

p73 (5B429): sc-56191

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 up-regulated 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

1. Lane, D.P., et al. 1990. p53: oncogene or anti-oncogene? *Genes Dev.* 4: 1-8.
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.

CHROMOSOMAL LOCATION

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

SOURCE

p73 (5B429) is a mouse monoclonal antibody raised against full length p73 of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p73 (5B429) is recommended for detection of p73 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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 and 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. Beitzinger, M., et al. 2008. p73 poses a barrier to malignant transformation by limiting anchorage-independent growth. *EMBO J.* 27: 792-803.
2. Alonso, R., et al. 2009. Forodesine has high antitumor activity in chronic lymphocytic leukemia and activates p53-independent mitochondrial apoptosis by induction of p73 and BIM. *Blood* 114: 1563-1575.
3. Sasaki, Y., et al. 2009. p53 family members regulate the expression of the apolipoprotein D gene. *J. Biol. Chem.* 284: 872-883.
4. Veselska, R., et al. 2013. Intracellular distribution of the Δ Np73 protein isoform in medulloblastoma cells: a study with newly generated rabbit polyclonal antibodies. *Histol. Histopathol.* 28: 913-924.
5. Carastro, L.M., et al. 2014. Role of p73 dinucleotide polymorphism in prostate cancer and p73 protein isoform balance. *Prostate Cancer* 2014: 129582.
6. Koyama, R., et al. 2017. Identification and characterization of a metastatic suppressor BRMS1L as a target gene of p53. *Cancer Sci.* 108: 2413-2421.

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.