

p53 (h3): 293T Lysate: sc-158802

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 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.
5. Soussi, T., et al. 2000. p53 website and analysis of p53 gene mutations in human cancer: forging a link between epidemiology and carcinogenesis. *Hum. Mutat.* 15: 105-113.
6. Chene, P. 2001. The role of tetramerization in p53 function. *Oncogene* 20: 2611-2617.
7. Minamoto, T., et al. 2001. Distinct pattern of p53 phosphorylation in human tumors. *Oncogene* 20: 3341-3347.
8. LocusLink Report (LocusID: 7157). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

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

PRODUCT

p53 (h3): 293T Lysate represents a lysate of human p53 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

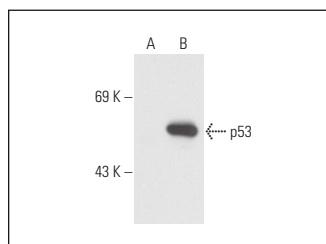
APPLICATIONS

p53 (h3): 293T Lysate is suitable as a Western Blotting positive control for human reactive p53 antibodies. Recommended use: 10-20 µl per lane.

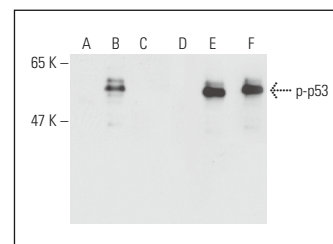
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

p53 (2Q375): sc-71820 is recommended as a positive control antibody for Western Blot analysis of enhanced human p53 expression in p53 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

DATA



p53 (2Q375): sc-71820. Western blot analysis of p53 expression in non-transfected: sc-117752 (A) and human p53 transfected: sc-158802 (B) 293T whole cell lysates.



Western blot analysis of p53 phosphorylation in non-transfected: sc-117752 (A,D), untreated human p53 transfected: sc-158802 (B,E) and lambda protein phosphatase treated human p53 transfected: sc-158802 (C,F) 293T whole cell lysates. Antibodies tested include p-p53 (Ser 315): sc-135772 (A,B,C) and p53 (Pab 240): sc-99 (D,E,F).

RESEARCH USE

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