Product Data Sheet

Purified anti-PLK-1

Catalog #/ Size: 627701 / 25 µg
627702 / 100 µg

Clone: 3F8

Isotype: Mouse IgG1, κ

Immunogen: Amino Acid: 300-603 of human PLK-1

Reactivity: Human, Mouse

Preparation: The antibody was purified by affinity chromatography.

Formulation: This antibody is provided in phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide at 0.5 mg/ml.

Storage: The antibody solution should be stored undiluted at 4 °C.

Applications

Applications: WB, IP, IF

Recommended Usage: Each lot of this antibody is quality control tested by Western blotting. Western blotting, suggested working dilution(s): Use 5 µg antibody per 5 ml antibody dilution buffer for each mini-gel. For immunofluorescent staining applications: use a starting dilution 1~4 µg/ml is recommended. It is recommended that the reagent be titrated for optimal performance for each application.

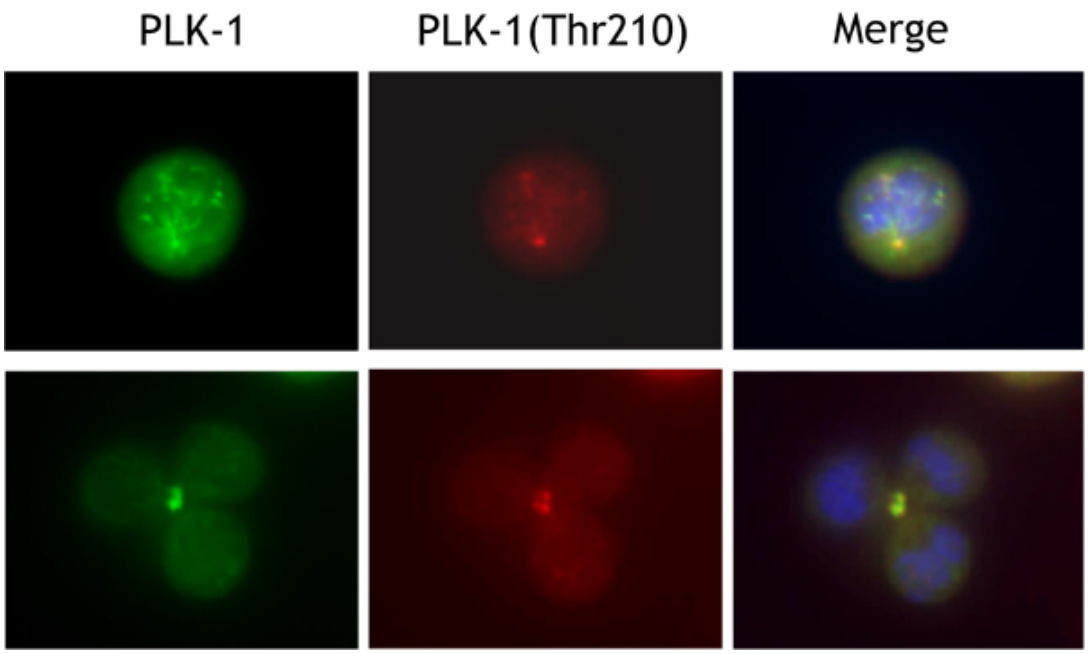

Figure 1. Immunofluorescent microscope analysis of nocodazole treated Hela cells (10mM for overnight), using PLK-1 monoclonal antibody (clone 3F8) (green). Thr210-phosphorylated PLK-1 (poly6186) has been labeled with red and nuclei were stain with DAPI (blue).

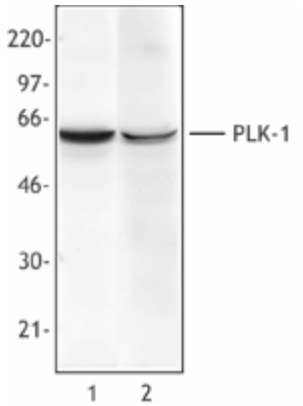

Figure 2. Hela cell extract (Lane 1) or NIH3T3 cell extract (Lane 2) was resolved by electrophoresis, transferred to nitrocellulose and probed with monoclonal anti-Plk-1 (Clone 3F8) antibody. Proteins were visualized using a goat anti-mouse secondary conjugated to HRP and a chemiluminescence detection system.

Antigen Information

Other Names: Serine/Threonine protein kinase PLK, Polo-like kinase (PLK), Serine-threonine protein kinase 13

Structure: Serine/Threonine family of protein kinases, cdc5/polo subfamily. Highly homologous to polo-like kinase (Drosophila). Contains two polo box domains. Predicted molecular weight 68 kD

Distribution: Nuclear protein, highly expressed in placenta and colon

Function: Regulates cdc2/cyclin B through phosphorylation and activation of cdc25c phosphatase. May be required for cell division. Depletion of PLK-1 results in apoptosis

Regulation: Upregulated by growth stimulating agents. Regulated by cell cycle position (highest in G2/M phase and declines to nearly undetectable levels after mitosis and throughout G1)

Modification: Phosphorylation

Interaction: Interacts with nuclear distribution gene C

Description: PLK-1 (polo-like kinase 1) is a member of te serine/threonine protein kinase family, cdc5/polo subfamily. Highly homologous to polo-like kinase (Drosophila), PLK-1 contains two polo box domains with a predicted molecular weight of 68 kD. This nuclear protein is highly expressed in placenta and colon and has been shown to regulate cdc2/cyclin B through phosphorylation and activation of cdc25c phosphatase. PLK-1 may also be required for cell division; depletion of PLK-1 results in apoptosis. PLK-1 is upregulated by growth stimulating agents and is regulated by cell cycle position (highest in G2/M phase, declining to nearly undetectable levels after mitosis and throughout G1). PLK-1 is modified by phosphorylation (Thr210 is the major phosphorylation site in activated PLK-1 from mitotic cells) and has been shown to interact with nuclear distribution gene C. The 3F8 monoclonal antibody recognizes human and mouse PLK-1 and has been shown to be useful for Western blotting.

Antigen References:

1. Hamanaka, R., *et al.*, 1994. *Cell Growth Differ.* 5:249.
2. Lake, R. J., *et al.*, 1993. *Mol. Cell. Biol.* 13:7793.
3. Holtrich, U., *et al.*, 1994. *PNAS* 91:1736.