SANTA CRUZ BIOTECHNOLOGY, INC.

p16 INK4A (A-6): sc-390485

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The progression of cells through the cell cycle is regulated by a family of protein kinases known as cyclin-dependent kinases (Cdks). The sequential activation of individual members of this family and their consequent phosphorylation of critical substrates promotes orderly progression through the cell cycle. The cyclins function as differentially expressed positive regulators of Cdks. Negative regulators of the cycle include the p53-inducible protein p21 Waf1/Cip1 (also designated p21, WAF1 or Cip1), Kip1 p27 and p16 INK4A. The complexes formed by Cdk4 and the D-type cyclins have been strongly implicated in the control of cell proliferation during the G_1 phase. It has been shown that p16 INK4A binds to Cdk4 and inhibits the catalytic activity of the Cdk4/cyclin D complex. Moreover, the gene encoding p16 INK4A exhibits a high frequency of homozygous deletions and point mutations in established human tumor cell lines.

REFERENCES

1. Sherr, C.J. 1993. Mammalian G_1 cyclins. Cell 73: 1059-1065.
2. Harper, J.W., et al. 1993. The p21 Cdk-interacting protein Cip1 is a potent inhibitor of G_1 cyclin-dependent kinases. Cell 75: 805-816.
3. El-Deiry, W.S., et al. 1993. WAF1, a potential mediator of p53 tumor suppression. Cell 75: 817-825.
4. Hunter, T. 1993. Braking the cycle. Cell 75: 839-841.
5. Xiong, Y., et al. 1993. p21 is a universal inhibitor of cyclin kinases. Nature 366: 701-704.
6. Serrano, M., et al. 1993. A new regulatory motif in cell cycle control causing specific inhibition of cyclin D/Cdk4. Nature 366: 704-707.
7. Polyak, K., et al. 1994. $p27^{Kip1}$, a cyclin-Cdk inhibitor, links transforming growth factor β and contact inhibition to cell cycle arrest. Genes Dev. 8: 9-22.
8. Kamb, A., et al. 1994. A cell cycle regulator potentially involved in genesis of many tumor types. Science 264: 436-440.

CHROMOSOMAL LOCATION

Genetic locus: CDKN2A/CDKN2B (human) mapping to 9p21.3, CDKN2C (human) mapping to 1p32.3.

SOURCE

p16 INK4A (A-6) is a mouse monoclonal antibody raised against amino acids 1-156 representing full length p16 INK4A of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

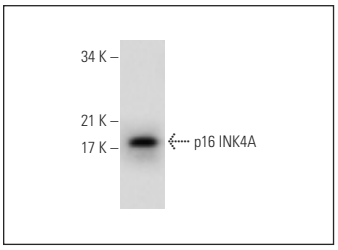
APPLICATIONS

p16 INK4A (A-6) is recommended for detection of p16 INK4A and, to a lesser extent, p15 INK4B and p18 INK4C of human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of p16 INK4A: 16 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

DATA



p16 INK4A (A-6): sc-390485. Western blot analysis of p16 INK4A expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

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2. Silva, G.C., et al. 2017. Replicative senescence promotes prothrombotic responses in endothelial cells: role of NADPH oxidase- and cyclooxygenase-derived oxidative stress. Exp. Gerontol. 93: 7-15.
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4. Sharif, T., et al. 2019. TAp73 modifies metabolism and positively regulates growth of cancer stem-like cells in a redox-sensitive manner. Clin. Cancer Res. 25: 2001-2017.
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6. Silva, G.C.D., et al. 2021. Experimental periodontal disease triggers coronary endothelial dysfunction in middle-aged rats: preventive effect of a prebiotic β-glucan. J. Gerontol. A Biol. Sci. Med. Sci. 76: 1398-1406.

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.