

## p53 (A-1): sc-393031



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 (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 (A-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 353-391 at the C-terminus of p53 of rat origin.

**PRODUCT**

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p53 (A-1) is available conjugated to agarose (sc-393031 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393031 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393031 PE), fluorescein (sc-393031 FITC), Alexa Fluor® 488 (sc-393031 AF488), Alexa Fluor® 546 (sc-393031 AF546), Alexa Fluor® 594 (sc-393031 AF594) or Alexa Fluor® 647 (sc-393031 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393031 AF680) or Alexa Fluor® 790 (sc-393031 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, p53 (A-1) is available conjugated to biotin (sc-393031 B), 200 µg/ml, for WB, IHC(P) and ELISA.

Blocking peptide available for competition studies, sc-393031 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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**STORAGE**

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

**PROTOCOLS**

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

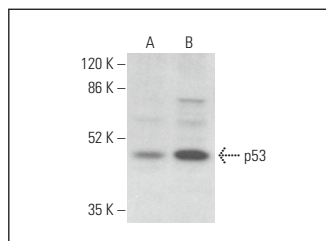
**APPLICATIONS**

p53 (A-1) is recommended for detection of p53 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

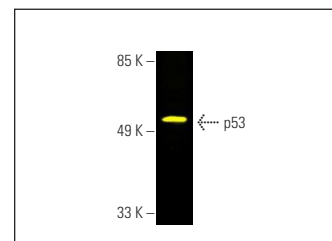
Suitable for use as control antibody for p53 siRNA (h): sc-29435, p53 siRNA (m): sc-29436, p53 siRNA (r): sc-45917, p53 shRNA Plasmid (h): sc-29435-SH, p53 shRNA Plasmid (m): sc-29436-SH, p53 shRNA Plasmid (r): sc-45917-SH, p53 shRNA (h) Lentiviral Particles: sc-29435-V, p53 shRNA (m) Lentiviral Particles: sc-29436-V and p53 shRNA (r) Lentiviral Particles: sc-45917-V.

Molecular Weight of p53: 53 kDa.

Positive Controls: WR19L cell lysate: sc-3805, BT-20 cell lysate: sc-2223 or c4 whole cell lysate: sc-364186.

**DATA**

p53 (A-1): sc-393031. Western blot analysis of p53 expression in BT-20 (A) and c4 (B) whole cell lysates.



p53 (A-1) Alexa Fluor® 488: sc-393031 AF488. Direct fluorescent western blot analysis of p53 expression in WR19L whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214.

**SELECT PRODUCT CITATIONS**

- Valdecantos, M.P., et al. 2015. Essential role of Nrf2 in the protective effect of lipoic acid against lipoapoptosis in hepatocytes. *Free Radic. Biol. Med.* 84: 263-278.
- Chen, H., et al. 2017. Akt and its related molecular feature in aged mice skin. *PLoS ONE* 12: e0178969.
- Xue, Y., et al. 2018. Downregulation of frizzled-7 induces the apoptosis of hepatocellular carcinoma cells through inhibition of NFκB. *Oncol. Lett.* 15: 7693-7701.
- Huang, Z., et al. 2019. Mechanisms underlying the increased chemosensitivity of bortezomib-resistant multiple myeloma by silencing nuclear transcription factor Snail1. *Oncol. Rep.* 41: 415-426.
- Alqahtani, T., et al. 2020. Salinomycin and its derivatives as potent RET transcriptional inhibitors for the treatment of medullary thyroid carcinoma. *Int. J. Oncol.* 56: 348-358.

**RESEARCH USE**

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