SANTA CRUZ BIOTECHNOLOGY, INC.

p53 (3H2821): sc-56179

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: Trp53 (mouse) mapping to 11 B3.

SOURCE

p53 (3H2821) is a mouse monoclonal antibody raised against SVA31E7 mouse SV40-transformed cell line.

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.

APPLICATIONS

p53 (3H2821) 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 shRNA Plasmid (m): sc-29436-SH and p53 shRNA (m) Lentiviral Particles: sc-29436-V.

Molecular Weight of p53: 53 kDa.

Positive Controls: B16-F0 cell lysate: sc-2298, p53 (m): 293T Lysate: sc-125766 or mouse LacZ whole cell lysate: sc-364371.

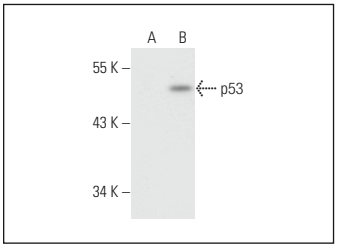
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

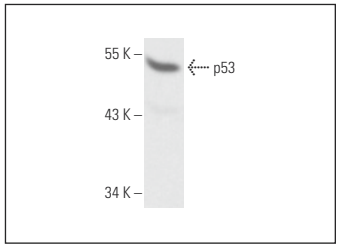
STORAGE

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

DATA



p53 (3H2821): sc-56179. Western blot analysis of p53 expression in non-transfected: sc-117752 (**A**) and mouse p53 transfected: sc-125766 (**B**) 293T whole cell lysates.



p53 (3H2821): sc-56179. Western blot analysis of p53 expression in mouse LacZ whole cell lysate.

SELECT PRODUCT CITATIONS

1. Sin, T.K., et al. 2014. Modulating effect of SIRT1 activation induced by resveratrol on Foxo1-associated apoptotic signalling in senescent heart. J. Physiol. 592: 2535-2548.
2. Kotipatruni, R.P., et al. 2015. NDRG4 is a novel oncogenic protein and p53 associated regulator of apoptosis in malignant meningioma cells. Oncotarget 6: 17594-17604.
3. Wang, J., et al. 2015. Scrapie infection in experimental rodents and SMB-S15 cells decreased the brain endogenous levels and activities of Sirt1. J. Mol. Neurosci. 55: 1022-1030.
4. Liu, X., et al. 2015. Apoptosis induced by sonodynamic therapy in human osteosarcoma cells *in vitro*. Mol. Med. Rep. 12: 1183-1188.
5. Sin, T.K., et al. 2015. Resveratrol protects against doxorubicin-induced cardiotoxicity in aged hearts through the SIRT1-USP7 axis. J. Physiol. 593: 1887-1899.
6. Sin, T.K., et al. 2015. Effects of long-term resveratrol-induced SIRT1 activation on Insulin and apoptotic signalling in aged skeletal muscle. Acta Diabetol. 52: 1063-1075.
7. Zhang, Y., et al. 2016. Nucleation of DNA repair factors by FOXA1 links DNA demethylation to transcriptional pioneering. Nat. Genet. 48: 1003-1013.
8. Heo, S.Y., et al. 2022. Dieckol induces cell cycle arrest by down-regulating CDK2/cyclin E in response to p21/p53 activation in human tracheal fibroblasts. Cell Biochem. Funct. 40: 71-78.

RESEARCH USE

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