SANTA CRUZ BIOTECHNOLOGY, INC.

p-p53 (FPS392): sc-56173

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; Trp53 (mouse) mapping to 11 B3.

SOURCE

p-p53 (FPS392) is a mouse monoclonal antibody raised against a C-terminal phosphopeptide corresponding to amino acids 378-393 of p53 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-p53 (FPS392) is recommended for detection of Ser 392 phosphorylated p53 of mouse, rat, human, porcine and canine 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); not recommended for detection of dephosphorylated p53.

Suitable for use as control antibody for p53 siRNA (h): sc-29435, p53 siRNA (m): sc-29436, p53 shRNA Plasmid (h): sc-29435-SH, p53 shRNA Plasmid (m): sc-29436-SH, p53 shRNA (h) Lentiviral Particles: sc-29435-V and p53 shRNA (m) Lentiviral Particles: sc-29436-V.

Molecular Weight of p-p53: 53 kDa.

Positive Controls: p53 (m): 293T Lysate: sc-125766, MCF7 + etoposide cell lysate: sc-2281 or A-431 + EGF whole cell lysate: sc-2202.

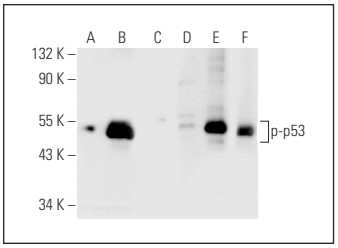
STORAGE

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

RESEARCH USE

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

DATA



Western blot analysis of p53 phosphorylation in non-transfected: sc-117752 (**A**,**D**), untreated mouse p53 transfected: sc-125766 (**B**,**E**) and lambda protein phosphatase treated mouse p53 transfected: sc-125766 (**C**,**F**) 293T whole cell lysates. Antibodies tested include p-p53 (FPS392): sc-56173 (**A**,**B**,**C**) and p53 (M-19): sc-1312 (**D**,**E**,**F**).

SELECT PRODUCT CITATIONS

1. Aboudehen, K., et al. 2012. Mechanisms of p53 activation and physiological relevance in the developing kidney. Am. J. Physiol. Renal Physiol. 302: F928-F940.
2. Albert, T.K., et al. 2014. Characterization of molecular and cellular functions of the cyclin-dependent kinase CDK9 using a novel specific inhibitor. Br. J. Pharmacol. 171: 55-68.
3. Chen, S., et al. 2014. SOX2 regulates apoptosis through MAP4K4-survivin signaling pathway in human lung cancer cells. Carcinogenesis 35: 613-623.
4. Albert, T.K., et al. 2016. The establishment of a hyperactive structure alows the tumour suppressor protein p53 to function through P-TEFβ during limited CDK9 kinase inhibition. PLoS ONE 11: e0146648.
5. García-Iglesias, M.J., et al. 2020. Immunohistochemical detection of p53 and pp53 Ser392 in canine hemangiomas and hemangiosarcomas located in the skin. BMC Vet. Res. 16: 239.
6. Beñaldo, F.A., et al. 2022. Cinaciguat (BAY-582667) modifies cardiopulmonary and systemic circulation in chronically hypoxic and pulmonary hypertensive neonatal lambs in the alto andino. Front. Physiol. 13: 864010.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.