

Technical Data Sheet

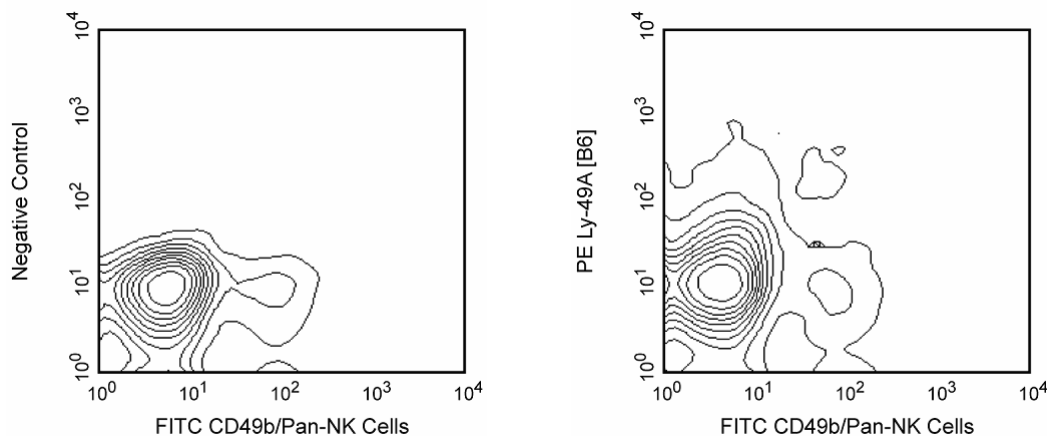
PE Mouse Anti-Mouse Ly-49A[B6]

Product Information

Material Number:	557424
Size:	0.1 mg
Concentration:	0.2 mg/ml
Clone:	A1
Immunogen:	Mouse C57BL/6N T lymphoma EL-4
Isotype:	Mouse (BALB/c) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

Description

The A1 antibody reacts with the Ly-49A[B6] alloantigen, an inhibitory receptor which is expressed on subsets of natural killer (NK) cells and NK-1.1+ T lymphocytes (NK T cells) in C57BL/6, C57BL/10, and B10 congenic mice, on a population of memory CD8+ T lymphocytes and NK1.1+ $\gamma\delta$ T cells in C57BL/6 mice, and on a distinct subset of B-1 cells (CD5+B220[lo]) of C57BL/6 mice. A1 mAb has also been reported to cross-react with Ly-49ANOD, Ly-49PNOD, Ly-49P129/J, and Ly-49V129/J alloantigens. The proportion of NK T cells expressing Ly-49A is higher (2-5 fold) in thymus than in liver (immature and mature NK T cells, respectively), and there is evidence that the down regulation of Ly-49 receptor expression is necessary for normal NK T-cell development to occur. Most NK cells express a single allele of Ly-49A, although occasionally they may express more than one allele. The Ly-49 family of NK-cell receptors, members of the C-type lectin superfamily, are disulfide-linked type-II transmembrane protein homodimers with extracellular carbohydrate-recognition domains (CRD) that bind to MHC class I alloantigens. The A1 antibody is specific for the Ly-49A[B6] CRD. The Ly-49 family members are expressed independently, such that an individual NK or T cell may display more than one class of Ly-49 receptor homodimers. The Ly-49A[B6] alloantigen binds to H-2D[d], H-2D[k], and H-2D[p], and the A1 antibody blocks this binding. Binding of Ly-49A[B6] to lymphoblasts expressing MHC class I antigens of the f, q, r, s, and v haplotypes has also been demonstrated. The levels of the Ly-49 inhibitory receptors are down-regulated by their ligands *in vivo*, and various levels of expression of a Ly-49 inhibitory receptor may affect the specificity of NK cells. *In vitro* studies suggest that the Ly-49A receptor mediates negative regulation of NK-cell cytolytic activity *via* tyrosine phosphorylation of its ITIM (**I**mmunoreceptor **T**yrosine-based **I**nhibitory **M**otif).



Two-color analysis of Ly-49A[B6] expression on splenic NK cells. C57BL/6 splenocytes were simultaneously stained with FITC-conjugated anti-mouse CD49b/Pan-NK Cells mAb DX5 (Cat. No. 553857) and PE-conjugated mAb A1 (right panel). Flow cytometry was performed on a BD FACScan™ flow cytometry system.

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.

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Application Notes

Application

Flow cytometry	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
553857	FITC Rat Anti-Mouse CD49b	0.5 mg	DX5
553457	PE Mouse IgG2a, κ Isotype Control	0.1 mg	G155-178

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharming/protocols for technical protocols.
3. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/pharming/colors.
4. 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.

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