Technical Data Sheet

PE Mouse Anti-Mouse Ly-49C and Ly-49I

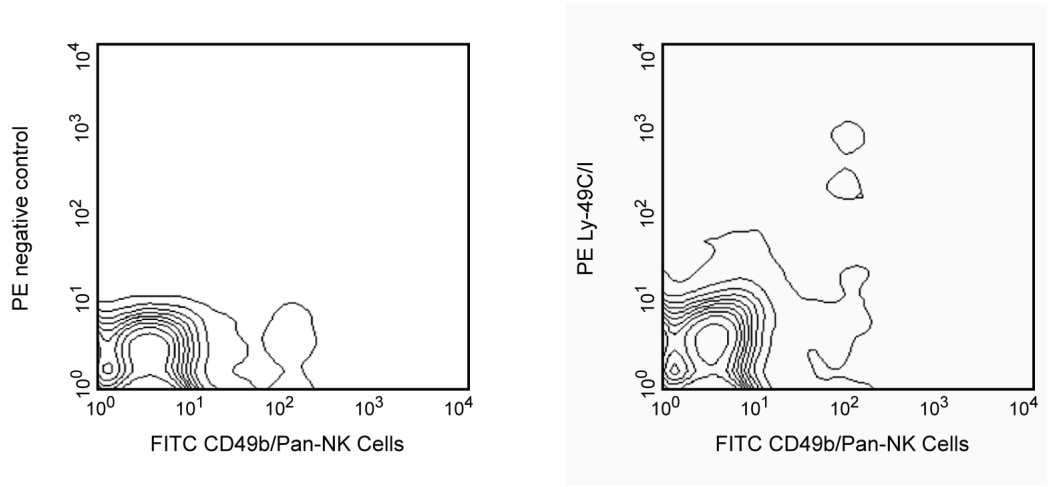
Product Information

Material Number:	**553277**
Size:	0.2 mg
Concentration:	0.2 mg/ml
Clone:	5E6
Immunogen:	Activated mouse NK cells
Isotype:	Mouse (129) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The 5E6 (also known as clone SW5E6) antibody reacts with Ly-49C[BALB], Ly-49C[B6], Ly-49C[NZB], and Ly-49I[B6], inhibitory receptors which are expressed on subsets of natural killer (NK) cells and NK-1.1+ (or DX5+) T lymphocytes (NK-T cells) in all strains tested except C57BR and RIII, 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 of BALB/c and C57BL/6 mice. The proportion of NK T cells expressing Ly-49C/I 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. Most NK cells express a single allele of Ly-49C, although occasionally they may express more than one allele. The Ly-49 family of NK-cell receptors are disulfide-linked type-II transmembrane protein homodimers with extracellular carbohydrate-recognition domains (CRD) that bind to MHC class I alloantigens. 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 5E6 antibody is specific for the Ly-49C CRD. The Ly-49C[BALB] and Ly-49C[B6] alloantigens bind to MHC class I antigens of the b, d, k, and s haplotypes, and the 5E6 antibody blocks this binding. Binding of Ly-49C[BALB]- and Ly-49C[B6]- expressing transfectants to lymphoblasts of H-2[f], H-2[q], H-2[r], and H-2[v] strains has also been detected. Ly-49I[B6] transfectants bind H-2[r] lymphoblasts and bind much more weakly to the b, d, k, q, s, and v haplotypes. The levels of the Ly-49 inhibitory receptors are down-regulated by their ligands *in vivo*, and the various levels of expression of an Ly-49 inhibitory receptor may affect the specificity of NK cells. Ly-49C is specifically downregulated in the presence of H-2K[b] class I molecules (one of the Ly-49C ligands). Ly-49C[+] and/or Ly-49I[+] cells mediate allogeneic and hybrid resistance to H-2d bone marrow transplantation. *In vitro* and *in vivo* studies suggest that the Ly-49C and/or Ly-49I receptors mediate negative regulation of NK-cell cytolytic activity *via* tyrosine phosphorylation of their ITIMs (***I***mmunoreceptor ***T***yrosine-based ***I***nhibitory ***M***otifs).

The epitope recognized by this antibody on Ly49C may be masked on freshly isolated primary NK cells due to cis interactions with MHC class I molecules. This observation has been reported for other Ly49C monoclonal antibodies that bind to the same structural region.



Two-color analysis of the expression of Ly-49C/I on splenic NK cells. *C57BL/6 splenocytes were simultaneously stained with FITC-conjugated anti-mouse CD49b/Pan-NK Cells mAb DX5 (Cat. No. 553164) and PE-conjugated mAb 5E6 (right panel). Flow cytometry was performed on a BD FACScan™ flow cytometry system.*

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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.

Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
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/pharmingen/protocols for technical protocols.
3. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/pharmingen/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.

References

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