SANTA CRUZ BIOTECHNOLOGY, INC.

p53 (BP 53.122): sc-73566

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 (BP 53.122) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 16-25 of p53 of human origin.

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.

APPLICATIONS

p53 (BP 53.122) is recommended for detection of all forms of p53 of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, 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 to be determined by researcher, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, 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.

Positive Controls: Jurkat whole cell lysate: sc-2204, BT-20 cell lysate: sc-2223 or COLO 205 whole cell lysate: sc-364177.

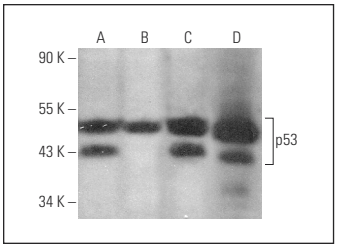
STORAGE

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

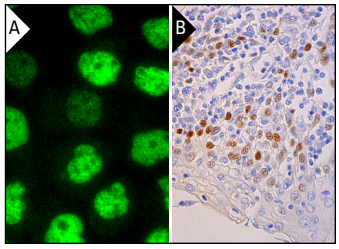
RESEARCH USE

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

DATA



p53 (BP 53.122): sc-73566. Western blot analysis of p53 expression in HCT-116 (**A**), Jurkat (**B**), BT-20 (**C**) and COLO 205 (**D**) whole cell lysates.



p53 (BP 53.122): sc-73566. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of subset of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Maranesi, M., et al. 2010. Expression of luteal estrogen receptor, interleukin-1, and apoptosis-associated genes after PGF2α administration in rabbits at different stages of pseudopregnancy. Domest. Anim. Endocrinol. 39: 116-130.
2. Kim, M.K., et al. 2014. Loss of compensatory pro-survival and anti-apoptotic modulator, IKKε, sensitizes ovarian cancer cells to CHEK1 loss through an increased level of p21. Oncotarget 5: 12788-12802.
3. Luo, T., et al. 2015. PSMD10/gankyrin induces autophagy to promote tumor progression through cytoplasmic interaction with ATG7 and nuclear transactivation of ATG7 expression. Autophagy 12: 1355-1371.
4. Twardziok, M., et al. 2016. Multiple active compounds from *Viscum album L.* synergistically converge to promote apoptosis in Ewing sarcoma. PLoS ONE 11: e0159749.
5. Chen, H.Z., et al. 2016. Age-associated sirtuin 1 reduction in vascular smooth muscle links vascular senescence and inflammation to abdominal aortic aneurysm. Circ. Res. 119: 1076-1088.
6. Kleinsimon, S., et al. 2017. ViscumTT induces apoptosis and alters IAP expression in osteosarcoma *in vitro* and has synergistic action when combined with different chemotherapeutic drugs. BMC Complement. Altern. Med. 17: 26.
7. Kleinsimon, S., et al. 2018. GADD45A and CDKN1A are involved in apoptosis and cell cycle modulatory effects of viscumTT with further inactivation of the Stat3 pathway. Sci. Rep. 8: 5750.

CONJUGATES

See **p53 (DO-1): sc-126** for p53 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.