

## Purified anti-mouse Ly49D

**Catalog # / Size:** 138301 / 50 µg  
138302 / 500 µg

**Clone:** 4E5

**Isotype:** Rat IgG2a, κ

**Reactivity:** Mouse

**Preparation:** The antibody was purified by affinity chromatography.

**Formulation:** Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.

**Concentration:** 0.5 mg/ml

**Storage:** The antibody solution should be stored undiluted at 4°C.

## Applications:

**Applications:** FC - *Quality tested*  
IP - *Reported in the literature*

**Recommended Usage:** Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For immunofluorescent staining, the suggested use of this reagent is ≤0.25 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.

**Application Notes:** Additional reported applications (for relevant formats) include: immunoprecipitation<sup>1</sup> and blocking<sup>2, 3</sup> of CHO cell or Con A-activated lymphoblast killing by NK cells.

**Application References:**

1. Mason LH, *et al.* 1998. *J. Immunol.* 160:4148. (IP)
2. Idris A, *et al.* 1999. *Proc. Natl. Acad. Sci.* 96:6330. (FC Block)
3. George TC, *et al.* 1999. *J. Immunol.* 162:2035. (FC Block)
4. Ortaldo JR, *et al.* 1999. *J. Leukoc. Biol.* 66:512. (FC)
5. Ortaldo JR, *et al.* 1998. *J. Immunol.* 160:1158. (FC)

**Description:** Ly49D is a type II transmembrane protein belonging to the Ly49 family of NK-cell receptors in the C-type lectin superfamily. Ly49D is expressed on subsets of natural killer (NK) cells in C57BL/6, C3H/He and SJL mouse strains, but not Balb/c, DBA/2, AKR and CBA/J. The receptors form homodimers that bind to MHC class I alloantigens. Unlike inhibitory Ly49 family members, Ly49D lacks a cytoplasmic immunoreceptor tyrosine-based inhibitory motif (ITIM) but contains a cytoplasmic immunoreceptor tyrosine-based activation motif. The activating receptor Ly49D delivers stimulatory signals for target cell lysis upon interacting with H2-D<sup>d</sup>, D<sup>r</sup> and D<sup>sp2</sup>, but not with H2<sup>b</sup> or H2<sup>k</sup> class I antigens. Cross-linking of Ly49D activates intracellular kinase activity and calcium mobilization in NK cells. In 129/J mice, 4E5 antibody cross-reacts with Ly49O, LY49R and Ly49V.

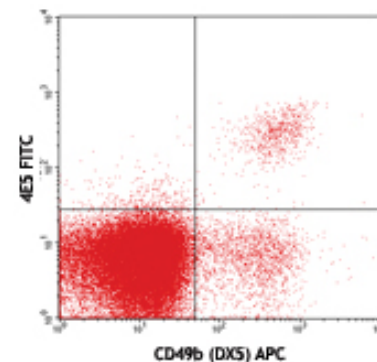
**Antigen References:**

1. Yokoyama WM and Seaman WE. 1993. *Annu. Rev. Immunol.* 11:613.
2. Takei F, *et al.* 1997. *Immunol. Rev.* 155:67.
3. Hanke T, *et al.* 1999. *Immunity* 11:67.
4. Mason LH, *et al.* 1996. *J. Exp. Med.* 184:2119.

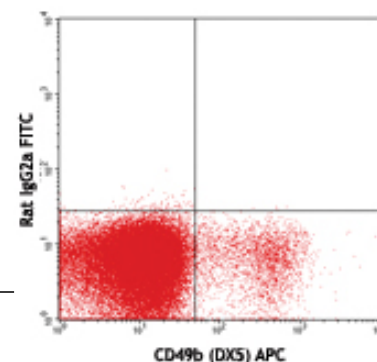
**Related Products:** **Product**  
Purified Rat IgG2a, κ Isotype Ctrl  
Cell Staining Buffer  
RBC Lysis Buffer (10X)

**Clone**  
RTK2758

**Application**  
FC, ICC, IF, IHC, IP, WB  
FC, ICC, ICFC  
FC, ICFC



C57BL/6 splenocytes stained with CD49b (DX5) APC and purified 4E5 conjugated with FITC



C57BL/6 splenocytes stained with CD49b (DX5) APC and rat IgG2a FITC isotype control



For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.



\*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, [www.biolegend.com/ordering#license](http://www.biolegend.com/ordering#license)). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.