SANTA CRUZ BIOTECHNOLOGY, INC.

p57 Kip2 (H-12): sc-515909

BACKGROUND

Cell cycle progression is regulated by a series of cyclin-dependent kinases that consist of catalytic subunits designated Cdks and activating subunits designated cyclins. Orderly progression through the cell cycle requires the activation and inactivation of different cyclin-Cdks at appropriate times. A series of proteins has been described that function as mitotic inhibitors. These include p21 Waf1/Cip1, the levels of which are elevated upon DNA damage in G_1 in a p53-dependent manner; p16 INK4A; and p16 INK4A-related inhibitors, designated p15 INK4B, p18 INK4C and p19 INK4D. A p21 Waf1/Cip1-related protein, p27, has been described as a negative regulator of G_1 progression and has been speculated to function as a possible mediator of TGFβ-induced G_1 arrest. A member of the p21 Waf1/Cip1/p27 family of mitotic inhibitory proteins, p57 Kip2 (also designated p57 and Kip2), is a potent, tight-binding cyclin-dependent inhibitor of several G_1 cyclin/Cdk complexes. Overexpression of p57 Kip2 arrests cells in G_1. Unlike p21 Waf1/Cip1, p57 Kip2 is not regulated by p53.

REFERENCES

1. Sherr, C.J. 1993. Mammalian G_1 cyclins. Cell 73: 1059-1065.
2. El-Deiry, W.S., et al. 1993. WAF1, a potential mediator of p53 tumor suppression. Cell 75: 817-825.
3. Xiong, Y., et al. 1993. p21 is a universal inhibitor of cyclin kinases. Nature 366: 701-704.
4. Serrano, M., et al. 1993. A new regulatory motif in cell-cycle control causing specific inhibition of cyclin D/CDK4. Nature 366: 704-707.
5. Hannon, G.J., et al. 1994. p15 INK4B is a potential effector of TGFβ-induced cell cycle arrest. Nature 371: 257-260.
6. 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.
7. Hengst, L., et al. 1994. A cell cycle-regulated inhibitor of cyclin-dependent kinases. Proc. Natl. Acad. Sci. USA 91: 5291-5295.
8. Lee, M.H., et al. 1995. Cloning of p57 Kip2, a cyclin-dependent kinase inhibitor with unique domain structure and tissue distribution. Genes Dev. 9: 639-649.
9. Matsuoka, S., et al. 1995. p57 Kip2, a structurally distinct member of the $p21^{CIP1}$ Cdk inhibitor family, is a candidate tumor suppressor gene. Genes Dev. 9: 650-662.

CHROMOSOMAL LOCATION

Genetic locus: CDKN1C (human) mapping to 11p15.4; Cdkn1c (mouse) mapping to 7 F5.

SOURCE

p57 Kip2 (H-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 318-337 at the C-terminus of p57 Kip2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p57 Kip2 (H-12) is recommended for detection of p57 Kip2 of mouse, rat and 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).

Suitable for use as control antibody for p57 Kip2 siRNA (h): sc-35751, p57 Kip2 siRNA (m): sc-37621, p57 Kip2 shRNA Plasmid (h): sc-35751-SH, p57 Kip2 shRNA Plasmid (m): sc-37621-SH, p57 Kip2 shRNA (h) Lentiviral Particles: sc-35751-V and p57 Kip2 shRNA (m) Lentiviral Particles: sc-37621-V.

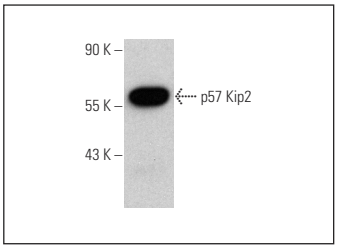
Molecular Weight of p57 Kip2: 57 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

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 L-Agarose: sc-2336 (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



p57 Kip2 (H-12): sc-515909. Western blot analysis of p57 Kip2 expression in HeLa nuclear extract.

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.