

Plk (H-152): sc-5585

BACKGROUND

Plk (for polo-like kinase) encodes a serine/threonine kinase that is closely related to polo and CDC5, genes that are required for passage through mitosis in *Drosophila* and *Saccharomyces*, respectively. Polo and CDC5 both code for proteins that are involved in regulating the function of the mitotic spindle. Plk protein accumulates in the cell during the S and G₂ phases of the cell cycle; Plk protein content and catalytic activity peak at the onset of mitosis, followed by a rapid reduction after mitosis. Plk expression is detectable in mitotically active tissues such as colon and placenta, as well as in tumors of various origins. It has also been suggested that Plk may serve as a marker of cell proliferation.

CHROMOSOMAL SOURCE

Genetic locus: PLK1 (human) mapping to 16p12.2; Plk1 (mouse) mapping to 7 F3.

SOURCE

Plk (H-152) is a rabbit polyclonal antibody raised against amino acids 261-412 mapping within an internal region of Plk of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Plk (H-152) is recommended for detection of Plk 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Plk (H-152) is also recommended for detection of Plk in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Plk siRNA (h): sc-36277, Plk siRNA (m): sc-36278, Plk shRNA Plasmid (h): sc-36277-SH, Plk shRNA Plasmid (m): sc-36278-SH, Plk shRNA (h) Lentiviral Particles: sc-36277-V and Plk shRNA (m) Lentiviral Particles: sc-36278-V.

Molecular Weight of Plk: 66 kDa.

Positive Controls: Plk (h2): 293T Lysate: sc-170528, Plk (m): 293T Lysate: sc-127352 or HeLa whole cell lysate: sc-2200.

STORAGE

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

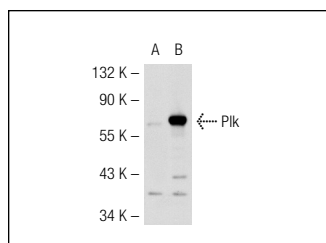
PROTOCOLS

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

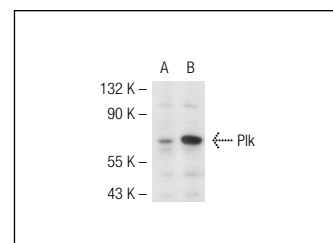
RESEARCH USE

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

DATA



Plk (H-152): sc-5585. Western blot analysis of Plk expression in non-transfected: sc-117752 (A) and human Plk transfected: sc-170528 (B) 293T whole cell lysates.



Plk (H-152): sc-5585. Western blot analysis of Plk expression in non-transfected: sc-117752 (A) and mouse Plk transfected: sc-127352 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Shtivelman, E. 2003. Promotion of mitosis by activated protein kinase B after DNA damage involves polo-like kinase 1 and checkpoint protein Chfr. *Mol. Cancer Res.* 1: 959-969.
- Blank, M., et al. 2003. Enhanced ubiquitinylation of heat shock protein 90 as a potential mechanism for mitotic cell death in cancer cells induced with Hypericin. *Cancer Res.* 63: 8241-8247.
- Ismail, I.A., et al. 2007. Genistein-induced neuronal apoptosis and G₂/M cell cycle arrest is associated with MDC1 up-regulation and PLK1 down-regulation. *Eur. J. Pharmacol.* 575: 12-20.
- Qin, L., et al. 2009. Aurora-A interacts with cyclin B1 and enhances its stability. *Cancer Lett.* 275: 77-85.
- Mbefo, M.K., et al. 2010. Phosphorylation of synucleins by members of the Polo-like kinase family. *J. Biol. Chem.* 285: 2807-2822.
- Rizkallah, R., et al. 2011. Global mitotic phosphorylation of C2H2 zinc finger protein linker peptides. *Cell Cycle* 10: 3327-3336.
- Wissing, M.D., et al. 2013. Targeting prostate cancer cell lines with polo-like kinase 1 inhibitors as a single agent and in combination with histone deacetylase inhibitors. *FASEB J.* 27: 4279-4293.
- Lalioi, V.S., et al. 2014. Sorcin links calcium signaling to vesicle trafficking, regulates Polo-like kinase 1 and is necessary for mitosis. *PLoS ONE* 9: e85438.
- Klein, D.K., et al. 2015. Cyclin F suppresses B-Myb activity to promote cell cycle checkpoint control. *Nat. Commun.* 6: 5800.

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Try **Plk (F-8): sc-17783** or **Plk (E-2): sc-55504**, our highly recommended monoclonal alternatives to Plk (H-152). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Plk (F-8): sc-17783**.