

Technical Data Sheet

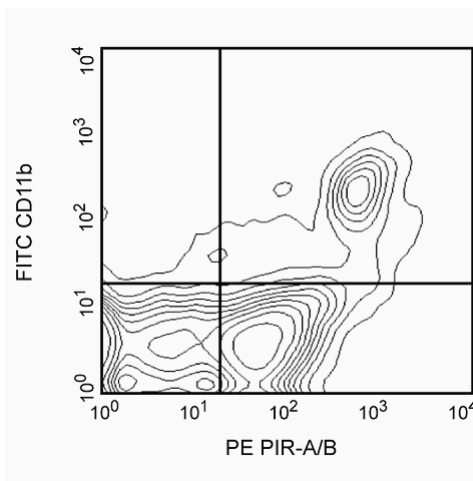
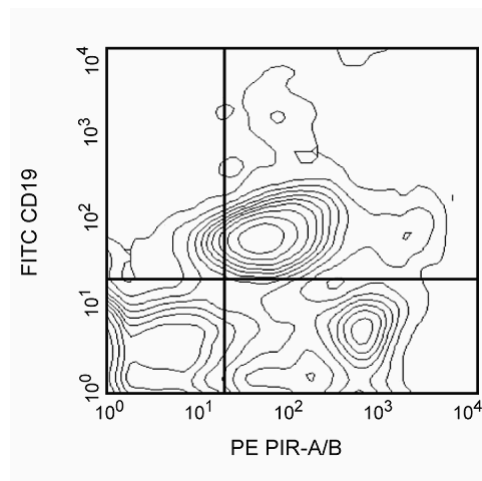
PE Rat Anti-Mouse PIR-A/B

Product Information

Material Number:	550349
Size:	0.1 mg
Concentration:	0.2 mg/ml
Clone:	6C1
Immunogen:	Recombinant mouse PIR-A1 extracellular domain peptide and the mouse myeloid cell line, WEH13
Isotype:	Rat (LEW) IgG1, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

Description

The 6C1 antibody reacts with common epitopes of PIR-A and PIR-B (Paired Immunoglobulin-like Receptors) in all mouse strains tested (A/J, BALB/cJ, C3H, C57BL/6, DBA/1, DBA/2, NZB, and SJL). PIR-A and PIR-B are type-I transmembrane glycoproteins containing six Ig-like domains. There are multiple PIR-A proteins which are activating receptors by virtue of their intracellular association with the ITAM (Immunoreceptor Tyrosine-based Activation Motif)-containing Fc receptor γ chain (FcR γ) in mast cells and macrophages. FcR γ expression is required for PIR-A cell-surface expression on dendritic cells, B cells, and myeloid lineages. In contrast, PIR-B is an inhibitory receptor which contains various ITIMs (Immunoreceptor Tyrosine-based Inhibitory Motifs) in its cytoplasmic domain. These receptors are expressed on B cells, granulocytes, mast cells, dendritic cells, and monocytes/macrophages, but not on thymocytes, T lymphocytes, erythroid lineage cells, or NK cells. The level of cell-surface expression of these receptors increases as a function of B-cell activation and myeloid- and B-lineage differentiation. The 6C1 antibody immunoprecipitates molecules of 85- and 125-kDa, which correspond to PIRA and PIR-B, respectively.



Two-color analysis of the expression of PIR-A/B on mouse spleen cells. BALB/c splenocytes were preincubated with Mouse BD Fc Block™ (Cat. no. 553141/553142) and simultaneously stained with PE-conjugated 6C1 (both panels) and either FITC-conjugated 1D3 (anti-mouse CD19, Cat. no. 557398/553785, left panel) or FITC-conjugated M1/70 (anti-mouse CD11b, Cat. no. 557396/553310, right panel) monoclonal antibodies. Left panel demonstrates that the majority of B lymphocytes (CD19-positive cells) express intermediate levels of PIR-A/B, while the right panel shows that most myeloid cells (CD11b- or Mac-1-positive) express high levels of PIR-A/B. Flow cytometry was performed on a BD FACScan™ Flow Cytometry System. The quadrant positions are based upon analyses of isotype controls.

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

Flow cytometry	Routinely Tested
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Recommended Assay Procedure:

This antibody has been tested by immunofluorescent staining ($\leq 1 \mu\text{g}/\text{million cells}$) with flow cytometric analysis to assure specificity and reactivity. Mouse BD Fc Block. (Cat. no. 553141/553142) should be used when staining with 6C1 antibody. **Since applications vary, each investigator must determine dilutions appropriate for individual use.**

Suggested Companion Products

Catalog Number	Name	Size	Clone
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2
553142	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.5 mg	2.4G2
557398	FITC Rat Anti-Mouse CD19	0.1 mg	1D3
553785	FITC Rat Anti-Mouse CD19	0.5 mg	1D3
557396	FITC Rat Anti-Mouse CD11b	0.1 mg	M1/70
553310	FITC Rat Anti-Mouse CD11b	0.5 mg	M1/70
553925	PE Rat IgG1, κ Isotype Control	0.1 mg	R3-34

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharming/en/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.

References

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Kubagawa H, Burrows PD, Cooper MD. A novel pair of immunoglobulin-like receptors expressed by B cells and myeloid cells. *Proc Natl Acad Sci U S A*. 1997; 94(10):5261-5266.(Biology)

Kubagawa H, Chen CC, Ho LH. Biochemical nature and cellular distribution of the paired immunoglobulin-like receptors, PIR-A and PIR-B. *J Exp Med*. 1999; 189(2):309-318.(Immunogen)

Maeda A, Kurosaki M, Kurosaki T. Paired immunoglobulin-like receptor (PIR)-A is involved in activating mast cells through its association with Fc receptor gamma chain. *J Exp Med*. 1998; 188(5):991-995.(Biology)

Taylor LS, McVicar DW. Functional association of Fc epsilon R1 gamma with arginine(632) of paired immunoglobulin-like receptor (PIR)-A3 in murine macrophages. *Blood*. 1999; 94(5):1790-1796.(Biology)