

p53 (B20.1): sc-56180



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, an E3 ubiquitin ligase that is upregulated in the presence of active p53, where MDM2 poly-ubiquitinates 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, amino acids 110-286) of p53 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 (B20.1) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 16-25 of p53 of human origin.

PRODUCT

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

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.

APPLICATIONS

p53 (B20.1) is recommended for detection of all forms 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), 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).

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.

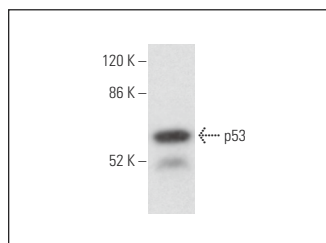
Molecular Weight of p53: 53 kDa.

Positive Controls: BT-20 cell lysate: sc-2223.

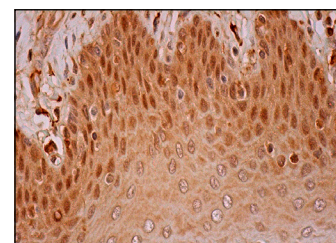
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



p53 (B20.1): sc-56180. Western blot analysis of p53 expression in BT-20 whole cell lysate.



p53 (B20.1): sc-56180. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nuclear and cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

- Akahira, J., et al. 2004. Decreased expression of 14-3-3 σ is associated with advanced disease in human epithelial ovarian cancer: its correlation with aberrant DNA methylation. Clin. Cancer Res. 10: 2687-2693.
- Akahira, J., et al. 2007. Decreased expression of RIZ1 and its clinicopathological significance in epithelial ovarian carcinoma: correlation with epigenetic inactivation by aberrant DNA methylation. Pathol. Int. 57: 725-733.
- Suzuki, F., et al. 2013. Decreased expression of 14-3-3 σ is predictive of poor prognosis for patients with human uterine papillary serous carcinoma. Tohoku J. Exp. Med. 231: 193-199.
- Magalhaes, Y.T., et al. 2020. Exoenzyme C3 transferase lowers Actin cytoskeleton dynamics, genomic stability and survival of malignant melanoma cells under UV-light stress. J. Photochem. Photobiol. B, Biol. 209: 111947.
- Magalhaes, Y.T., et al. 2020. RHOAmg through the nucleotide excision repair pathway as a mechanism of cellular response against the effects of UV radiation. Front. Cell Dev. Biol. 8: 816.



See **p53 (D0-1): sc-126** for p53 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.