SANTA CRUZ BIOTECHNOLOGY, INC.

p27 (N-20): sc-527

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, 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 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 (N-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of p27 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-527 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p27 (N-20) is recommended for detection of p27 of mouse, rat, human, mink and zebrafish origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p27 (N-20) is also recommended for detection of p27 in additional species, including canine, bovine, porcine and feline.

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

Molecular Weight of p27: 27 kDa.

Positive Controls: p27 (m): 293T Lysate: sc-122312, NIH/3T3 whole cell lysate: sc-2210 or KNRK whole cell lysate: sc-2214.

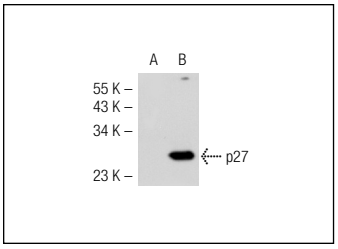
STORAGE

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

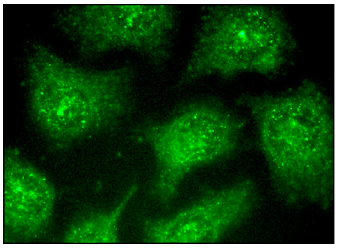
RESEARCH USE

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

DATA



p27 (N-20): sc-527. Western blot analysis of p27 expression in non-transfected: sc-117752 (**A**) and mouse p27 transfected: sc-122312 (**B**) 293T whole cell lysates



p27 (N-20): sc-527. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Uren, A., et al. 1997. Carboxyl terminal domain of p27-Kip1 activates Cdc2. J. Biol. Chem. 272: 21669-21672.
2. Seo, Y.H., et al. 2008. Enhanced glycogenesis is involved in cellular senescence via GSK3/GS modulation. Aging Cell 7: 894-907.
3. Guerrouahen, B.S., et al. 2010. Dasatinib inhibits the growth of molecularly heterogeneous myeloid leukemias. Clin. Cancer Res. 16: 1149-1158.
4. Schiappacassi, M., et al. 2011. Role of T198 modification in the regulation of $p27^{Kip1}$ protein stability and function. PLoS ONE 6: e17673.
5. Ketroussi, F., et al. 2011. Lymphocyte cell-cycle inhibition by HLA-G is mediated by phosphatase SHP-2 and acts on the mTOR pathway. PLoS ONE 6: e22776.
6. Hendrix, A., et al. 2013. Vacuolar H^+ ATPase expression and activity is required for Rab27B-dependent invasive growth and metastasis of breast cancer. Int. J. Cancer 133: 843-854.
7. Kazmi, S.J., et al. 2013. Transgenic mice overexpressing neuregulin-1 model neurofibroma-malignant peripheral nerve sheath tumor progression and implicate specific chromosomal copy number variations in tumorigenesis. Am. J. Pathol. 182: 646-667.

PROTOCOLS

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