

## p53 (80): sc-136023



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.
3. Levine, A.J. 1997. p53, the cellular gatekeeper for growth and division. *Cell* 88: 323-331.
4. Ashcroft, M. and Vousden, K.H. 1999. Regulation of p53 stability. *Oncogene* 18: 7637-7643.
5. Soussi, T., et al. 2000. p53 website and analysis of p53 gene mutations in human cancer: forging a link between epidemiology and carcinogenesis. *Hum. Mutat.* 15: 105-113.
6. Chene, P. 2001. The role of tetramerization in p53 function. *Oncogene* 20: 2611-2617.
7. Minamoto, T., et al. 2001. Distinct pattern of p53 phosphorylation in human tumors. *Oncogene* 20: 3341-3347
8. LocusLink Report (LocusID: 7157). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

Genetic locus: TP53 (human) mapping to 17p13.1.

## SOURCE

p53 (80) is a mouse monoclonal antibody raised against amino acids 195-393 of p53 of monkey origin.

## PRODUCT

Each vial contains 50 µg IgG<sub>2b</sub> in 0.5 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.

## APPLICATIONS

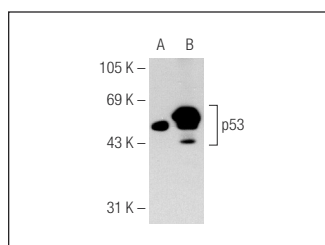
p53 (80) is recommended for detection of p53 of human, monkey and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for p53 siRNA (h): sc-29435, p53 shRNA Plasmid (h): sc-29435-SH or p53 shRNA (h) Lentiviral Particles: sc-29435-V.

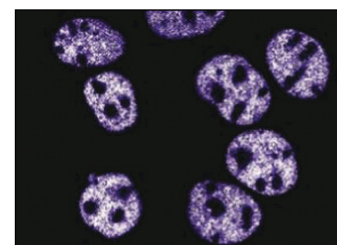
Molecular Weight of p53: 53 kDa.

Positive Controls: p53 (h3): 293T Lysate: sc-158802, A-431 whole cell lysate: sc-2201 or MCF7 whole cell lysate: sc-2206.

## DATA



p53 (80): sc-136023. Western blot analysis of p53 expression in non-transfected: sc-117752 (A) and human p53 transfected: sc-158802 (B) 293T whole cell lysates.



p53 (80): sc-136023. Immunofluorescence staining of A-431 cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

1. Marley, K., et al. 2013. The effects of taurilidine alone and in combination with doxorubicin or carboplatin in canine osteosarcoma *in vitro*. *BMC Vet. Res.* 9: 15.

## RESEARCH USE

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

## PROTOCOLS

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



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