SANTA CRUZ BIOTECHNOLOGY, INC.

p27 Kip1 (DCS-72): sc-56338

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 (DCS-72) 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.

p27 Kip1 (DCS-72) is available conjugated to agarose (sc-56338 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-56338 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56338 PE), fluorescein (sc-56338 FITC), Alexa Fluor® 488 (sc-56338 AF488), Alexa Fluor® 546 (sc-56338 AF546), Alexa Fluor® 594 (sc-56338 AF594) or Alexa Fluor® 647 (sc-56338 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-56338 AF680) or Alexa Fluor® 790 (sc-56338 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

p27 Kip1 (DCS-72) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other mitotic inhibitors.

p27 Kip1 (DCS-72) is also recommended for detection of p27 Kip1 in additional species, including canine.

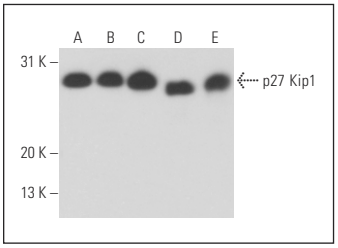
Suitable for use as control antibody for p27 Kip1 siRNA (h): sc-29429, p27 Kip1 siRNA (m): sc-29430, p27 Kip1 shRNA Plasmid (h): sc-29429-SH, p27 Kip1 shRNA Plasmid (m): sc-29430-SH, p27 Kip1 shRNA (h) Lentiviral Particles: sc-29429-V and p27 Kip1 shRNA (m) Lentiviral Particles: sc-29430-V.

Molecular Weight of p27 Kip1: 27 kDa.

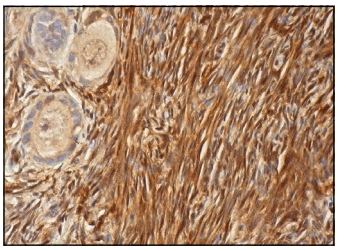
STORAGE

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

DATA



p27 Kip1 (DCS-72): sc-56338. Western blot analysis of p27 Kip1 expression in Jurkat (**A**), HeLa (**B**), MCF7 (**C**), MM-142 (**D**) and NIH/3T3 (**E**) whole cell lysates.



p27 Kip1 (DCS-72): sc-56338. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing nuclear and cytoplasmic staining of follicle cells and ovarian stroma cells.

SELECT PRODUCT CITATIONS

1. Fuchs, D., et al. 2009. Salinomycin induces apoptosis and overcomes apoptosis resistance in human cancer cells. Biochem. Biophys. Res. Commun. 390: 743-749.
2. Huang, X., et al. 2014. The role of the orphan G protein-coupled receptor 37 (GPR37) in multiple myeloma cells. Leuk. Res. 38: 225-235.
3. Li, Y., et al. 2016. P27 is a candidate prognostic biomarker and metastatic promoter in osteosarcoma. Cancer Res. 76: 4002-4011.
4. Colleoni, B., et al. 2017. JNKs function as CDK4-activating kinases by phosphorylating CDK4 and p21. Oncogene 36: 4349-4361.
5. Zhao, X., et al. 2018. Overexpression of KIF20A confers malignant phenotype of lung adenocarcinoma by promoting cell proliferation and inhibiting apoptosis. Cancer Med. 7: 4678-4689.
6. Wang, D., et al. 2019. Proteasome inhibition boosts autophagic degradation of ubiquitinated-AGR2 and enhances the antitumor efficiency of bevacizumab. Oncogene 38: 3458-3474.
7. Liu, Y., et al. 2020. C1222C deletion in Exon 8 of Abl1 is involved in carcinogenesis and cell cycle control of colorectal cancer through IRS1/ PI3K/Akt pathway. Front. Oncol. 10: 1385.
8. O'Connor, M.J., et al. 2021. PARP14 regulates cyclin D1 expression to promote cell-cycle progression. Oncogene 40: 4872-4883.
9. Kwak, A.W., et al. 2022. Isolinderalactone sensitizes oxaliplatin-resistance colorectal cancer cells through JNK/p38 MAPK signaling pathways. Phytomedicine 105: 154383.

RESEARCH USE

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