SANTA CRUZ BIOTECHNOLOGY, INC.

p27 Kip1 (h2): 293 Lysate: sc-129376

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.
4. Serrano, M., et al. 1993. A new regulatory motif in cell cycle control causing specific inhibition of cyclin D/Cdk4. Nature 366: 704-707.
5. Hannon, G.J., et al. 1994. $p15^{INK4B}$ is a potential effector of TGFβ-induced cell cycle arrest. Nature 371: 257-260.
6. Polyak, K., et al. 1994. p27 Kip1, a cyclin-Cdk inhibitor, links transforming growth factor β and contact inhibition to cell cycle arrest. Genes Dev. 8: 9-22.
7. Hengst, L., et al. 1994. A cell cycle-regulated inhibitor of cyclin-dependent kinases. Proc. Natl. Acad. Sci. USA 91: 5291-5295.

CHROMOSOMAL LOCATION

Genetic locus: CDKN1B (human) mapping to 12p13.1.

PRODUCT

p27 Kip1 (h2): 293 Lysate represents a lysate of human p27 Kip1 transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

p27 Kip1 (h2): 293 Lysate is suitable as a Western Blotting positive control for human reactive p27 Kip1 antibodies. Recommended use: 10-20 µl per lane.

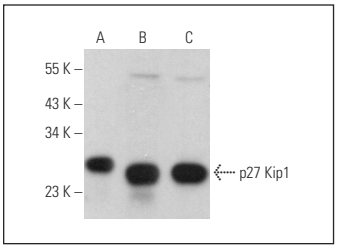
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

p27 Kip1 (0.N.491): sc-71813 is recommended as a positive control antibody for Western Blot analysis of enhanced human p27 Kip1 expression in p27 Kip1 transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

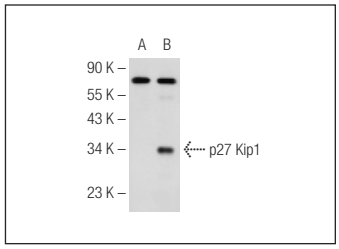
RECOMMENDED SUPPORT REAGENTS

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.

DATA



p27 Kip1 (0.N.491): sc-71813. Western blot analysis of p27 Kip1 expression in HeLa (**A**), BYDP (**B**) and WEHI-231 (**C**) whole cell lysates.



p27 Kip1 (SPM348): sc-56454. Western blot analysis of p27 Kip1 expression in non-transfected: sc-110760 (**A**) and human p27 Kip1 transfected: sc-129376 (**B**) 293 whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

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.