SANTA CRUZ BIOTECHNOLOGY, INC.

Cdk6 (DCS-83): sc-53638

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 D1, D2 and D3 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 (DCS-83) is a mouse monoclonal antibody raised against amino acids 30-65 of Cdk6 of human 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.

Cdk6 (DCS-83) is available conjugated to agarose (sc-53638 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53638 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53638 PE), fluorescein (sc-53638 FITC), Alexa Fluor® 488 (sc-53638 AF488), Alexa Fluor® 546 (sc-53638 AF546), Alexa Fluor® 594 (sc-53638 AF594) or Alexa Fluor® 647 (sc-53638 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53638 AF680) or Alexa Fluor® 790 (sc-53638 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Cdk6 (DCS-83) is recommended for detection of Cdk6 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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 nuclear extract: sc-2132.

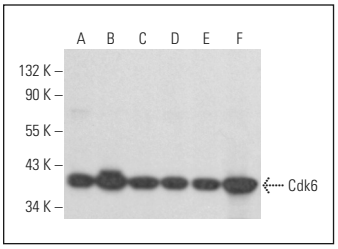
STORAGE

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

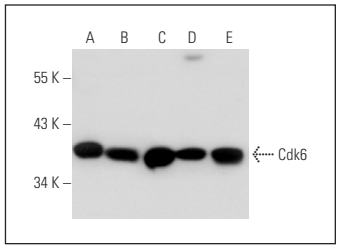
RESEARCH USE

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

DATA



Cdk6 (DCS-83): sc-53638. Western blot analysis of Cdk6 expression in HeLa (**A**), NIH/3T3 (**B**), C6 (**C**), NCI-H460 (**D**), Raji (**E**) and SCC-4 (**F**) whole cell lysates.



Cdk6 (DCS-83): sc-53638. Western blot analysis of Cdk6 expression in K-562 (**A**) and Jurkat (**B**) whole cell lysates and phorbol treated Jurkat (**C**), phorbol treated K-562 (**D**) and Jurkat (**E**) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Sato, T., et al. 2008. Nicotine induces cell proliferation in association with cyclin D1 up-regulation and inhibits cell differentiation in association with p53 regulation in a murine pre-osteoblastic cell line. Biochem. Biophys. Res. Commun. 377: 126-130.
2. Wang, X., et al. 2011. Unexpected reduction of skin tumorigenesis on expression of cyclin-dependent kinase 6 in mouse epidermis. Am. J. Pathol. 178: 345-354.
3. Wang, X., et al. 2012. Combined effect of cyclin D3 expression and abrogation of cyclin D1 prevent mouse skin tumor development. Cell Cycle 11: 335-342.
4. Martinez Molina, D., et al. 2013. Monitoring drug target engagement in cells and tissues using the cellular thermal shift assay. Science 341: 84-87.
5. Yan, G., et al. 2015. Digoxin inhibits PDGF-BB-induced VSMC proliferation and migration through an increase in ILK signaling and attenuates neointima formation following carotid injury. Int. J. Mol. Med. 36: 1001-1011.
6. Oh, H.R., et al. 2016. Critical roles of cyclin D1 in mouse embryonic fibroblast cell reprogramming. FEBS J. 283: 4549-4568.
7. Hsu, C.L., et al. 2018. Integrated genomic analyses in PDX model reveal a cyclin-dependent kinase inhibitor palbociclib as a novel candidate drug for nasopharyngeal carcinoma. J. Exp. Clin. Cancer Res. 37: 233.
8. Méndez-Barbero, N., et al. 2019. A major role of TWEAK/Fn14 axis as a therapeutic target for post-angioplasty restenosis. EBioMedicine 46: 274-289.
9. Guo, F., et al. 2020. miR-508-3p suppresses the development of ovarian carcinoma by targeting CCNA2 and MMP7. Int. J. Oncol. 57: 264-276.

PROTOCOLS

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