SANTA CRUZ BIOTECHNOLOGY, INC.

p27 Kip1 (SX53G8.5): sc-53871

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.
3. Xiong, Y., et al. 1993. p21 is a universal inhibitor of cyclin kinases. Nature 366: 701-704.

CHROMOSOMAL LOCATION

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

SOURCE

p27 Kip1 (SX53G8.5) is a mouse monoclonal antibody raised against purified GST-p27 Kip1 fusion protein of human 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 (SX53G8.5) 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).

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.

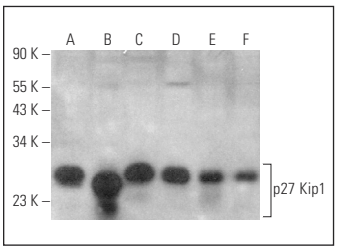
Molecular Weight of p27 Kip1: 27 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MM-142 cell lysate: sc-2246 or Jurkat whole cell lysate: sc-2204.

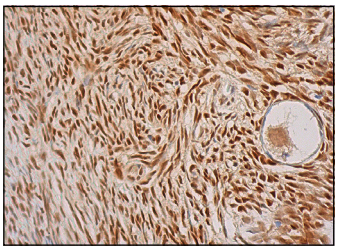
STORAGE

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

DATA



p27 Kip1 (SX53G8.5): sc-53871. Western blot analysis of p27 Kip1 expression in HeLa (**A**), MM-142 (**B**), NIH/3T3 (**C**), Jurkat (**D**), COLO 205 (**E**) and A-431 (**F**) whole cell lysates.



p27 Kip1 (SX53G8.5): sc-53871. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing nuclear staining of oocytes and nuclear and cytoplasmic staining of ovarian stroma cells.

SELECT PRODUCT CITATIONS

1. Gromyko, D., et al. 2010. Depletion of the human Nα-terminal acetyltransferase A induces p53-dependent apoptosis and p53-independent growth inhibition. Int. J. Cancer 127: 2777-2789.
2. Myklebust, L.M., et al. 2015. Biochemical and cellular analysis of Ogden syndrome reveals downstream Nt-acetylation defects. Hum. Mol. Genet. 24: 1956-1976.
3. Panza, S., et al. 2016. Glucocorticoid receptor as a potential target to decrease aromatase expression and inhibit Leydig tumor growth. Am. J. Pathol. 186: 1328-1339.
4. Jeannot, P., et al. 2017. p27 Kip1 promotes invadopodia turnover and invasion through the regulation of the PAK1/Cortactin pathway. Elife 6: e22207.
5. Pellegrino, M., et al. 2018. FoxO3a mediates the inhibitory effects of the antiepileptic drug lamotrigine on breast cancer growth. Mol. Cancer Res. 16: 923-934.
6. Pellegrino, M., et al. 2019. FoxO3a as a positive prognostic marker and a therapeutic target in tamoxifen-resistant breast cancer. Cancers 11: 1858.
7. Nowosad, A., et al. 2020. p27 controls ragulator and mTOR activity in amino acid-deprived cells to regulate the autophagy-lysosomal pathway and coordinate cell cycle and cell growth. Nat. Cell Biol. 22: 1076-1090.
8. Prel, A., et al. 2021. Evidence that regulation of pri-miRNA/miRNA expression is not a general rule of miPEPs function in humans. Int. J. Mol. Sci. 22: 3432.
9. Deshmukh, D., et al. 2022. Regulation of p27 Kip1 by ubiquitin E3 ligase RNF6. Pharmaceutics 14: 802.

RESEARCH USE

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