SANTA CRUZ BIOTECHNOLOGY, INC.

p19 INK4D (h2): 293T Lysate: sc-174520

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.

PRODUCT

p19 INK4D (h2): 293T Lysate represents a lysate of human p19 INK4D transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

p19 INK4D (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive p19 INK4D antibodies. Recommended use: 10-20 µl per lane.

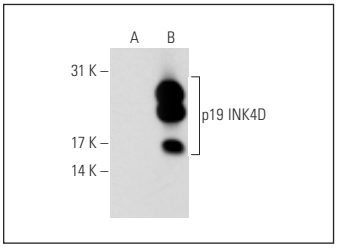
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

p19 INK4D (6A150): sc-71810 is recommended as a positive control antibody for Western Blot analysis of enhanced human p19 INK4D expression in p19 INK4D transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

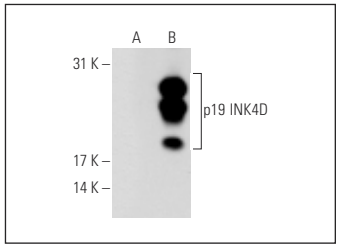
RECOMMENDED SUPPORT REAGENTS

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.

DATA



p19 INK4D (6A150): sc-71810. 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.



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.