

p53 (E-19): sc-1315



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, an E3 ubiquitin ligase that is upregulated in the presence of active p53, where MDM2 polyubiquitinates 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.

CHROMOSOMAL LOCATION

Genetic locus: Trp53 (mouse) mapping to 11 B3.

SOURCE

p53 (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of p53 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for ChIP application, sc-1315 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-1315 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p53 (E-19) is recommended for detection of p53 of mouse 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 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 (m): sc-29436, p53 shRNA Plasmid (m): sc-29436-SH and p53 shRNA (m) Lentiviral Particles: sc-29436-V.

p53 (E-19) X TransCruz antibody is recommended for ChIP assays.

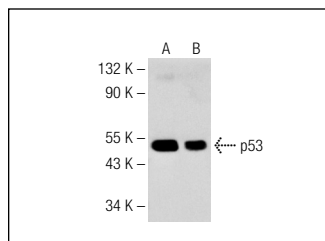
Molecular Weight of p53: 53 kDa.

Positive Controls: mouse LacZ whole cell lysate: sc-364371, WR19L cell lysate: sc-3805 or B16-FO cell lysate: sc-2298.

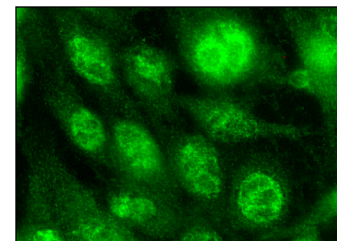
STORAGE

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 expression in mouse LacZ whole cell lysates (A B). Antibodies tested include p53 (N-19): sc-1314 (A) and p53 (E-19): sc-1315 (B).



p53 (E-19): sc-1315. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Patel, K.J., et al. 1998. Involvement of BRCA2 in DNA repair. *Mol. Cell* 1: 347-357.
2. Friedman, L.S., et al. 1998. Thymic lymphomas in mice with a truncating mutation in BRCA2. *Cancer Res.* 58: 1338-1343.
3. Xu, D., et al. 2002. Ets1 is required for p53 transcriptional activity in UV-induced apoptosis in embryonic stem cells. *EMBO J.* 21: 4081-4093.
4. Lin, T., et al. 2005. p53 induces differentiation of mouse embryonic stem cells by suppressing Nanog expression. *Nat. Cell Biol.* 7: 165-171.
5. Tsang, K.Y., et al. 2007. Surviving endoplasmic reticulum stress is coupled to altered chondrocyte differentiation and function. *PLoS Biol.* 5: e44.
6. D'Arcy, P., et al. 2008. The oncoprotein SS18-SSX1 promotes p53 ubiquitination and degradation by enhancing HDM2 stability. *Mol. Cancer Res.* 6: 127-138.
7. Valdez, B.C., et al. 2009. 5-Aza-2'-deoxycytidine sensitizes busulfan-resistant myeloid leukemia cells by regulating expression of genes involved in cell cycle checkpoint and apoptosis. *Leuk. Res.* 34: 364-372.
8. Huber, J.L., et al. 2010. SIRT1-independent mechanisms of the putative sirtuin enzyme activators SRT1720 and SRT2183. *Future Med. Chem.* 2: 1751-1759.

RESEARCH USE

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



Try **p53 (A-1): sc-393031** or **p53 (pAb 122): sc-56182**, our highly recommended monoclonal alternatives to p53 (E-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **p53 (A-1): sc-393031**.