

p53 (F-8): sc-374087



The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: TP53 (human) mapping to 17p13.1; Trp53 (mouse) mapping to 11 B3.

SOURCE

p53 (F-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 367-390 at the C-terminus of p53 of mouse 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.

Blocking peptide available for competition studies, sc-374087 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

p53 (F-8) is recommended for detection of p53 of mouse, rat and 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 siRNA (m): sc-29436, p53 siRNA (r): sc-45917, p53 shRNA Plasmid (h): sc-29435-SH, p53 shRNA Plasmid (m): sc-29436-SH, p53 shRNA Plasmid (r): sc-45917-SH, p53 shRNA (h) Lentiviral Particles: sc-29435-V, p53 shRNA (m) Lentiviral Particles: sc-29436-V and p53 shRNA (r) Lentiviral Particles: sc-45917-V.

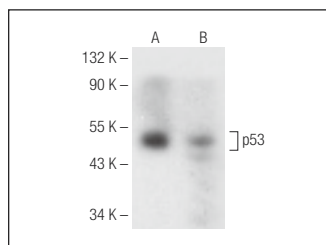
Molecular Weight of p53: 53 kDa.

Positive Controls: WRL19L cell lysate: sc-3805, BC₃H1 cell lysate: sc-2299 or mouse LacZ whole cell lysate: sc-364371.

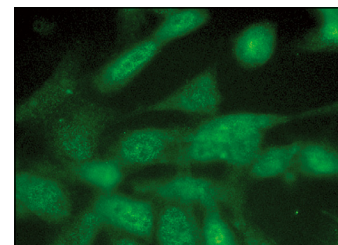
RECOMMENDED SUPPORT REAGENTS

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.

DATA



p53 (F-8): sc-374087. Western blot analysis of p53 expression in WR19L (A) and mouse LacZ (B) whole cell lysates.



p53 (F-8): sc-374087. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Vidakovic, M., et al. 2005. Co-localization of PARP-1 and Lamin B in the nuclear architecture: a halo-fluorescence- and confocal-microscopy study. *J. Cell. Biochem.* 96: 555-568.
- Zhao, X., et al. 2015. Spontaneous immortalization of mouse liver sinusoidal endothelial cells. *Int. J. Mol. Med.* 35: 617-624.
- Jana, B., et al. 2016. α -cyclodextrin interacts close to vinblastine site of Tubulin and delivers curcumin preferentially to the Tubulin surface of cancer cell. *ACS Appl. Mater. Interfaces* 8: 13793-13803.
- Gong, L., et al. 2020. Functional interplay between p53 and $\Delta 133$ p53 in adaptive stress response. *Cell Death Differ.* 27: 1618-1632.
- Trujillo-Uscanga, A. and Gutiérrez-Escolano, A.L. 2020. Host cell p53 associates with the feline calicivirus major viral capsid protein VP1, the protease-polymerase NS6/7, and the double-stranded RNA playing a role in virus replication. *Virology* 550: 78-88.

RESEARCH USE

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



See **p53 (DO-1): sc-126** for p53 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.