SANTA CRUZ BIOTECHNOLOGY, INC.

p53 (Bp53-12): sc-263

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.

CHROMOSOMAL LOCATION

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

SOURCE

p53 (Bp53-12) is a mouse monoclonal antibody raised against recombinant p53 of human origin, with epitope mapping to amino acids 16-25.

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.

p53 (Bp53-12) is available conjugated to agarose (sc-263 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-263 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-263 PE), fluorescein (sc-263 FITC), Alexa Fluor® 488 (sc-263 AF488), Alexa Fluor® 546 (sc-263 AF546), Alexa Fluor® 594 (sc-263 AF594) or Alexa Fluor® 647 (sc-263 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-263 AF680) or Alexa Fluor® 790 (sc-263 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

p53 (Bp53-12) 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).

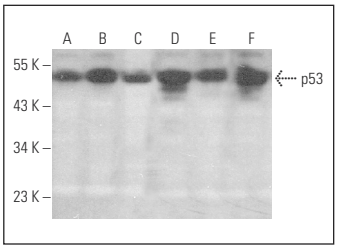
Suitable for use as control antibody for p53 siRNA (h): sc-29435, p53 siRNA (m): sc-29436, p53 siRNA (r): sc-45917, p53 shRNA Plasmid (h): sc-29435-SH, p53 shRNA Plasmid (m): sc-29436-SH, p53 shRNA Plasmid (r): sc-45917-SH, p53 shRNA (h) Lentiviral Particles: sc-29435-V, p53 shRNA (m) Lentiviral Particles: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

Molecular Weight of p53: 53 kDa.

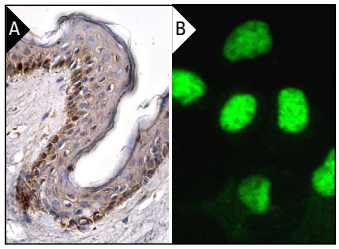
STORAGE

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

DATA



p53 (Bp53-12): sc-263. Western blot analysis of p53 expression in HeLa (**A**), MCF7 (**B**), Jurkat (**C**), SW480 (**D**), A549 (**E**) and HUV-EC-C (**F**) whole cell lysates.



p53 (Bp53-12): sc-263. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing nuclear and cytoplasmic staining of epidermal cells (**A**). Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Nakamura, T., et al. 1995. An apoptotic defect in lens differentiation caused by human p53 is rescued by a mutant allele. Proc. Natl. Acad. Sci. USA 92: 6142-6146.
2. Sapkota, D., et al. 2013. S100A14 interacts with S100A16 and regulates its expression in human cancer cells. PLoS ONE 8: e76058.
3. Guan, X., et al. 2014. Identification of prohibitin and prohibiton as novel factors binding to the p53 induced gene 3 (PIG3) promoter $(TGYCC)_{15}$ motif. Biochem. Biophys. Res. Commun. 443: 1239-1244.
4. Yan, Y., et al. 2015. SUMOylation of AMPKα1 by PIAS4 specifically regulates mTORC1 signalling. Nat. Commun. 6: 8979.
5. Andresen, V., et al. 2016. Anti-proliferative activity of the NPM1 interacting natural product avrainvillamide in acute myeloid leukemia. Cell Death Dis. 7: e2497.
6. Schäfer, C., et al. 2017. Class I histone deacetylases regulate p53/NFκB crosstalk in cancer cells. Cell. Signal. 29: 218-225.
7. Chen, Y.T., et al. 2018. Tumor-associated intronic editing of HNRPLL generates a novel splicing variant linked to cell proliferation. J. Biol. Chem. 293: 10158-10171.
8. Alieva, M., et al. 2019. Intravital imaging of glioma border morphology reveals distinctive cellular dynamics and contribution to tumor cell invasion. Sci. Rep. 9: 2054.
9. Zhao, Y., et al. 2020. A germline CHEK2 mutation in a family with papillary thyroid cancer. Thyroid 30: 924-930.

RESEARCH USE

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