SANTA CRUZ BIOTECHNOLOGY, INC.

Cdk6 (C-21): sc-177

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cell cycle progression is controlled in part by a family of cyclin proteins and cyclin dependent kinases (Cdks). Cdk proteins work in concert with the cyclins to phosphorylate key substrates involved in each phase of cell cycle progression. Another family of proteins, Cdk inhibitors, also plays a role in regulating the cell cycle by binding to cyclin-Cdk complexes and modulating their activity. Several Cdk proteins have been identified, including Cdk2-Cdk8, PCTAIRE-1-3, PITALRE and PITSLRE. Cdk6 is known to associate with cyclins D_1, D_2 and D_3 and to be involved with the G_1/S transition of the cell cycle. Multiple inhibitors of Cdk6 have been identified, including p18 and p19. These inhibitors bind to both free and complexed Cdk6, and they inhibit the activity of the cyclin D-bound Cdk6.

CHROMOSOMAL LOCATION

Genetic locus: CDK6 (human) mapping to 7q21.2; Cdk6 (mouse) mapping to 5 A1.

SOURCE

Cdk6 (C-21) is available as either rabbit (sc-177) or goat (sc-177-G) affinity purified polyclonal antibody raised against a peptide mapping at the C-terminus of Cdk6 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-177 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose conjugate for immunoprecipitation, sc-177 AC, 500 µg/0.25 ml agarose in 1 ml.

APPLICATIONS

Cdk6 (C-21) is recommended for detection of Cdk6 of human and, to a lesser extent, mouse and rat 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 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Cdk6 (C-21) is also recommended for detection of Cdk6 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Cdk6 siRNA (h): sc-29264, Cdk6 siRNA (m): sc-35048, Cdk6 shRNA Plasmid (h): sc-29264-SH, Cdk6 shRNA Plasmid (m): sc-35048-SH, Cdk6 shRNA (h) Lentiviral Particles: sc-29264-V and Cdk6 shRNA (m) Lentiviral Particles: sc-35048-V.

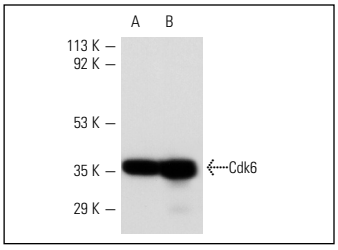
Molecular Weight of Cdk6: 40 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Jurkat whole cell lysate: sc-2204 or Jurkat + PMA nuclear extract: sc-2133.

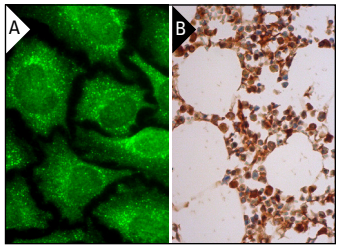
STORAGE

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

DATA



Cdk6 (C-21): sc-177. Western blot analysis of Cdk6 expression in K-562 (**A**) and Jurkat (**B**) whole cell lysates.



Cdk6 (C-21): sc-177. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic and nuclear staining of hematopoietic cells (**B**).

SELECT PRODUCT CITATIONS

1. Fang, F., et al. 1996. Dependence of cyclin E-CDK2 kinase activity on cell anchorage. Science 271: 499-502.
2. Bhatia, B., et al. 2011. Mitogenic Sonic hedgehog signaling drives E2F1-dependent lipogenesis in progenitor cells and medulloblastoma. Oncogene 30: 410-422.
3. Tchakarska, G., et al. 2011. Cyclin D_1 inhibits mitochondrial activity in B cells. Cancer Res. 71: 1690-1699.
4. Zhu, H., et al. 2011. EGFR signals downregulate tumor suppressors miR-143 and miR-145 in Western diet-promoted murine colon cancer: role of G_1 regulators. Mol. Cancer Res. 9: 960-975.
5. Rizzolio, F., et al. 2012. Retinoblastoma tumor-suppressor protein phosphorylation and inactivation depend on direct interaction with Pin1. Cell Death Differ. 19: 1152-1161.
6. Pickard, A., et al. 2012. Regulation of epithelial differentiation and proliferation by the stroma: a role for the retinoblastoma protein. J. Invest. Dermatol. 132: 2691-2699.
7. Alquezar, C., et al. 2012. Inactivation of CDK/pRb pathway normalizes survival pattern of lymphoblasts expressing the FTLD-progranulin mutation c.709-1G>A. PLoS ONE 7: e37057.

RESEARCH USE

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