SANTA CRUZ BIOTECHNOLOGY, INC.

p73 (5B1288): sc-56190

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 p73α inhibits drug-induced apoptosis in small cell lung carcinoma cells, while the p73 isoform p73β promotes it. p73α 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 p73α and p73β, demonstrated by the fact that p73α inhibits the pro-apoptotic effect of p73β.

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 p73α 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.
9. Nyman, U., et al. 2005. Full-length p73α cells. J. Biol. Chem. 280: 34159-34169.

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 µg 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 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); 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.