SANTA CRUZ BIOTECHNOLOGY, INC.

p27 Kip1 (SX18F7): sc-53906

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.

SOURCE

p27 Kip1 (SX18F7) is a mouse monoclonal antibody raised against purified GSTp27 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 (SX18F7) is recommended for detection of p27 Kip1 of 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)] and immunofluorescence (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 shRNA Plasmid (h): sc-29429-SH and p27 Kip1 shRNA (h) Lentiviral Particles: sc-29429-V.

Molecular Weight of p27 Kip1: 27 kDa.

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.

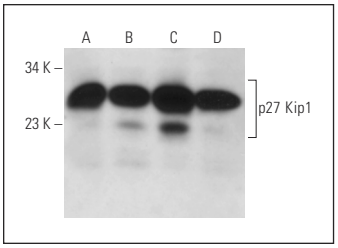
STORAGE

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.

DATA



p27 Kip1 (SX18F7): sc-53906. Western blot analysis of p27 Kip1 expression in Jurkat (**A**), HeLa (**B**), MCF7 (**C**) and BT-20 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Hafeez, B.B., et al. 2008. A dietary anthocyanidin delphinidin induces apoptosis of human prostate cancer PC3 cells *in vitro* and *in vivo:* involvement of nuclear factor-κB signaling. Cancer Res. 68: 8564-8572.
2. Yan, J., et al. 2012. Andrographolide induces cell cycle arrest and apoptosis in human rheumatoid arthritis fibroblast-like synoviocytes. Cell Biol. Toxicol. 28: 47-56.
3. Qi, M., et al. 2015. Inhibition of S-phase kinase-associated protein 2-mediated p27 degradation suppresses tumorigenesis and the progression of hepatocellular carcinoma. Mol. Med. Rep. 11: 3934-3940.
4. Liu, T., et al. 2017. CHAF1A, the largest subunit of the chromatin assembly factor 1 complex, regulates the growth of H1299 human non-small cell lung cancer cells by inducing G_0/G_1 cell cycle arrest. Exp. Ther. Med. 14: 4681-4686.
5. Que, W., et al. 2018. Antiproliferation activities of NK4 on multiple myeloma. Exp. Ther. Med. 16: 3668-3673.
6. Zhou, J., et al. 2019. MicroRNA-26a targets the mdm2/p53 loop directly in response to liver regeneration. Int. J. Mol. Med. 44: 1505-1514.
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. Nowosad, A., et al. 2021. p27 controls autophagic vesicle trafficking in glucose-deprived cells via the regulation of ATAT1-mediated microtubule acetylation. Cell Death Dis. 12: 481.
9. Radić, M., et al. 2022. Characterization of vemurafenib-resistant melanoma cell lines reveals novel hallmarks of targeted therapy resistance. Int. J. Mol. Sci. 23: 9910.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.