SANTA CRUZ BIOTECHNOLOGY, INC.

p19 INK4D (E-11): sc-1665

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The normal progression of cells through the cell cycle is under the control of the cyclin dependent protein kinases Cdk4 and Cdk6, which are subject to inhibition by the mitotic inhibitory protein, p16 INK4A. Isolated members of the p16 INK4A family have been designated p15 INK4B, p18 INK4C and p19 INK4D. p15 INK4B expression is upregulated approximately 30-fold in TGFβ-treated human keratinocytes, suggesting that p15 INK4B may function as an effector of TGFβ-mediated cell cycle arrest through inhibition of Cdk4 and Cdk6 kinases. The gene encoding p15 INK4B has been mapped to chromosome 9p21.3 at a position adjacent to the p16 INK4A gene, at a site of frequent chromosomal abnormality in human tumors. Two p16 INK4A-related proteins, p19 INK4D and p18 INK4C, specifically inhibit the kinase activities of Cdk4 and Cdk6 but do not affect those of cyclin E-Cdk2, cyclin A-Cdk2 or cyclin B-Cdc2 complexes. p19 INK4D is expressed at maximal level during S phase, while overexpression of p19 INK4D leads to G_1 arrest.

CHROMOSOMAL LOCATION

Genetic locus: CDKN2D (human) mapping to 19p13.2; Cdkn2d (mouse) mapping to 9 A3.

SOURCE

p19 INK4D (E-11) is a mouse monoclonal antibody raised against amino acids 1-166 representing full length p19 INK4D of mouse origin.

PRODUCT

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

p19 INK4D (E-11) is available conjugated to agarose (sc-1665 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-1665 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-1665 PE), fluorescein (sc-1665 FITC), Alexa Fluor® 488 (sc-1665 AF488), Alexa Fluor® 546 (sc-1665 AF546), Alexa Fluor® 594 (sc-1665 AF594) or Alexa Fluor® 647 (sc-1665 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-1665 AF680) or Alexa Fluor® 790 (sc-1665 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

p19 INK4D (E-11) is recommended for detection of p19 INK4D 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for p19 INK4D siRNA (h): sc-36148, p19 INK4D siRNA (m): sc-36147, p19 INK4D shRNA Plasmid (h): sc-36148-SH, p19 INK4D shRNA Plasmid (m): sc-36147-SH, p19 INK4D shRNA (h) Lentiviral Particles: sc-36148-V and p19 INK4D shRNA (m) Lentiviral Particles: sc-36147-V.

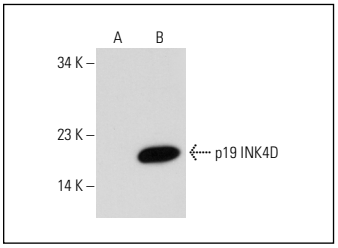
Molecular Weight of p19 INK4D: 19 kDa.

Positive Controls: p19 INK4D (h2): 293T Lysate: sc-174520 or NIH/3T3 whole cell lysate: sc-2210.

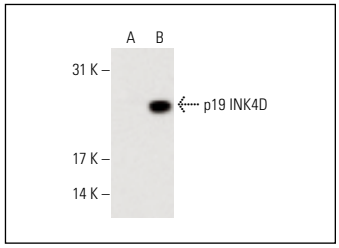
STORAGE

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

DATA



p19 INK4D (E-11): sc-1665. Western blot analysis of p19 INK4D expression in non-transfected: sc-117752 (**A**) and mouse p19 INK4D transfected: sc-122302 (**B**) 293T whole cell lysates.



p19 INK4D (E-11): sc-1665. Western blot analysis of p19 INK4D expression in non-transfected: sc-117752 (**A**) and human p19 INK4D transfected: sc-174520 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tokumoto, Y.M., et al. 2001. Two molecularly distinct intracellular pathways to oligodendrocyte differentiation: role of a p53 family protein. EMBO J. 20: 5261-5268.
2. Bhunia, A.K., et al. 2002. PKD1 induces $p21^{waf1}$ and regulation of the cell cycle via direct activation of the JAK-Stat signaling pathway in a process requiring PKD2. Cell 109: 157-168.
3. Veiga-Fernandes, H., et al. 2004. High expression of active Cdk6 in the cytoplasm of CD8 memory cells favors rapid division. Nat. Immunol. 5: 31-37.
4. Simpson, P.J., et al. 2007. Progressive and inhibitory cell cycle proteins act simultaneously to regulate neurotrophin-mediated proliferation and maturation of neuronal precursors. Cell Cycle 6: 1077-1089.
5. Wu, W., et al. 2009. Antibody array analysis with label-based detection and resolution of protein size. Mol. Cell. Proteomics 8: 245-257.
6. Shen, J., et al. 2010. Inactivation of the quinone oxidoreductases NQO1 and NQO2 strongly elevates the incidence and multiplicity of chemically induced skin tumors. Cancer Res. 70: 1006-1014.
7. Wei, Y., et al. 2019. p53 function is compromised by inhibitor 2 of phosphatase 2A in sonic hedgehog medulloblastoma. Mol. Cancer Res. 17: 186-198.
8. Chen, H., et al. 2020. TGF-β1/IL-11/MEK/ERK signaling mediates senescence-associated pulmonary fibrosis in a stress-induced premature senescence model of Bmi-1 deficiency. Exp. Mol. Med. 52: 130-151.
9. Pinto, D.O., et al. 2021. Extracellular vesicles from HTLV-1 infected cells modulate target cells and viral spread. Retrovirology 18: 6.

RESEARCH USE

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