

p73 α (SPM431): sc-56194

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 and 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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- 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.
- Jost, C.A., et al. 1997. p73 is a human p53-related protein that can induce apoptosis. *Nature* 389: 191-194.
- 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.
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- 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.

SOURCE

p73 α (SPM431) is a mouse monoclonal antibody raised against amino acids 380-637 of p73 α of monkey origin.

PRODUCT

Each vial contains 50 μ g IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p73 α (SPM431) is recommended for detection of p73 α of human and monkey 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 or p53-related p51/Ket protein; not recommended for detection of p73 β .

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

Molecular Weight of p73 α : 73 kDa.

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

SELECT PRODUCT CITATIONS

- Rastogi, S., et al. 2012. TNF- α response of vascular endothelial and vascular smooth muscle cells involve differential utilization of ASK1 kinase and p73. *Cell Death Differ.* 19: 274-283.

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, Alexa Fluor[®] 488 and Alexa Fluor[®] 647.