Technical Data Sheet

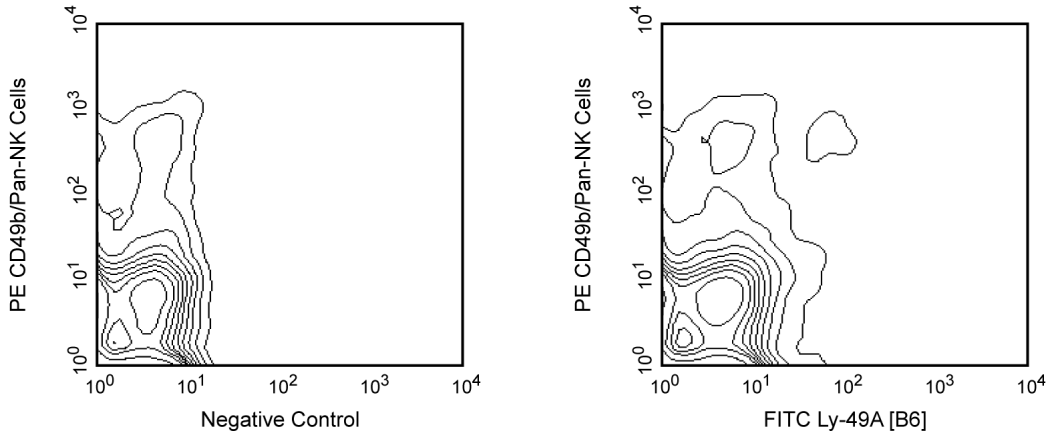
FITC Mouse Anti-Mouse Ly-49A[B6]

Product Information

Material Number:	**553677**
Size:	0.5 mg
Concentration:	0.5 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 ≤0.09% sodium azide.

Description

The A1 monoclonal antibody specifically binds to the Ly-49A[B6] alloantigen, an inhibitory receptor that is expressed on subsets of natural killer (NK) cells and NK-1.1-positive T lymphocytes (NKT cells) in C57BL/6, C57BL/10, and B10 congenic mice, on a population of memory CD8+ T lymphocytes and NK1.1+ γδ T cells in C57BL/6 mice, and on a distinct subset of B-1 cells (CD5+B220[lo]) of C57BL/6 mice. The A1 antibody has also been reported to crossreact with Ly-49ANOD, Ly-49PNOD, Ly-49P129/J, and Ly-49V129/J alloantigens. The proportion of NKT cells expressing Ly-49A is higher (2-5 fold) in thymus than in liver (immature and mature NKT cells, respectively), and there is evidence that the down regulation of Ly-49 receptor expression is necessary for normal NKT 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] allonantigen 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 lyphoblasts 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 PE-conjugated anti-mouse CD49b/PanNK Cells mAb DX5 (Cat. No. 553858) and FITC-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 FITC under optimum conditions, and unreacted FITC was 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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Suggested Companion Products

Catalog Number	Name	Size	Clone
553858	PE Rat Anti-Mouse CD49b	0.2 mg	DX5
553456	FITC Mouse IgG2a, κ Isotype Control	0.25 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/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.

References

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