SANTA CRUZ BIOTECHNOLOGY, INC.

p27 Kip1 (SPM348): sc-56454

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cell cycle progression is regulated by a series of cyclin-dependent kinases consisting of catalytic subunits, designated Cdks, as well as 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 recently been described that function as "mitotic inhibitors". These include p21, the levels of which are elevated upon DNA damage in G_1 in a p53-dependent manner; p16; and a more recently described p16-related inhibitor designated p15. A p21-related protein, p27 Kip1, has been described as a negative regulator of G_1 progression and speculated to function as a possible mediator of TGFβ-induced G_1 arrest. p27 Kip1 interacts strongly with D-type cyclins and Cdk4 *in vitro* and, to a lesser extent, with cyclin E and Cdk2.

CHROMOSOMAL LOCATION

Genetic locus: CDKN1B (human) mapping to 12p13.1; Cdkn1b (mouse) mapping to 6 G1.

SOURCE

p27 Kip1 (SPM348) is a mouse monoclonal antibody raised against recombinant p27 Kip1 of mouse 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.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

p27 Kip1 (SPM348) is recommended for detection of p27 Kip1 of mouse, rat, human and canine 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for p27 Kip1 siRNA (h): sc-29429, p27 Kip1 siRNA (m): sc-29430, p27 Kip1 shRNA Plasmid (h): sc-29429-SH, p27 Kip1 shRNA Plasmid (m): sc-29430-SH, p27 Kip1 shRNA (h) Lentiviral Particles: sc-29429-V and p27 Kip1 shRNA (m) Lentiviral Particles: sc-29430-V.

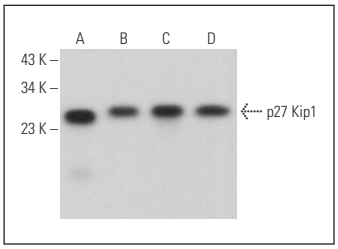
Molecular Weight of p27 Kip1: 27 kDa.

Positive Controls: p27 Kip1 (h): 293 Lysate: sc-110470, Raji whole cell lysate: sc-364236 or Jurkat whole cell lysate: sc-2204.

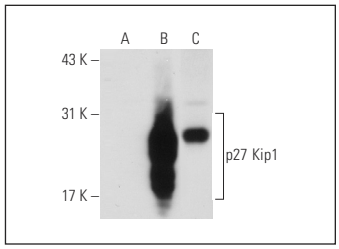
RECOMMENDED SUPPORT REAGENTS

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. 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



p27 Kip1 (SPM348): sc-56454. Western blot analysis of p27 Kip1 expression in WEHI-231 (**A**), BJAB (**B**), NAMALWA (**C**) and Raji (**D**) whole cell lysates.



p27 Kip1 (SPM348): sc-56454. Western blot analysis of p27 Kip1 expression in non-transfected 293: sc-110760 (**A**), human p27 Kip1 transfected 293: sc-110470 (**B**) and Jurkat (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Hu, F., et al. 2010. δEF1 promotes breast cancer cell proliferation through down-regulating p21 expression. Biochim. Biophys. Acta 1802: 301-312.
2. Klopfleisch, R., et al. 2010. Loss of p27 expression in canine mammary tumors and their metastases. Res. Vet. Sci. 88: 300-303.
3. Köhler, C.U., et al. 2011. Cell cycle control of β-cell replication in the prenatal and postnatal human pancreas. Am. J. Physiol. Endocrinol. Metab. 300: E221-E230.
4. Ueberberg, S., et al. 2016. Differential expression of cell-cycle regulators in human β-cells derived from Insulinoma tissue. Metab. Clin. Exp. 65: 736-746.
5. Watanabe, A., et al. 2017. Stathmin 1 promotes the proliferation and malignant transformation of pancreatic intraductal papillary mucinous neoplasms. Oncol. Lett. 13: 1783-1788.
6. Koso, H., et al. 2018. Ras activation in retinal progenitor cells induces tumor formation in the eye. Exp. Eye Res. 180: 39-42.

CONJUGATES

See **p27 Kip1 (F-8): sc-1641** for p27 Kip1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.