

# Cdk6 (SPM383): sc-56362

## 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-PCTAIRE-3, PITALRE and PITSLRE. Cdk6 is known to associate with cyclins D1, D2 and D3 and to be involved with the G<sub>1</sub>/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.

## REFERENCES

- Okuda, T., et al. 1992. PCTAIRE-1 and PCTAIRE-2: two members of a novel Cdc2/Cdc28-related protein kinase gene family. *Oncogene* 7: 2249-2258.
- Pines, J. 1994. The cell cycle kinases. *Semin. Cancer Biol.* 5: 305-313.
- MacLachlan, T.K., et al. 1995. Cyclins, cyclin-dependent kinases and Cdk inhibitors: implications in cell cycle control and cancer. *Crit. Rev. Eukaryot. Gene Expr.* 5: 127-156.

## CHROMOSOMAL LOCATION

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

## SOURCE

Cdk6 (SPM383) is a mouse monoclonal antibody raised against amino acids 30-65 of Cdk6 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

Cdk6 (SPM383) 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.

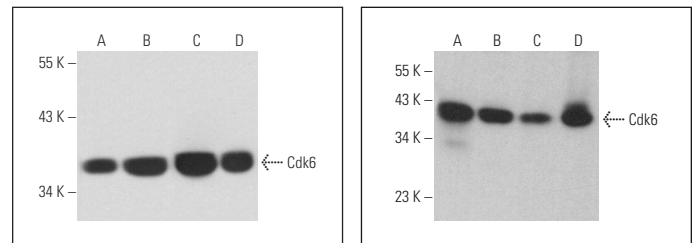
Molecular Weight of Cdk6: 40 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Jurkat whole cell lysate: sc-2204 or NIH/3T3 whole cell lysate: sc-2210.

## 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Cdk6 (SPM383): sc-56362. Western blot analysis of Cdk6 expression in K-562 (A) and Jurkat (B) whole cell lysates and phorbol-treated Jurkat (C) and phorbol-treated K-562 (D) nuclear extracts.

Cdk6 (SPM383): sc-56362. Western blot analysis of Cdk6 expression in SCC-4 (A), NIH/3T3 (B), C6 (C) and 3T3-L1 (D) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Singh, N.K., et al. 2012. Protein kinase N1 is a novel substrate of NFATc1-mediated cyclin D1-Cdk6 activity and modulates vascular smooth muscle cell division and migration leading to inward blood vessel wall remodeling. *J. Biol. Chem.* 287: 36291-36304.
- Kundumani-Sridharan, V., et al. 2013. Nuclear factor of activated T cells c1 mediates p21-activated kinase 1 activation in the modulation of chemokine-induced human aortic smooth muscle cell F-Actin stress fiber formation, migration and proliferation and injury-induced vascular wall remodeling. *J. Biol. Chem.* 288: 22150-22156.
- Yuan, W., et al. 2016. Cdk6 mediates the effect of attenuation of miR-1 on provoking cardiomyocyte hypertrophy. *Mol. Cell. Biochem.* 412: 289-296.
- Singh, N.K., et al. 2017. p115 RhoGEF activates the Rac1 GTPase signaling cascade in MCP1 chemokine-induced vascular smooth muscle cell migration and proliferation. *J. Biol. Chem.* 292: 14080-14091.

## STORAGE

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



See **Cdk6 (DCS-83): sc-53638** for Cdk6 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.