

SANTA CRUZ BIOTECHNOLOGY, INC.

p53 (FL-393): sc-6243



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.

REFERENCES

1. Hupp, T.R., et al. 1992. Regulation of the specific DNA binding function of p53. *Cell* 71: 875-886.
2. Levine, A.J. 1997. p53, the cellular gatekeeper for growth and division. *Cell* 88: 323-331.
3. 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.
4. Minamoto, T., et al. 2001. Distinct pattern of p53 phosphorylation in human tumors. *Oncogene* 20: 3341-3347.

SOURCE

p53 (FL-393) is available as either rabbit (sc-6243) or goat (sc-6243-G) polyclonal affinity purified antibody raised against amino acids 1-393 representing full length p53 of human origin.

PRODUCT

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

Available as agarose conjugate for immunoprecipitation, sc-6243 AC, 500 µg/0.25 ml agarose in 1 ml.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-6243 X, 200 µg/0.1 ml.

Available as HRP conjugate for Western blotting, sc-6243 HRP, 200 µg/1 ml.

Available as fluorescein (sc-6243 FITC) or rhodamine (sc-6243 TRITC) conjugates for immunofluorescence, 200 µg/1 ml.

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.

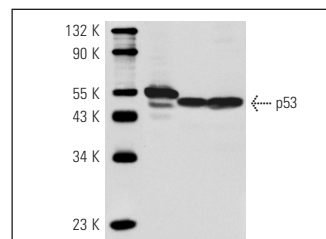
APPLICATIONS

p53 (FL-393) is recommended for detection 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 and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

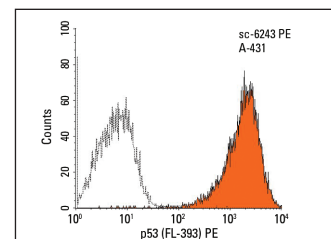
Suitable for use as control antibody for p53 siRNA (h): sc-29435 and p53 siRNA (m): sc-29436.

Positive Controls: mouse Lac Z, human breast carcinoma tissue or A-431 whole cell lysate: sc-2201.

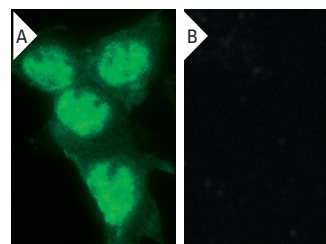
DATA



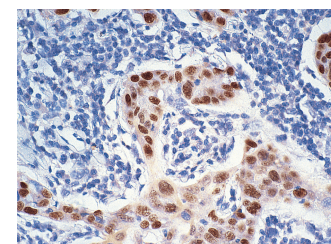
p53 (FL-393)-G: sc-6243-G. Western blot analysis of p53 expression in A-431 (A), WR19L (B) and mouse Lac Z (C) whole cell lysates.



p53 (FL-393) PE: sc-6243 PE. Intracellular FCM analysis of fixed and permeabilized A431 cells. Black line histogram represents the isotype control, normal rabbit IgG: sc-3871.



p53 siRNA (h): sc-29435. Immunofluorescence staining of methanol-fixed, control HeLa (A) and p53 siRNA silenced HeLa (B) cells showing diminished nuclear staining in the siRNA silenced cells. Cells probed with p53 (FL-393): sc-6243.



p53 (FL-393): sc-6243. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue. Note nuclear staining of ductal epithelia.

SELECT PRODUCT CITATIONS

1. Jiang, Y., et al. 1998. Mutation of the Angelman Ubiquitin Ligase in Mice Caused Increased Cytoplasmic p53 and Deficits of Contextual Learning and Long-Term Potentiation. *Neuron* 21: 799-811.
2. Leng, R.P., et al. 2003. Pirh2, a p53-induced ubiquitin-protein ligase, promotes p53 degradation. *Cell* 112: 779-791.
3. Hurlin, P.J., et al. 2003. Deletion of Mnt leads to disrupted cell cycle control and tumorigenesis. *EMBO J.* 22: 4584-4596.
4. Takaoka, A., et al. 2003. Integration of interferon-alpha/beta signalling to p53 responses in tumour suppression and antiviral defence. *Nature* 424: 516-523.
5. Kwak, J.C., et al. 2003. IFI16 as a negative regulator in the regulation of p53 and p21(Waf1). *J. Biol. Chem.* 278: 40899-40904.