SANTA CRUZ BIOTECHNOLOGY, INC.

p53 (B-P3): sc-65334

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

p53 is a DNA-binding, oligomerization domain- and transcription activation domain-containing tumor suppressor that 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 polyubiquitinates 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) 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 (B-P3) 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 (B-P3) 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.

Positive Controls: MCF7 whole cell lysate: sc-2206, A-431 whole cell lysate: sc-2201 or BT-20 cell lysate: sc-2223.

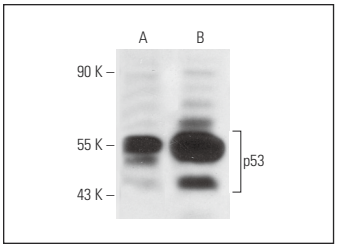
STORAGE

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

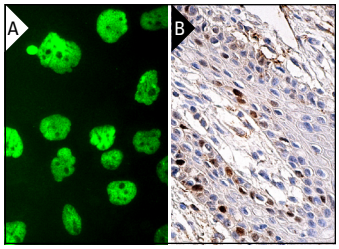
RESEARCH USE

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

DATA



p53 (B-P3): sc-65334. Western blot analysis of p53 expression in MCF7 (**A**) and BT-20 (**B**) whole cell lysates.



p53 (B-P3): sc-65334. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing nuclear staining of subset of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Martarelli, D., et al. 2008. Mebendazole inhibits growth of human adrenocortical carcinoma cell lines implanted in nude mice. Cancer Chemother. Pharmacol. 61: 809-817.
2. Panno, M.L., et al. 2009. Evidence that bergapten, independently of its photoactivation, enhances p53 gene expression and induces apoptosis in human breast cancer cells. Curr. Cancer Drug Targets 9: 469-481.
3. Gravina, G.L., et al. 2010. 5-azacitidine restores and amplifies the bicalutamide response on preclinical models of androgen receptor expressing or deficient prostate tumors. Prostate 70: 1166-1178.
4. Huang, H.Y., et al. 2012. Role of poly(ADP-ribose) glycohydrolase in the regulation of cell fate in response to benzo(a)pyrene. Exp. Cell Res. 318: 682-690.
5. Dakic, A., et al. 2016. ROCK inhibitor reduces Myc-induced apoptosis and mediates immortalization of human keratinocytes. Oncotarget 7: 66740-66753.
6. Zhang, F., et al. 2017. Simultaneous targeting of ATM and Mcl-1 increases cisplatin sensitivity of cisplatin-resistant non-small cell lung cancer. Cancer Biol. Ther. 18: 606-615.
7. Di Nisio, V., et al. 2019. Increased levels of proapoptotic markers in normal ovarian cortex surrounding small endometriotic cysts. Reprod. Biol. 19: 225-229.
8. Nagata, Y., et al. 2024. Mineralocorticoid receptor signaling inhibits bladder cancer progression. Am. J. Cancer Res. 14: 696-708.

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.