

Technical Data Sheet

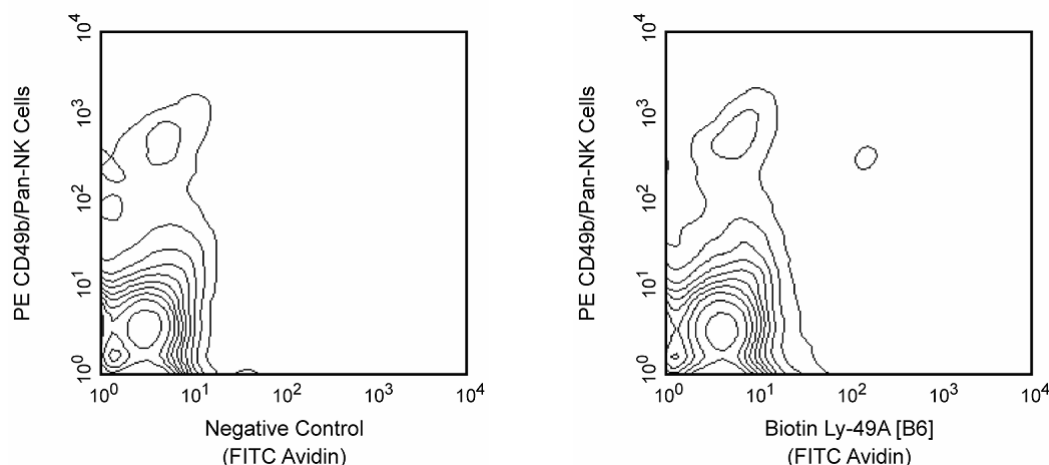
Biotin Mouse Anti-Mouse Ly-49A[B6]

Product Information

Material Number:	557423
Size:	0.1 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 $\leq 0.09\%$ 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 NK1.1+ 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 (Immunoreceptor Tyrosine-based Inhibitory Motif).



Preparation and Storage

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

The antibody was conjugated with biotin under optimum conditions, and unreacted biotin was 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
553858	PE Rat Anti-Mouse CD49b	0.2 mg	DX5
554057	Avidin FITC	0.5 mg	(none)
553455	Biotin 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.

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