Biotin Mouse Anti-Mouse Ly-49A

Product Information

Material Number: 557423
Alternate Name: Ly-49a; Klra1; Killer cell lectin-like receptor subfamily A member1; Klra22
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: 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-49ANO.D, 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] 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

Store undiluted at 4°C.

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.

Application Notes

Application

Flow cytometry  Routinely Tested

Two-color analysis of Ly-49A expression on splenic NK cells. C57BL/6 splenocytes were simultaneously stained with PE Rat Anti-Mouse CD49b (Cat. No. 553858) and Biotin Mouse Anti-Mouse Ly-49A (Cat. No. 557423; right panel), followed by Avidin-FITC (Cat. No. 554057). Two-color contour plots were derived from gated events with the side and forward light-scattering characteristics of viable splenocytes. Flow cytometry was performed on a BD FACScan™ flow cytometry system.
## Suggested Companion Products

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## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
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. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.

## References


Skold M, Cardell S. Differential regulation of Ly49 expression on CD4+ and CD4-CD8- (double negative) NK1.1+ T cells. J Immunol. 1996; 157(7):5971-5978. (Biology)

