SANTA CRUZ BIOTECHNOLOGY, INC.

p18 INK4C (B-2): sc-514704

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 and p18 INK4C. p15 INK4B expression is upregulated approximately 30-fold in TGFβ-treated human keratinocytes. 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. It has been suggested that p15 may function as an effector of TGFβ-mediated cell cycle arrest through inhibition of Cdk4 and Cdk6 kinase. The second p16-related protein, p18 INK4C, interacts strongly with Cdk6 and to a lesser extent with Cdk4, but lacks apparent interaction with other Cdks. Recombinant p18 INK4C has been shown to inhibit cyclin D-Cdk6 kinase activity. In contrast to p21 Waf1/Cip1/p27 that form ternary complexes with cyclin-Cdks, only binary complexes of p15 INK4B, p16 INK4A and p18 INK4C have been identified in association with Cdk4 and/or Cdk6.

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. Sherr, C.J. 1994. G_1 phase progression: cycling on cue. Cell 79: 551-555.
3. Hunter, T., et al. 1994. Cyclins and cancer II: cyclin D and Cdk inhibitors come of age. Cell 79: 573-582.
4. Kamb, A., et al. 1994. A cell cycle regulator potentially involved in genesis of many tumor types. Science 264: 436-440.
5. Hannon, G.J., et al. 1994. p15 INK4B is a potential effector of TGFβ-induced cell cycle arrest. Nature 371: 257-261.
6. 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.
7. Hussussian, C.J., et al. 1994. Germline p16 mutations in familial melanoma. Nat. Genet. 8: 15-21.

CHROMOSOMAL LOCATION

Genetic locus: Cdkn2c (mouse) mapping to 4 C7.

SOURCE

p18 INK4C (B-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 145-168 at the C-terminus of p18 INK4C 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.

Blocking peptide available for competition studies, sc-514704 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p18 INK4C (B-2) is recommended for detection of p18 INK4C of mouse and rat 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).

Suitable for use as control antibody for p18 INK4C siRNA (m): sc-36146, p18 INK4C shRNA Plasmid (m): sc-36146-SH and p18 INK4C shRNA (m) Lentiviral Particles: sc-36146-V.

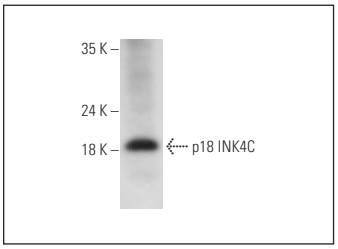
Molecular Weight of p18 INK4C: 18 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

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



p18 INK4C (B-2): sc-514704. Western blot analysis of p18 INK4C expression in NIH/3T3 whole cell lysate.

STORAGE

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

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.