

p-p53 (D-9): sc-377567

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.

REFERENCES

- Hupp, T.R., et al. 1992. Regulation of the specific DNA binding function of p53. *Cell* 71: 875-876.
- Levine, A.J. 1997. p53, the cellular gatekeeper for growth and division. *Cell* 88: 323-331.

CHROMOSOMAL LOCATION

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

SOURCE

p-p53 (D-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 150-163 Thr 155 of p53 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-377567 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p-p53 (D-9) is recommended for detection of Thr 155 phosphorylated p53 of human origin by Western Blotting (starting dilution 1:100, 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).

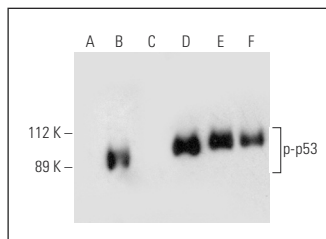
Suitable for use as control antibody for p53 siRNA (h): sc-29435, p53 shRNA Plasmid (h): sc-29435-SH and p53 shRNA (h) Lentiviral Particles: sc-29435-V.

Molecular Weight of p-p53: 53 kDa.

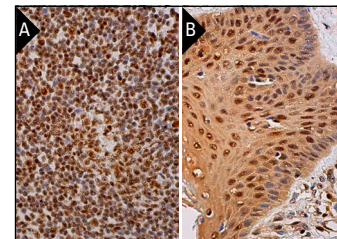
STORAGE

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

DATA



Western blot analysis of p53 phosphorylation in untreated (A,D), CK2a1 treated (B,E) and CK2a1 and lambda protein phosphatase (sc-200312A) treated (C,F) p53 fusion proteins. Antibodies tested include p-p53 (D-9): sc-377567 (A,B,C) and p53 (Pab 240): sc-99 (D,E,F).



p-p53 (D-9): sc-377567. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of cells in germinal center and cells in non-germinal center (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing nuclear and cytoplasmic staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

- Busch, F., et al. 2012. Sirt-1 is required for the inhibition of apoptosis and inflammatory responses in human tenocytes. *J. Biol. Chem.* 287: 25770-25781.
- Pasini, L., et al. 2015. TrkA is amplified in malignant melanoma patients and induces an anti-proliferative response in cell lines. *BMC Cancer* 15: 777.
- Lee, J.S., et al. 2017. Effect of 2-methoxyestradiol on SK-LMS-1 uterine leiomyosarcoma cells. *Oncol. Lett.* 14: 103-110.
- Li, R., et al. 2018. MEG3-4 is a miRNA decoy that regulates IL-1β abundance to initiate and then limit inflammation to prevent sepsis during lung infection. *Sci. Signal.* 11: eaao2387.
- Zhai, X., et al. 2019. Triptolide preserves glomerular barrier function via the inhibition of p53-mediated increase of GADD45B. *Arch. Biochem. Biophys.* 671: 210-217.
- Murai, J., et al. 2020. Chromatin remodeling and immediate early gene activation by SLFN11 in response to replication stress. *Cell Rep.* 30: 4137-4151.e6.
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- Kim, T.W., et al. 2021. PB01 suppresses radio-resistance by regulating ATR signaling in human non-small-cell lung cancer cells. *Sci. Rep.* 11: 12093.
- Liu, Z., et al. 2021. Polybrominated diphenyl ethers quinone exhibits neurotoxicity by inducing DNA damage, cell cycle arrest, apoptosis and p53-driven adaptive response in microglia BV2 cells. *Toxicology* 457: 152807.

RESEARCH USE

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