SANTA CRUZ BIOTECHNOLOGY, INC.

p27 Kip1 (0.N.491): sc-71813

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.

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

SOURCE

p27 Kip1 (0.N.491) is a mouse monoclonal antibody raised against full length 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.

APPLICATIONS

p27 Kip1 (0.N.491) is recommended for detection of p27 Kip1 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); non cross-reactive with other mitotic inhibitors.

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: MM-142 cell lysate: sc-2246, NIH/3T3 whole cell lysate: sc-2210 or SK-BR-3 cell lysate: sc-2218.

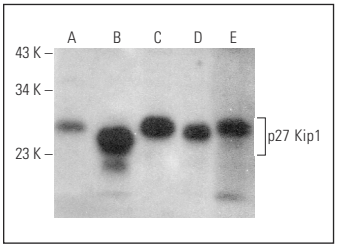
RESEARCH USE

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

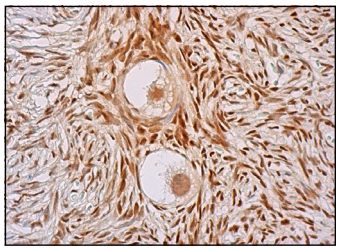
STORAGE

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

DATA



p27 Kip1 (0.N.491): sc-71813. Western blot analysis of p27 Kip1 expression in MDA-MB-231 (**A**), MM-142 (**B**), NIH/3T3 (**C**) and SK-BR-3 (**D**) whole cell lysates and human breast tissue extract (**E**).



p27 Kip1 (0.N.491): sc-71813. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing nuclear staining of follicle cells and oocytes and nuclear and cytoplasmic staining of ovarian stroma cells.

SELECT PRODUCT CITATIONS

1. Wang, Z., et al. 2008. Glycogen synthase kinase 3 in MLL leukaemia maintenance and targeted therapy. Nature 455: 1205-1209.
2. Ren, C., et al. 2016. Inhibition of SOX2 induces cell apoptosis and G_1/S arrest in Ewing's sarcoma through the PI3K/Akt pathway. J. Exp. Clin. Cancer Res. 35: 44.
3. Deng, M., et al. 2017. Combination of celecoxib and PD184161 exerts synergistic inhibitory effects on gallbladder cancer cell proliferation. Oncol. Lett. 13: 3850-3858.
4. Lv, L., et al. 2018. Vpr targets TET2 for degradation by $CRL4^{VprBP}$ E3 ligase to sustain IL-6 expression and enhance HIV-1 replication. Mol. Cell 70: 961-970.e5.
5. Sun, L., et al. 2019. Increased invasive phenotype of CSF-1R expression in glioma cells via the ERK1/2 signaling pathway. Cancer Gene Ther. 26: 136-144.
6. Huang, Z., et al. 2020. miR-133 inhibits proliferation and promotes apoptosis by targeting LASP1 in lupus nephritis. Exp. Mol. Pathol. 114: 104384.
7. Diesinger, T., et al. 2021. A new CYP2E1 inhibitor, 12-imidazolyl-1-dodecanol, represents a potential treatment for hepatocellular carcinoma. Can. J. Gastroenterol. Hepatol. 2021: 8854432.
8. Issa, H., et al. 2024. Eugenol as a potential adjuvant therapy for gingival squamous cell carcinoma. Sci. Rep. 14: 10958.