

p73 (C-20): sc-7237

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

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.

CHROMOSOMAL LOCATION

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

SOURCE

p73 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of p73 β of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1 % gelatin.

Blocking peptide available for competition studies, sc-7237 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p73 (C-20) is recommended for detection of p73 α and p73 β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

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: HL-60 whole cell lysate: sc-2209, A549 cell lysate: sc-2413 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Strano, S., et al. 2000. Physical and functional interaction between p53 mutants and different isoforms of p73. *J. Biol. Chem.* 275: 29503-29512.
2. Strano, S., et al. 2005. The transcriptional coactivator Yes-associated protein drives p73 gene-target specificity in response to DNA damage. *Mol. Cell* 18: 447-459.
3. Belloni, L., et al. 2006. DNp73 α protects myogenic cells from apoptosis. *Oncogene* 25: 3606-3612.
4. Lapi, E., et al. 2006. S100A2 gene is a direct transcriptional target of p53 homologues during keratinocyte differentiation. *Oncogene* 25: 3628-3637.
5. Wang, S., et al. 2006. p73 or p53 directly regulates human p53 transcription to maintain cell cycle checkpoints. *Cancer Res.* 66: 6982-6989.
6. Tomasini, R., et al. 2008. TAp73 knockout shows genomic instability with infertility and tumor suppressor functions. *Genes Dev.* 22: 2677-2691.
7. Lapi, E., et al. 2008. PML, YAP, and p73 are components of a proapoptotic autoregulatory feedback loop. *Mol. Cell* 32: 803-814.
8. Jiang, Y., et al. 2010. Benzo(a)pyrene induces p73 mRNA expression and necrosis in human lung adenocarcinoma H1299 cells. *Environ. Toxicol.* 27: 202-210.
9. Grande, L., et al. 2012. Transcription factors Sp1 and p73 control the expression of the proapoptotic protein NOXA in the response of testicular embryonal carcinoma cells to cisplatin. *J. Biol. Chem.* 287: 26495-26505.

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.



Try **p73 (E-4): sc-17823** or **p73 (5B429): sc-56191**, our highly recommended monoclonal alternatives to p73 (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **p73 (E-4): sc-17823**.