

Technical Data Sheet

PE Mouse anti-PLK1 (pT210)

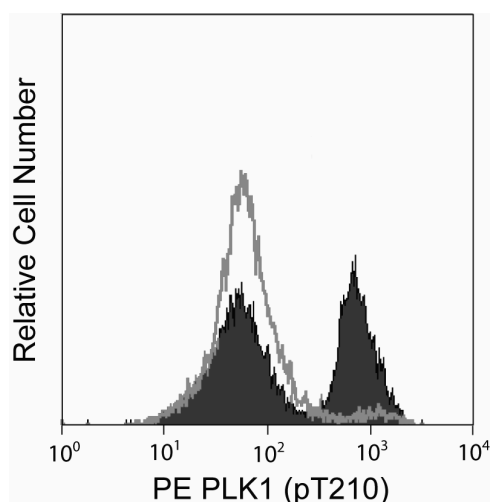
Product Information

Material Number:	558445
Size:	50 tests
Vol. per Test:	20 µl
Clone:	K50-483
Immunogen:	Phosphorylated Human PLK1 Peptide
Isotype:	Mouse IgG1, κ
Reactivity:	Confirmed: Human Predicted: Mouse
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

Polo-like kinase (PLK1) is a serine/threonine kinase with structural similarities to *Drosophila*'s Polo kinase and the Cdc5p of *Saccharomyces cerevisiae*. Like its invertebrate counterparts, PLK1 activity is required for DNA synthesis and is regulated throughout the cell cycle. Furthermore, PLK1 is highly expressed in primary tumors. It associates with the mitotic spindle during mitosis suggesting that, in addition to its role during S phase, PLK1 may play a role during chromosome segregation. This is consistent with its potential role in cancer development. Threonine 210 (T210) is one of the major phosphorylation sites in activated PLK1 obtained from human mitotic cells.

The K50-483 monoclonal antibody recognizes the phosphorylated T210 of human PLK1.



Analysis of PLK1 (pT210) in human epithelioid carcinoma. HeLa S3 cells (ATCC CCL 2.2) were either stimulated with Nocodazole at 37°C for 12-16 hours (shaded histogram) or unstimulated (open histogram). The cells were fixed (BD Cytotfix™ buffer, Cat. No. 554655) for 10 minutes at 37°C, then permeabilized (BD™ Phosflow Perm Buffer III, Cat. No. 558050) on ice for at least 30 minutes, and then stained with PE Mouse anti-PLK1 (pT210). Simultaneous staining with 7-AAD (Cat. No. 559925) demonstrates that the cells with upregulated PLK1 phosphorylation are in the G2/M phase of the cell cycle (data not shown). Flow cytometry was performed on a BD™ FACSCalibur flow cytometry system.

Preparation and Storage

The antibody was conjugated with R-PE under optimum conditions, and unconjugated antibody and free PE were removed. Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

Application Notes

Application

Intracellular staining (flow cytometry)	Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
554655	Fixation Buffer	100 ml	(none)
558050	Perm Buffer III	125 ml	(none)

Product Notices

- Please refer to www.bdbiosciences.com/pharming/en/protocols for technical protocols.

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2. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1×10^6 cells in a 100- μ l experimental sample (a test).
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Ando K, Ozaki T, Yamamoto H, et al. Polo-like kinase 1 (Plk1) inhibits p53 function by physical interaction and phosphorylation. *J Biol Chem.* 2004; 279(24):25549-25561. (Biology)

Jang Y-J, Ma S, Terada Y, Erikson RL. Phosphorylation of threonine 210 and the role of serine 137 in the regulation of mammalian Polo-like kinase. *J Biol Chem.* 2002; 277(46):44115-44120. (Biology)