

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 .

CHROMOSOMAL LOCATION

Genetic locus: TP73 (human) mapping to 1p36.32.

SOURCE

p73 (E-4) is a mouse monoclonal antibody raised against amino acids 1-80 mapping at the N-terminus of p73 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p73 (E-4) is available conjugated to agarose (sc-17823 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17823 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17823 PE), fluorescein (sc-17823 FITC), Alexa Fluor[®] 488 (sc-17823 AF488), Alexa Fluor[®] 546 (sc-17823 AF546), Alexa Fluor[®] 594 (sc-17823 AF594) or Alexa Fluor[®] 647 (sc-17823 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-17823 AF680) or Alexa Fluor[®] 790 (sc-17823 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

p73 (E-4) is recommended for detection of all p73 isoforms of human and monkey origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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 shRNA Plasmid (h): sc-36167-SH and p73 shRNA (h) Lentiviral Particles: sc-36167-V.

Molecular Weight of p73: 73 kDa.

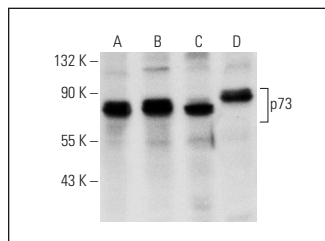
Positive Controls: HL-60 whole cell lysate: sc-2209, K-562 whole cell lysate: sc-2203 or SK-MEL-24 whole cell lysate: sc-364259.

RESEARCH USE

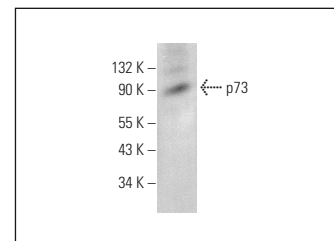
For research use only, not for use in diagnostic procedures.

STORAGE

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

DATA

p73 (E-4): sc-17823. Western blot analysis of p73 expression in SK-MEL-24 (A), K-562 (B), HL-60 (C) and COS (D) whole cell lysates.



p73 (E-4): sc-17823. Western blot analysis of p73 expression in SJRH30 whole cell lysate.

SELECT PRODUCT CITATIONS

- Xu, X.L., et al. 2004. Methylation profile of the promoter CpG islands of 31 genes that may contribute to colorectal carcinogenesis. *World J. Gastroenterol.* 10: 3441-3454.
- Gressner, O., et al. 2005. TAp63 α induces apoptosis by activating signaling via death receptors and mitochondria. *EMBO J.* 24: 2458-2471.
- 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.
- Liu, K., et al. 2008. Loss of p73 expression in six non-small cell lung cancer cell lines is associated with 5'CpG island methylation. *Exp. Mol. Pathol.* 84: 59-63.
- Peirce, S.K. and Findley, H.W. 2009. The MDM2 antagonist nutlin-3 sensitizes p53-null neuroblastoma cells to doxorubicin via E2F1 and TAp73. *Int. J. Oncol.* 34: 1395-1402.
- 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.
- 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.
- Liu, K., et al. 2013. p73 expression is associated with cellular chemosensitivity in human non-small cell lung cancer cell lines. *Oncol. Lett.* 5: 583-587.
- Bagashev, A., et al. 2014. Involvement of miR-196a in HIV-associated neurocognitive disorders. *Apoptosis* 19: 1202-1214.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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