

p53 (Pab 1801): sc-98



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 posttranslational 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.

SOURCE

p53 (Pab 1801) is a mouse monoclonal antibody raised against amino acids 32-79 mapping near the N-terminus of p53 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-98 X, 200 µg/0.1 ml.

Available as agarose conjugate for immunoprecipitation, sc-98 AC, 500 µg/0.25 ml agarose in 1 ml.

Available as phycoerythrin conjugate for intracellular FCM, sc-98 PE, 100 tests.

Available as Alexa Fluor® 405 (sc-98 AF405), Alexa Fluor® 488 (sc-98 AF488) or Alexa Fluor® 647 (sc-98 AF647) conjugates for flow cytometry or immunofluorescence; 100 µg/2 ml.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA.

APPLICATIONS

p53 (Pab 1801) is recommended for detection of p53 of 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, p53 shRNA Plasmid (h): sc-29435-SH and p53 shRNA (h) Lentiviral Particles: sc-29435-V.

p53 (Pab 1801) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

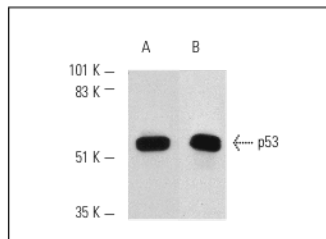
Molecular Weight of p53: 53 kDa.

Positive Controls: A549 cell lysate: sc-2413, HeLa whole cell lysate: sc-2200 or A-431 whole cell lysate: sc-2201.

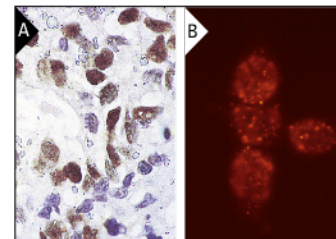
STORAGE

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

DATA



Western blot analysis of p53 expression in A-431 cells (A, B). Antibodies tested include p53 (Bp53-12): sc-263 (A) and p53 (Pab 1801): sc-98 (B).



p53 (Pab 1801): sc-98. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue (A) and immunofluorescence staining of methanol-fixed A-431 cells (B) showing nuclear localization.

SELECT PRODUCT CITATIONS

- Gazitt, Y., et al. 1994. Fluctuations and ultrastructural localization of oncoproteins and cell cycle regulatory proteins during growth and apoptosis of synchronized AGF cells. *Cancer Res.* 54: 950-956.
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- Zhang, Y., et al. 2006. The human orthologue of *Drosophila Ecdysoneless* protein interacts with p53 and regulates its function. *Cancer Res.* 66: 7167-7175.
- Song, H., et al. 2007. p53 gain-of-function cancer mutants induce genetic instability by inactivating ATM. *Nat. Cell Biol.* 9: 573-580.
- Mallette, F. and Gaumot-Leclerc, M. 2007. The DNA damage signaling pathway is a critical mediator of oncogene-induced senescence. *Genes Dev.* 21: 43-48.
- Zhang, W., et al. 2010. Identification of a functional p53 responsive element within the promoter of XAF1 gene in gastrointestinal cancer cells. *Int. J. Oncol.* 36: 1031-1037.
- Cho, S.J. and Chen, X. 2010. Myosin VI is differentially regulated by DNA damage in p53- and cell type-dependent manners. *J. Biol. Chem.* 285: 27159-27166.
- Cho, S.J., et al. 2010. RNPC1 modulates the RNA-binding activity of, and cooperates with, HuR to regulate p21 mRNA stability. *Nucleic Acids Res.* 38: 2256-2267.
- Marcar, L., et al. 2010. Mage-A cancer/testis antigens inhibit p53 function by blocking its interaction with chromatin. *Cancer Res.* 70: 10362-10370.

RESEARCH USE

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