SANTA CRUZ BIOTECHNOLOGY, INC.

p53 (BP 53.12): sc-81168

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.

CHROMOSOMAL LOCATION

Genetic locus: TP53 (human) mapping to 17p13.1.

SOURCE

p53 (BP 53.12) is a mouse monoclonal antibody raised against the N-terminus 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 53.12) is recommended for detection of both wild type and mutant p53 under denaturing and non-denaturing conditions 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 (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

Molecular Weight of p53: 53 kDa.

Positive Controls: A549 cell lysate: sc-2413, BT-20 cell lysate: sc-2223 or Jurkat whole cell lysate: sc-2204.

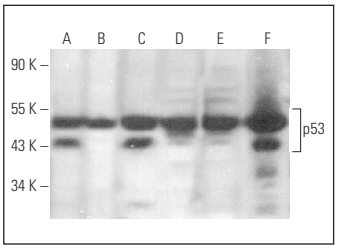
RESEARCH USE

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

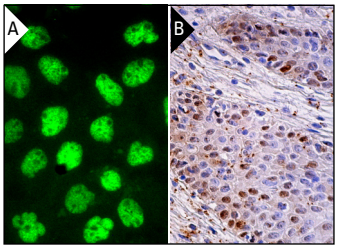
STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

DATA



p53 (BP 53.12): sc-81168. Western blot analysis of p53 expression in HCT-116 (**A**), Jurkat (**B**), BT-20 (**C**), A549 (**D**), HUV-EC-C (**E**) and COLO 205 (**F**) whole cell lysates.



p53 (BP 53.12): sc-81168. 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. Renis, M., et al. 2008. Response of cell cycle/stress-related protein expression and DNA damage upon treatment of CaCo2 cells with anthocyanins. Br. J. Nutr. 100: 27-35.
2. Karst, A.M. and Drapkin, R. 2012. Primary culture and immortalization of human fallopian tube secretory epithelial cells. Nat. Protoc. 7: 1755-1764.
3. Licht, V., et al. 2014. Caspase-3 and caspase-6 cleave STAT1 in leukemic cells. Oncotarget 5: 2305-2317.
4. Bailon-Moscoso, N., et al. 2015. Phytometabolite dehydroleucodine induces cell cycle arrest, apoptosis, and DNA damage in human astrocytoma cells through p73/p53 regulation. PLoS ONE 10: e0136527.
5. Uberti, F., et al. 2016. Protective effects of vitamin D_3 on fimbrial cells exposed to catalytic iron damage. J. Ovarian Res. 9: 34.
6. Ponath, V. and Kaina, B. 2017. Death of monocytes through oxidative burst of macrophages and neutrophils: killing in *trans.* PLoS ONE 12: e0170347.
7. Göder, A., et al. 2018. HDAC1 and HDAC2 integrate checkpoint kinase phosphorylation and cell fate through the phosphatase-2A subunit PR130. Nat. Commun. 9: 764.
8. Su, H., et al. 2019. Changes in expression of p53 and inflammatory factors in patients with ulcerative colitis. Exp. Ther. Med. 17: 2451-2456.

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.