

p-p53 (F-11): sc-377561

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.

SOURCE

p-p53 (F-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 42-51 Ser 46 of p53 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-p53 (F-11) is available conjugated to agarose (sc-377561 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377561 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377561 PE), fluorescein (sc-377561 FITC), Alexa Fluor® 488 (sc-377561 AF488), Alexa Fluor® 546 (sc-377561 AF546), Alexa Fluor® 594 (sc-377561 AF594) or Alexa Fluor® 647 (sc-377561 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377561 AF680) or Alexa Fluor® 790 (sc-377561 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377561 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

p-p53 (F-11) is recommended for detection of Ser 46 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

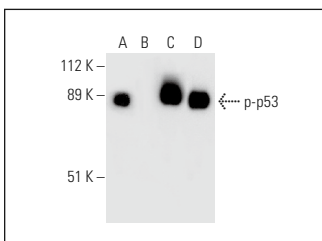
Suitable for use as control antibody for p53 siRNA (h): sc-29435, p53 shRNA Plasmid (h): sc-29435-SH and p53 shRNA (h) Lentiviral Particles: sc-29435-V.

Molecular Weight of p-p53: 53 kDa.

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). 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.

DATA



Western blot analysis of p53 phosphorylation in untreated (A, C) and lambda protein phosphatase (sc-200312A) treated (B, D) human recombinant p53. Antibodies tested include p-p53 (F-11): sc-377561 (A, B) and p53 (Pab 240): sc-99 (C, D).

SELECT PRODUCT CITATIONS

1. Li, H., et al. 2021. Icaritin promotes apoptosis and inhibits proliferation by down-regulating AFP gene expression in hepatocellular carcinoma. *BMC Cancer* 21: 318.
2. Lee, Y.H., et al. 2022. Targeting regulation of ATP synthase 5 α/β dimerization alleviates senescence. *Aging* 14: 678-707.

STORAGE

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

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