SANTA CRUZ BIOTECHNOLOGY, INC.

p53 (Pab 1801): sc-98

SANTA CRUZ BIOTECHNOLOGY

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.

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.

CHROMOSOMAL LOCATION

Genetic locus: TP53 (human) mapping to 17p13.1; Trp53 (mouse) mapping to 11 B3.

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 IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-98 X, 200 µg/0.1 ml.

p53 (Pab 1801) is available conjugated to agarose (sc-98 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-98 PE), Alexa Fluor® 488 (sc-98 AF488), Alexa Fluor® 546 (sc-98 AF546), Alexa Fluor® 594 (sc-98 AF594) or Alexa Fluor® 647 (sc-98 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-98 AF680) or Alexa Fluor® 790 (sc-98 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, p53 (Pab 1801) is available conjugated to Alexa Fluor® 405 (sc-98 AF405, 200 µg/ml), for IF, IHC(P) and FCM.

STORAGE

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

APPLICATIONS

p53 (Pab 1801) 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 (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 flow cytometry (1 µg per 1 x 10^6 cells).

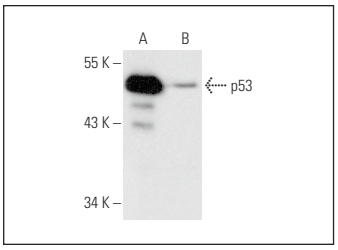
Suitable for use as control antibody for p53 siRNA (h): sc-29435, p53 siRNA (m): sc-29436, p53 siRNA (r): sc-45917, p53 shRNA Plasmid (h): sc-29435-SH, p53 shRNA Plasmid (m): sc-29436-SH, p53 shRNA Plasmid (r): sc-45917-SH, p53 shRNA (h) Lentiviral Particles: sc-29435-V, p53 shRNA (m) Lentiviral Particles: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

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

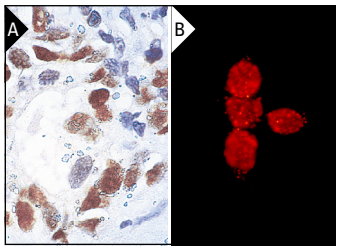
Molecular Weight of p53: 53 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MCF7 whole cell lysate: sc-2206 or A-431 whole cell lysate: sc-2201.

DATA



p53 (Pab 1801): sc-98. Western blot analysis of p53 expression in untreated (**A**) and Farnesyl Thiosalicylic Acid Amide (sc-223986) treated (**B**) SW480 whole cell lysates. Note down regulation of p53 expression in lane **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 staining.

SELECT PRODUCT CITATIONS

1. Arany, I., et al. 1993. Alterations in cytokine/antioncogene expression in skin lesions caused by "low-risk" types of human papillomaviruses. Viral Immunol. 6: 255-265.
2. Igelmann, S., et al. 2021. A hydride transfer complex reprograms NAD metabolism and bypasses senescence. Mol. Cell 81: 3848-3865.e19.
3. Yang, S.C., et al. 2022. Different cell responses to hinokitiol treatment result in senescence or apoptosis in human osteosarcoma cell lines. Int. J. Mol. Sci. 23: 1632.
4. Wu, H.H., et al. 2023. The SWIB/MDM2 motif of UBE4B activates the p53 pathway. Mol. Ther. Nucleic Acids 31: 466-481.

RESEARCH USE

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