

p27 Kip1 (F-8): sc-1641



The Power to Question

BACKGROUND

Cell cycle progression is regulated by a series of cyclin-dependent kinases consisting of catalytic subunits, designated Cdk, 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 p27 Kip1, the levels of which are elevated upon DNA damage in G₁ 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 G₁ progression and speculated to function as a possible mediator of TGFβ-induced G₁ 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 (F-8) is a mouse monoclonal antibody raised against amino acids 1-197 representing full length p27 Kip1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p27 Kip1 (F-8) is available conjugated to agarose (sc-1641 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-1641 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-1641 PE), fluorescein (sc-1641 FITC), Alexa Fluor® 488 (sc-1641 AF488), Alexa Fluor® 546 (sc-1641 AF546), Alexa Fluor® 594 (sc-1641 AF594) or Alexa Fluor® 647 (sc-1641 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-1641 AF680) or Alexa Fluor® 790 (sc-1641 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, p27 Kip1 (F-8) is available conjugated to either TRITC (sc-1641 TRITC, 200 µg/ml) or Alexa Fluor® 405 (sc-1641 AF405, 200 µg/ml), for IF, IHC(P) and FCM.

APPLICATIONS

p27 Kip1 (F-8) 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), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

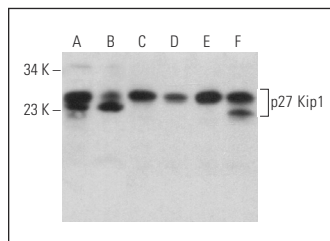
Suitable for use as control antibody for p27 Kip1 siRNA (h): sc-29429, p27 Kip1 siRNA (m): sc-29430, p27 Kip1 shRNA Plasmid (h): sc-29429-SH, p27 Kip1 shRNA Plasmid (m): sc-29430-SH, p27 Kip1 shRNA (h) Lentiviral Particles: sc-29429-V and p27 Kip1 shRNA (m) Lentiviral Particles: sc-29430-V.

Molecular Weight of p27 Kip1: 27 kDa.

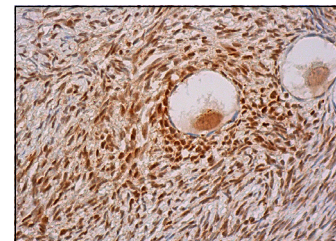
STORAGE

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

DATA



p27 Kip1 (F-8): sc-1641. Western blot analysis of p27 Kip1 expression in MM-142 (A), RAW 264.7 (B), NAMALWA (C), BJAB (D), Raji (E) and C6 (F) whole cell lysates.



p27 Kip1 (F-8): sc-1641. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing nuclear and cytoplasmic staining of ovarian stroma cells and oocytes.

SELECT PRODUCT CITATIONS

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- Al Sorkhy, M., et al. 2016. Direct interactions with both p27 and Cdk2 regulate Spy1-mediated proliferation *in vivo* and *in vitro*. *Cell Cycle* 15: 128-136.
- Fisher, M.L., et al. 2017. Inhibition of YAP function overcomes BRAF inhibitor resistance in melanoma cancer stem cells. *Oncotarget* 8: 110257-110272.
- Nakagawa, H., et al. 2018. Sodium butyrate induces senescence and inhibits the invasiveness of glioblastoma cells. *Oncol. Lett.* 15: 1495-1502.
- Zhao, B., et al. 2019. Notch and the pre-TCR coordinate thymocyte proliferation by induction of the SCF subunits Fbx1 and Fbx12. *Nat. Immunol.* 20: 1381-1392.
- Her, N.G., et al. 2020. Thrombospondin-1 counteracts the p97 inhibitor CB-5083 in colon carcinoma cells. *Cell Cycle* 19: 1590-1601.
- Yin, Y., et al. 2021. Bmi1 regulate tooth and mandible development by inhibiting p16 signal pathway. *J. Cell. Mol. Med.* 25: 4195-4203.
- Chrysanthou, S., et al. 2022. Tet1 suppresses p21 to ensure proper cell cycle progression in embryonic stem cells. *Cells* 11: 1366.
- Ke, M., et al. 2023. SNHG18 inhibits bladder cancer cell proliferation by increasing p21 transcription through destabilizing c-Myc protein. *Cancer Cell Int.* 23: 48.

RESEARCH USE

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

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