

p53 (E-5): sc-74573



The Power to Question

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 fluctuates between latent and active (DNA-binding) conformations, and is differentially activated through post-translational 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

- Hupp, T.R., Meek, D.W., Midgley, C.A. and Lane, D.P. 1992. Regulation of the specific DNA binding function of p53. *Cell* 71: 875-886.
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- Ashcroft, M. and Vousden, K.H. 1999. Regulation of p53 stability. *Oncogene* 18: 7637-7643.
- Soussi, T., Dehouche, K. and Beroud, C. 2000. p53 website and analysis of p53 gene mutations in human cancer: forging a link between epidemiology and carcinogenesis. *Hum. Mutat.* 15: 105-113.
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- Minamoto, T., Buschmann, T., Habelhah, H., Matusевич, E., Tahara, H., Boerresen-Dale, A.L., Harris, C., Sidransky, D. and Ronai, Z. 2001. Distinct pattern of p53 phosphorylation in human tumors. *Oncogene* 20: 3341-3347.
- LocusLink Report (LocusID: 7157). <http://www.ncbi.nlm.nih.gov/LocusLink/>

SOURCE

p53 (E-5) is a mouse monoclonal antibody raised against amino acids 186-385 of p53 of *Drosophila melanogaster* origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

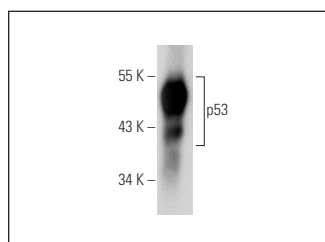
p53 (E-5) is recommended for detection of p53 of *Drosophila melanogaster* origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of 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, 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 (E-5): sc-74573. Western blot analysis of *Drosophila* recombinant p53.

SELECT PRODUCT CITATIONS

- Chakraborty, R., Li, Y., Lei Zhou, L. and Golic, K.G. 2015. Corp regulates P53 in *Drosophila melanogaster* via a negative feedback loop. *PLoS Genet.* 11: e1005400.
- Park, J.H., Nguyen, T.T.N., Lee, E.M., Castro-Aceituno, V., Wagle, R., Lee, K.S., Choi, J. and Song, Y.H. 2019. Role of p53 isoforms in the DNA damage response during *Drosophila* oogenesis. *Sci. Rep.* 9: 11473.
- Liu, J., Tao, X., Zhu, Y., Li, C., Ruan, K., Diaz-Perez, Z., Rai, P., Wang, H. and Zhai, R.G. 2021. NMNAT promotes glioma growth through regulating post-translational modifications of P53 to inhibit apoptosis. *Elife* 10: e70046.

RESEARCH USE

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