p73 (S-20): sc-9651

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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.

CHROMOSOMAL LOCATION

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

SOURCE

p73 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of p73β of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-9651 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p73 (S-20) is recommended for detection of p73 isoforms p73 α, β, γ, δ, ϵ, and ζ 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p73 (S-20) is also recommended for detection of p73 isoforms p73 α, β, γ, δ, ϵ, and ζ in additional species, including porcine.

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.
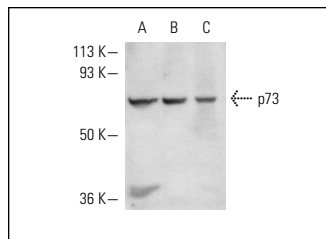
Molecular Weight of p73: 73 kDa.

Positive Controls: NCI-H1688 whole cell lysate, A549 cell lysate: sc-2413 or HeLa whole cell lysate: sc-2200.
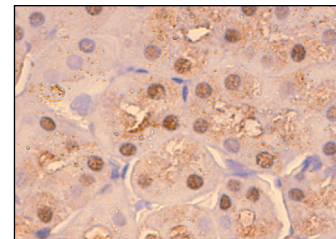
STORAGE

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

DATA

p73 (S-20): sc-9651. Western blot analysis of p73 expression in A549 (**A**), NCI-H1688 (**B**) and HeLa (**C**) whole cell lysates.

p73 (S-20): sc-9651. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse kidney tissue showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Pan, H., et al. 2003. Cloning and developmental expression of p73 cDNA in zebrafish. Biochem. Biophys. Res. Commun. 307: 395-400.

2. Hoshino, M., et al. 2006. Transcriptional repression induces a slowly progressive atypical neuronal death associated with changes of YAP isoforms and p73. J. Cell Biol. 172: 589-604.

3. Yu, J., et al. 2007. A network of p73, p53 and Egr1 is required for efficient apoptosis in tumor cells. Cell Death Differ. 14: 436-446.

4. Kitagawa, M., et al. 2008. Skp2 suppresses p53-dependent apoptosis by inhibiting p300. Mol. Cell 29: 217-231.

5. Yamauchi, R., et al. 2009. Identification of epigallocatechin-3-gallate in green tea polyphenols as a potent inducer of p53-dependent apoptosis in the human lung cancer cell line A549. Toxicol. In Vitro 23: 834-839.

6. Saha, A., et al. 2012. E2F1 mediated apoptosis induced by the DNA damage response is blocked by EBV nuclear antigen 3C in lymphoblastoid cells. PLoS Pathog. 8: e1002573.

7. Patwardhan, G.A., et al. 2014. Ceramide modulates pre-mRNA splicing to restore the expression of wild-type tumor suppressor p53 in deletion-mutant cancer cells. Biochim. Biophys. Acta 1841: 1571-1580.

RESEARCH USE

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

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