SANTA CRUZ BIOTECHNOLOGY, INC.

p53 (Pab 246): sc-100

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: Trp53 (mouse) mapping to 11 B3.

SOURCE

p53 (Pab 246) is a mouse monoclonal antibody raised against amino acids 88-93 of p53 of mouse 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.

p53 (Pab 246) is available conjugated to agarose (sc-100 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-100 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-100 PE), fluorescein (sc-100 FITC), Alexa Fluor® 488 (sc-100 AF488), Alexa Fluor® 546 (sc-100 AF546), Alexa Fluor® 594 (sc-100 AF594) or Alexa Fluor® 647 (sc-100 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-100 AF680) or Alexa Fluor® 790 (sc-100 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

p53 (Pab 246) is recommended for detection of p53 of mouse and rat 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); cross-reactive with wild type but not mutant p53 under non-denaturing conditions.

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

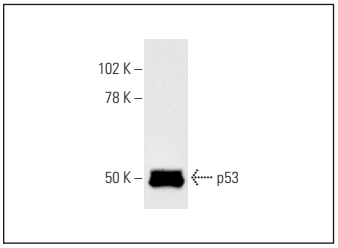
Molecular Weight of p53: 53 kDa.

Positive Controls: WR19L cell lysate: sc-3805, B16-F0 cell lysate: sc-2298 or mouse LacZ whole cell lysate: sc-364371.

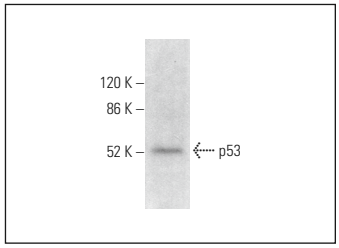
STORAGE

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

DATA



p53 (Pab 246): sc-100. Western blot analysis of p53 expression in mouse LacZ whole cell lysate.



p53 (Pab 246): sc-100. Western blot analysis of p53 expression in WR19L whole cell lysate.

SELECT PRODUCT CITATIONS

1. Fukasawa, K., et al. 1997. Synergy between the Mos/mitogen activated protein kinase pathway and loss of p53 function in transformation and chromosome instability. Mol. Cell. Biol. 17: 506-518.
2. Han, M.K., et al. 2008. SIRT1 regulates apoptosis and Nanog expression in mouse embryonic stem cells by controlling p53 subcellular localization. Cell Stem Cell 2: 241-251.
3. Manzl, C., et al. 2009. Caspase-2 activation in the absence of PIDDosome formation. J. Cell Biol. 185: 291-303.
4. Quintavalle, M., et al. 2010. MicroRNA control of podosome formation in vascular smooth muscle cells *in vivo* and *in vitro*. J. Cell Biol. 189: 13-22.
5. Li, B., et al. 2011. Depletion of Ku70/80 reduces the levels of extrachromosomal telomeric circles and inhibits proliferation of ALT cells. Aging 3: 395-406.
6. Xiang, Y., et al. 2012. Calorie restriction increases primordial follicle reserve in mature female chemotherapy-treated rats. Gene 493: 77-82.
7. Kim, S.J., et al. 2014. Activation of β-catenin by inhibitors of glycogen synthase kinase-3 ameliorates cisplatin-induced cytotoxicity and pro-inflammatory cytokine expression in HEI-OC1 cells. Toxicology 320: 74-82.
8. Barzalobre-Gerónimo, R., et al. 2015. Hyperglycemia promotes p53-Mdm2 interaction but reduces p53 ubiquitination in RINm5F cells. Mol. Cell. Biochem. 405: 257-264.
9. Akbari, G., et al. 2017. The hepatoprotective and microRNAs downregulatory effects of crocin following hepatic ischemia-reperfusion Injury in rats. Oxid. Med. Cell. Longev. 2017: 1702967.
10. Kim, S.M., et al. 2018. AIMP3 depletion causes genome instability and loss of stemness in mouse embryonic stem cells. Cell Death Dis. 9: 972.

RESEARCH USE

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