

p73 (5B1288): sc-56190

BACKGROUND

The p53 gene is a widely studied anti-oncogene, or tumor suppressor gene. The p53 gene product can act as a negative regulator of cell growth in response to DNA damage. Mutations and allelic loss of the p53 gene have been associated with malignant transformation in a wide variety of human tumors. p53 shares considerable sequence similarity with p73, a gene that maps to a region in chromosome 1 that is frequently deleted in neuroblastomas. However, p73 does not appear to be activated by DNA damaging agents. The p73 isoform p73 α inhibits drug-induced apoptosis in small cell lung carcinoma cells, while the p73 isoform p73 β promotes it. p73 α also prevents Bax activation, mitochondrial dysfunction, caspase activation and is able to reduce apoptosis induced by the BH3-only protein PUMA (p53 upregulated modulator of apoptosis). There is an equilibrium between p73 α and p73 β , demonstrated by the fact that p73 α inhibits the pro-apoptotic effect of p73 β .

REFERENCES

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2. Malkin, D., et al. 1990. Germ line p53 mutations in a familial syndrome of breast cancer, sarcomas and other neoplasms. *Science* 250: 1233-1238.
3. Kastan, M.B., et al. 1992. A mammalian cell cycle checkpoint pathway utilizing p53 and GADD45 is defective in ataxia-telangiectasia. *Cell* 71: 587-597.
4. Jost, C.A., et al. 1997. p73 is a human p53-related protein that can induce apoptosis. *Nature* 389: 191-194.
5. Kaghad, M., et al. 1997. Monoallelically expressed gene related to p53 at 1p36, a region frequently deleted in neuroblastoma and other human cancers. *Cell* 90: 809-819.
6. Schmale, H., et al. 1997. A novel protein with strong homology to the tumor suppressor p53. *Oncogene* 15: 1363-1367.
7. Reichelt, M., et al. 1999. The yeast two-hybrid system reveals no interaction between p73 α and SV40 large T-antigen. *Arch. Virol.* 144: 621-626.
8. Uramoto, H., et al. 2004. p73 competes with co-activators and recruits histone deacetylase to NF-Y in the repression of PDGF β -receptor. *J. Cell Sci.* 117: 5323-5331.
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CHROMOSOMAL LOCATION

Genetic locus: TP73 (human) mapping to 1p36.32; Trp73 (mouse) mapping to 4 E2.

SOURCE

p73 (5B1288) is a mouse monoclonal antibody raised against full length p73 of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and 0.01% stabilizer protein.

APPLICATIONS

p73 (5B1288) is recommended for detection of α , β , γ and δ isoforms of full length p73 as well as the dominant negative full length p73 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with p53.

Suitable for use as control antibody for p73 siRNA (h): sc-36167, p73 siRNA (m): sc-36168, p73 shRNA Plasmid (h): sc-36167-SH, p73 shRNA Plasmid (m): sc-36168-SH, p73 shRNA (h) Lentiviral Particles: sc-36167-V, p73 shRNA (m) Lentiviral Particles: sc-36168-V.

Molecular Weight of p73: 73 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or A549 cell lysate: sc-2413.

SELECT PRODUCT CITATIONS

1. Almazi, J.G., et al. 2012. Fludarabine nucleoside induces accumulations of p53, p63 and p73 in the nuclei of human B-lymphoid cell lines, with cytosolic and mitochondrial increases in p53. *Proteomics Clin. Appl.* 6: 279-290.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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



See **p73 (E-4): sc-17823** for p73 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.