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

**Product Information**

<table>
<thead>
<tr>
<th>Material Number:</th>
<th>553677</th>
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</thead>
<tbody>
<tr>
<td>Size:</td>
<td>0.5 mg</td>
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<tr>
<td>Concentration:</td>
<td>0.5 mg/ml</td>
</tr>
<tr>
<td>Clone:</td>
<td>A1</td>
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<tr>
<td>Immunogen:</td>
<td>Mouse C57BL/6N T lymphoma EL-4</td>
</tr>
<tr>
<td>Isotype:</td>
<td>Mouse (BALB/c) IgG2a, κ</td>
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<td>Reactivity:</td>
<td>QC Testing: Mouse</td>
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<tr>
<td>Storage Buffer:</td>
<td>Aqueous buffered solution containing ≤0.09% sodium azide.</td>
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</tbody>
</table>

**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] 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, g, 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 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

**BD Biosciences**

553677 Rev. 13
References

Chang CS, Kane KP. Evidence for sulfate modification of H-2Dd on N-linked carbohydrate(s): possible involvement in Ly-49A interaction. *J Immunol.* 1996; 150(9):4367-4374. (Biology)
Hara T, Nishimura H, Hasegawa Y, Yoshihata Y. Thymus-dependent modulation of Ly49 inhibitory receptor expression on NK1.1+gamma/delta T cells. *Immunology.* 2001; 102(1):24-30. ( Biology)
Ochi H, Watanabe T. Negative regulation of B cell receptor-mediated signaling in B-1 cells through CD5 and CD4 co-receptors via Lyn kinase activity. *Int Immunol.* 2000; 12(10):1417-1423. ( Biology)
Skold M, Cardell S. Differential regulation of Ly49 expression on CD4+ and CD4-CD8- double negative) NK1.1+ T cells. *Eur J Immunol.* 2000; 30(9):2488-2496. (Clone-specific)