

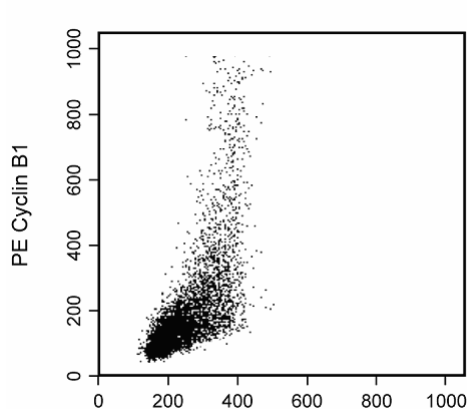
Technical Data Sheet

PE Mouse Anti-Human Cyclin B1/Isotype Control Reagent Set**Product Information**

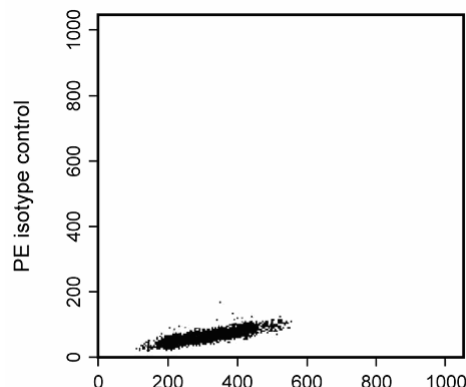
Material Number:	550783
Component:	51-14545X
Description:	PE Mouse Anti-Human Cyclin B1
Size:	100 tests (1 ea)
Vol. per Test:	20 µl
Clone Name:	GNS-1
Immunogen:	Human Cyclin B1 Recombinant Protein
Isotype:	Mouse IgG1
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.
Component:	51-13855X-7
Description:	PE Mouse IgG1 κ Isotype Control
Size:	100 tests (1 ea)
Vol. per Test:	20 µl
Clone Name:	MOPC-21
Isotype:	Mouse IgG1, κ
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

Cyclins and cyclin-dependent kinases (cdks) are evolutionarily conserved proteins that are essential for cell-cycle control in eukaryotes. Cyclins (regulatory subunits) bind to cdks (catalytic subunits) to form complexes that regulate the progression of the cell cycle. The main cyclin-cdks complexes formed in vertebrate cells are cyclin D-cdk4 (G0/G1), cyclin E-cdk2 (G1/S), cyclin A-cdk2 (S) and cyclin B1-cdk1 (G2/M). These complexes are regulated by activating and inhibitory phosphorylation events, as well as by interactions with small regulatory proteins including p21 and p27[Kip1]. Specific substrates for cdk-cyclin complexes include nuclear lamins, histones, oncogenes (e.g., c-abl and SV40) large T-Ag), tumor suppressor genes (e.g., retinoblastoma protein, Rb) nucleolin and others. Cyclin B1 is a mitotic cyclin complex; expression is normally low in G0/G1, increases in S, and is maximal during G2/M. Cyclin B1 is rapidly degraded at the end of mitosis and is required for cells to exit from mitosis. Clone GNS-1 recognizes an epitope between amino acids 1-21 of human Cyclin B1. GNS-1 crossreacts with hamster and mouse cyclin B1 by western blot analysis; however, it has not been evaluated for crossreactivity by flow cytometry. Recombinant human cyclin B1 was used as immunogen.



7-AAD DNA Content



7-AAD DNA Content

Profile of Cyclin B1 in MOLT-4 cells analyzed on a FACSCalibur™ (BDIS, San Jose, CA). Cells were fixed, permeabilized with cold 75% ethano and stained with PE conjugated Cyclin B1 antibody (clone GNS-1, Component No. 51-14545X) or with PE conjugated mouse IgG1 isotype (negative) control antibody (clone MOPC-21, Component. No. 51-13855X-7). Cells were counterstained with 7-AAD (Cat. No. 559925) for DNA content.

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Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

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)

Routinely Tested

Recommended Assay Procedure:

This reagent set is designed for use in flow cytometry. For flow cytometric analysis, use 20 µl of antibody per test (1x10⁶ cells). MOLT-4 human leukemia cells (ATCC CRL-1582) are recommended as a positive control.

Product Notices

1. This antibody has been optimized and preassayed with its matched isotype control to be used at the recommended volume of 20 ul/test. Titration of the reagents or substituting with other (non-matched) isotype control is NOT recommended.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
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

Cao L, Faha B, Dembski M, Tsai LH, Harlow E, Dyson N. Independent binding of the retinoblastoma protein and p107 to the transcription factor E2F. *Nature*. 1992; 355(6356):176-179.(Clone-specific: Western blot)

Gong J, Traganos F, Darzynkiewicz Z. Discrimination of G2 and mitotic cells by flow cytometry based on different expression of cyclins A and B1. *Exp Cell Res*. 1995; 220(1):226-231.(Clone-specific)

Sherr CJ. Mammalian G1 cyclins. *Cell*. 1993; 73(6):1059-1065.(Biology)