SANTA CRUZ BIOTECHNOLOGY, INC.

p-p53 (59.Ser 315): sc-135772

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 can assemble into tetramers in the absence of DNA, 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) (amino acids 110-286) of p53 can compromise energetically favorable association with *cis* elements and are implicated in several human cancers. Phosphorylation of p53 at residue Thr 155 is mediated by the COP9 signalosome (CSN) and targets p53 to ubiquitin-26S Proteasome-dependent degradation.

CHROMOSOMAL LOCATION

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

SOURCE

p-p53 (59.Ser 315) is a mouse monoclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 315 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-135772 X, 200 µg/0.1 ml.

p-p53 (59.Ser 315) is available conjugated to agarose (sc-135772 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; and to HRP (sc-135772 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

STORAGE

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

APPLICATIONS

p-p53 (59.Ser 315) is recommended for detection of Ser 315 phosphorylated p53 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)] 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 shRNA Plasmid (h): sc-29435-SH and p53 shRNA (h) Lentiviral Particles: sc-29435-V.

p-p53 (59.Ser 315) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

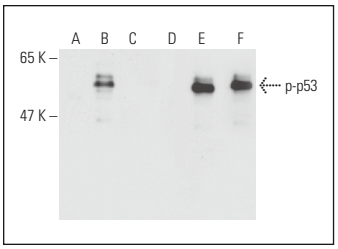
Molecular Weight of p-p53: 53 kDa.

Positive Controls: p53 (h3): 293T Lysate: sc-158802.

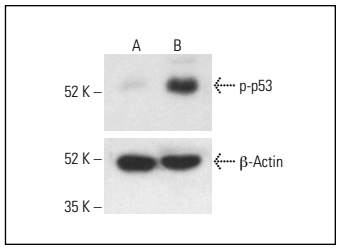
RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Lambda Phosphatase: sc-200312A and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Western blot analysis of p53 phosphorylation in non-transfected: sc-117752 (**A**,**D**), untreated human p53 transfected: sc-158802 (**B**,**E**) and lambda protein phosphatase treated human p53 transfected: sc-158802 (**C**,**F**) 293T whole cell lysates. Antibodies tested include p-p53 (59.Ser 315): sc-135772 (**A**,**B**,**C**) and p53 (Pab 240): sc-99 (**D**,**E**,**F**).



p-p53 (59.Ser 315): sc-135772. Western blot analysis of p53 phosphorylation in untreated (**A**) and chemically-treated (**B**) HEK293T whole cell lysates. β-Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

SELECT PRODUCT CITATIONS

1. Zhang, D., et al. 2017. Echinacoside alleviates UVB irradiation-mediated skin damage via inhibition of oxidative stress, DNA damage, and apoptosis. Oxid. Med. Cell. Longev. 2017: 6851464.
2. Ma, Y., et al. 2018. Anticancer effect of exogenous hydrogen sulfide in cisplatin-resistant A549/DDP cells. Oncol. Rep. 39: 2969-2977.
3. Li, X., et al. 2020. Design of hydrazide-bearing HDACIs based on panobinostat and their p53 and FLT3-ITD dependency in antileukemia activity. J. Med. Chem. 63: 5501-5525.
4. Shan, B., et al. 2020. AURKA increase the chemosensitivity of colon cancer cells to oxaliplatin by inhibiting the TP53-mediated DNA damage response genes. Biomed Res. Int. 2020: 8916729.
5. Lambuk, L., et al. 2021. Magnesium acetyltaurate prevents retinal damage and visual impairment in rats through suppression of NMDA-induced upregulation of NFκB, p53 and AP-1 (c-Jun/c-Fos). Neural Regen. Res. 16: 2330-2344.
6. Lin, H.H., et al. 2021. Anti-atherosclerotic effect of gossypetin on abnormal vascular smooth muscle cell proliferation and migration. Antioxidants 10: 1357.
7. Fuentes-Fayos, A.C., et al. 2022. SF3B1 inhibition disrupts malignancy and prolongs survival in glioblastoma patients through BCL2L1 splicing and mTOR/β-catenin pathways imbalances. J. Exp. Clin. Cancer Res. 41: 39.

RESEARCH USE

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