SANTA CRUZ BIOTECHNOLOGY, INC.

p19 INK4D (2B2.59): sc-71809

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.

REFERENCES

1. Serrano, M., et al. 1993. A new regulatory motif in cell cycle control causing specific inhibition of cyclin D/Cdk4. Nature 366: 704-707.
2. Kamb, A., et al. 1994. A cell cycle regulator potentially involved in genesis of many tumor types. Science 264: 436-440.
3. Hannon, G.J., et al. 1994. p15 INK4B is a potential effector of TGFβ-induced cell cycle arrest. Nature 371: 257-261.
4. Guan, K.L., et al. 1994. Growth suppression by p18, a p16 INK4/MTS1 and p14 INK4B/MTS2-related Cdk6 inhibitor, correlates with wild-type pRb function. Genes Dev. 8: 2939-2952.
5. Hussussian, C.J., et al. 1994. Germline p16 mutations in familial melanoma. Nat. Genet. 8: 15.
6. Cairns, P., et al. 1994. Rates of p16 MTS1 mutations in primary tumors with 9p loss. Science 265: 415-417.
7. Hirai, H., et al. 1995. Novel INK4 proteins, p19 and p18, are specific inhibitors of the cyclin D-dependent kinases Cdk4 and Cdk6. Mol. Cell. Biol. 15: 2672-2681.

CHROMOSOMAL LOCATION

Genetic locus: CDKN2D (human) mapping to 19p13.2.

SOURCE

p19 INK4D (2B2.59) is a mouse monoclonal antibody raised against full length p19 INK4D of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain 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

p19 INK4D (2B2.59) is recommended for detection of p19 of 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 shRNA Plasmid (h): sc-36148-SH and p19 INK4D shRNA (h) Lentiviral Particles: sc-36148-V.

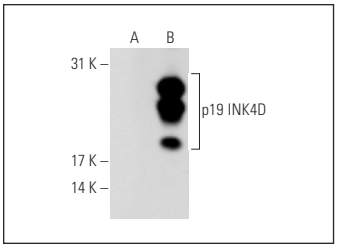
Molecular Weight of p19 INK4D: 19 kDa.

Positive Controls: p19 INK4D (h2): 293T Lysate: sc-174520 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



p19 INK4D (2B2.59): sc-71809. 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.

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.