SANTA CRUZ BIOTECHNOLOGY, INC.

p53 (Pab 240): sc-99

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.
3. Levine, A.J. 1997. p53, the cellular gatekeeper for growth and division. Cell 88: 323-331.
4. Ashcroft, M. and Vousden, K.H. 1999. Regulation of p53 stability. Oncogene 18: 7637-7643.

CHROMOSOMAL LOCATION

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

SOURCE

p53 (Pab 240) is a mouse monoclonal antibody raised against amino acids 213-217 of p53 of human 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 240) is available conjugated to agarose (sc-99 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-99 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-99 PE), fluorescein (sc-99 FITC), Alexa Fluor® 488 (sc-99 AF488), Alexa Fluor® 546 (sc-99 AF546), Alexa Fluor® 594 (sc-99 AF594) or Alexa Fluor® 647 (sc-99 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-99 AF680) or Alexa Fluor® 790 (sc-99 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

p53 (Pab 240) is recommended for detection of only mutant p53 under non-denaturing conditions but is equally reactive with mutant and wild-type p53 under denaturing conditions 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

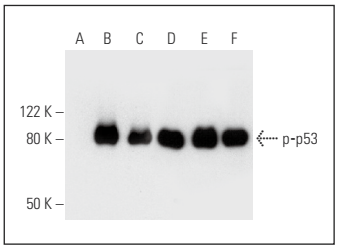
p53 (Pab 240) is also recommended for detection of only mutant p53 under non-denaturing conditions but is equally reactive with mutant and wildtype p53 under denaturing conditions in additional species, including bovine and avian.

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.

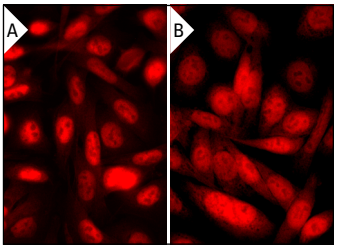
Molecular Weight of p53: 53 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, A-431 whole cell lysate: sc-2201 or HeLa whole cell lysate: sc-2200.

DATA



Western blot analysis of p53 phosphorylation in untreated (**A**,**D**), CHK 1 treated (**B**,**E**) and DNA-PK treated (**C**,**F**) p53 recombinant proteins. Antibodies tested include p-p53 (Thr 18)-R: sc-16716-R (**A**,**B**,**C**) and p53 (Pab 240): sc-99 (**D**,**E**,**F**).



p53 (Pab 240) Alexa Fluor® 594: sc-99 AF594. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nuclear localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**A**,**B**).

SELECT PRODUCT CITATIONS

1. Blagosklonny, M.V., et al. 1995. Geldanamycin selectively destabilizes and conformationally alters mutated p53. Oncogene 11: 933-939.
2. Lee, J.H., et al. 2020. The position of the target site for engineered nucleases improves the aberrant mRNA clearance in *in vivo* genome editing. Sci. Rep. 10: 4173.
3. Palanikumar, L., et al. 2021. Protein mimetic amyloid inhibitor potently abrogates cancer-associated mutant p53 aggregation and restores tumor suppressor function. Nat. Commun. 12: 3962.

RESEARCH USE

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