SANTA CRUZ BIOTECHNOLOGY, INC.

p27 Kip1 (A-10): sc-393380

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 (A-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 157-198 at the C-terminus of p27 Kip1 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.

Blocking peptide available for competition studies, sc-393380 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p27 Kip1 (A-10) is recommended for detection of p27 Kip1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for p27 Kip1 siRNA (h): sc-29429, p27 Kip1 siRNA (h2): sc-44215, 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.

RESEARCH USE

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

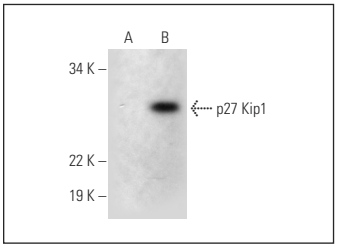
PROTOCOLS

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

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 (A-10): sc-393380. Western blot analysis of p27 Kip1 expression in non-transfected: sc-110760 (**A**) and human p27 Kip1 transfected: sc-110470 (**B**) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Li, T.J., et al. 2015. MicroRNA 181b promotes vascular smooth muscle cells proliferation through activation of PI3K and MAPK pathways. Int. J. Clin. Exp. Pathol. 8: 10375-10384.
2. Li, Y., et al. 2016. Inhibition of multiple myeloma cell proliferation by ginsenoside Rg3 via reduction in the secretion of IGF-1. Mol. Med. Rep. 14: 2222-2230.
3. Wang, C., et al. 2017. Dickkopf-related protein 2 is epigenetically inactivated and suppresses colorectal cancer growth and tumor metastasis by antagonizing Wnt/β-catenin signaling. Cell. Physiol. Biochem. 41: 1709-1724.
4. Oak, C., et al. 2018. Diosmetin suppresses human prostate cancer cell proliferation through the induction of apoptosis and cell cycle arrest. Int. J. Oncol. 53: 835-843.
5. Ting, P.C., et al. 2018. Folic acid inhibits colorectal cancer cell migration. J. Nutr. Biochem. 63: 157-164.
6. Ye, L., et al. 2019. The 19q13 KRAB zinc-finger protein ZFP82 suppresses the growth and invasion of esophageal carcinoma cells through inhibiting NFκB transcription and inducing apoptosis. Epigenomics 11: 65-80.
7. Sun, R., et al. 2020. 19q13 KRAB zinc-finger protein ZNF471 activates MAPK10/JNK3 signaling but is frequently silenced by promoter CpG methylation in esophageal cancer. Theranostics 10: 2243-2259.
8. Tao, M., et al. 2022. Semaphorin 3F induces colorectal cancer cell chemosensitivity by promoting P27 nuclear export. Front. Oncol. 12: 899927.

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.