikkarainen, S., et al. 2009. Regulation of expression of the rat orthologue of mouse double minute 2 (MDM2) by H<sub>2</sub>O<sub>2</sub>-induced oxidative stress in neonatal rat cardiac myocytes. *J. Biol. Chem.* 284: 27195-27210.
- Qi, Z., et al. 2011. Physical exercise regulates p53 activity targeting SCO2 and increases mitochondrial Cox biogenesis in cardiac muscle with age. *PLoS ONE* 6: e21140.
- Matias, A.C., et al. 2013. Diethyldithiocarbamate induces apoptosis in neuroblastoma cells by raising the intracellular copper level, triggering cytochrome c release and caspase activation. *Toxicol. In Vitro* 27: 349-357.
- Persico, M., et al. 2013. New anticancer agents mimicking protein recognition motifs. *J. Med. Chem.* 56: 6666-6680.
- Marques, C.M.S., et al. 2017. Generation of advanced glycation end-products (AGEs) by glycooxidation mediated by copper and ROS in a human serum albumin (HSA) model peptide: reaction mechanism and damage in motor neuron cells. *Mutat. Res.* 824: 42-51.
- Nie, X., et al. 2018. mTOR acts as a pivotal signaling hub for neural crest cells during craniofacial development. *PLoS Genet.* 14: e1007491.
- Zhang, C., et al. 2020. DNMT1 enhances the radiosensitivity of HPV-positive head and neck squamous cell carcinomas via downregulating SMG1. *Oncotargets Ther.* 13: 4201-4211.
- Hu, D., et al. 2020. Age-related changes in mineralocorticoid receptors in rat hearts. *Mol. Med. Rep.* 22: 1859-1867.
- Chung, C.Y.T., et al. 2020. Babam2 regulates cell cycle progression and pluripotency in mouse embryonic stem cells as revealed by induced DNA damage. *Biomedicines* 8: 397.



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.