SANTA CRUZ BIOTECHNOLOGY, INC.

p57 Kip2 (3F244): sc-71824

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.

CHROMOSOMAL LOCATION

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

SOURCE

p57 Kip2 (3F244) is a mouse monoclonal antibody raised against full length p57 Kip2 of human 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.

APPLICATIONS

p57 Kip2 (3F244) is recommended for detection of p57 Kip2 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

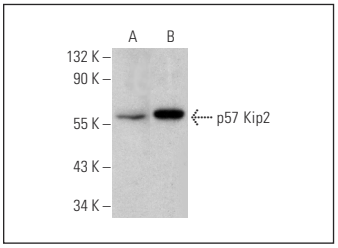
Molecular Weight of p57 Kip2: 57 kDa.

Positive Controls: A-673 cell lysate: sc-2414, mouse brain extract: sc-2253 or NIH/3T3 whole cell lysate: sc-2210.

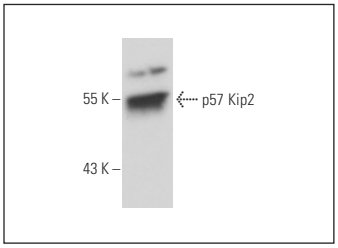
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



p57 Kip2 (3F244): sc-71824. Western blot analysis of p57 Kip2 expression in NIH/3T3 whole cell lysate (**A**) and mouse brain tissue extract (**B**).



p57 Kip2 (3F244): sc-71824. Western blot analysis of p57 Kip2 expression in A-673 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Duquesnes, N., et al. 2016. p57 Kip2 knock-in mouse reveals CDK-independent contribution in the development of Beckwith-Wiedemann syndrome. J. Pathol. 239: 250-261.
2. Shangguan, Y., et al. 2017. Glucocorticoid mediates prenatal caffeine exposure-induced endochondral ossification retardation and its molecular mechanism in female fetal rats. Cell Death Dis. 8: e3157.

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.

CONJUGATES

See **p57 Kip2 (KP39): sc-56341** for p57 Kip2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.