Technical Data Sheet

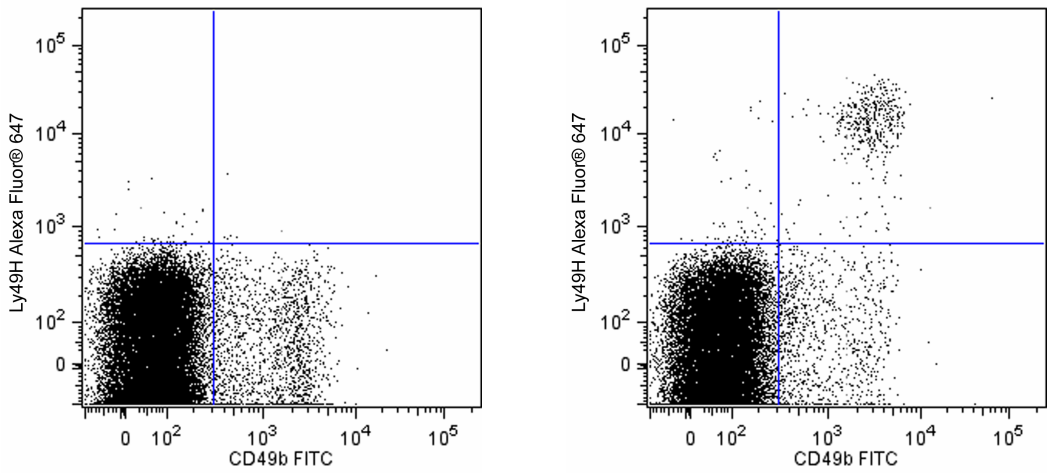
Alexa Fluor® 647 Mouse Anti-Mouse Ly-49H

Product Information

Material Number:	**562207**
Alternate Name:	Ly49h; Lymphocyte antigen 49H; Klra8; Cmv1; Cmv-1
Entrez Gene ID:	16639
Size:	0.1 mg
Concentration:	0.2 mg/ml
Clone:	3D10
Immunogen:	Mouse Ly-49A/H Transfected Cell Line
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The 3D10 monoclonal antibody specifically binds to mouse Lymphocyte antigen 49H (Ly-49H; also known as Klra8 or Killer cell lectin-like receptor 8). The 3D10 antibody does not crossreact with related molecules such as Ly-49A, C, D or G2. Ly-49H is a type II transmembrane protein and a member of the Ly-49 C-type lectin multigene family of receptors expressed by NK cells. Cell surface Ly-49H is expressed by a subset of NK cells but not by NKT cells. Ly-49H is expressed by C57BL/6 and NWNA but not by BALB/c or DBA/2 mouse NK cells. Cell surface Ly-49H presents as a ~110 kDa disfulfide-linked homodimer and associates with signaling subunits such as DAP10 and DAP12 for optimal transduction of intracellular activation signals. Crosslinking of Ly-49H with the 3D10 antibody reportedly induces NK cell cytotoxicity and cytokine production. Ly-49H recognizes the mouse cytomegalovirus m157 glycoprotein that is expressed by infected cells and is required for protection against cytomegalovirus infection.



Multicolor flow cytometric analysis of Ly-49H expression on BALB/c and C57BL/6 splenocytes. *Erythrocyte-lysed spleen cells from BALB/c (Left Panel) or C57BL/6 (Right Panel) mice were stained with Alexa Fluor® 647 Mouse Anti-Mouse Ly-49H (Cat. No. 562207) and FITC Rat Anti-Mouse CD49b (Clone DX5, Cat. No. 553857) antibodies. Two-color flow cytometric dot plots showing the correlated expression patterns of CD49b versus Ly-49H were derived from gated events with the forward and side light-scatter characteristics of viable lymphocytes. As expected, only C57BL/6 mouse splenocytes contained a subset of NK cells (Right Panel) that expressed Ly-49H whereas BALB/c splenic lymphocytes were Ly-49H-negative (Left Panel).Flow cytometry was performed using a BD™ LSR II Flow Cytometer System.*

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

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

The antibody was conjugated to Alexa Fluor® 647 under optimum conditions, and unreacted Alexa Fluor® 647 was removed.

Application Notes

Application

Flow cytometry	Routinely Tested

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.268.5430	32.53.720.550	0120.8555.90	65.6861.0633	0800.771.7157

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Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)
553857	FITC Rat Anti-Mouse CD49b	0.5 mg	DX5
557732	Alexa Fluor® 647 Mouse IgG1 κ Isotype Control	100 tests	MOPC-21

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. Alexa Fluor® 647 fluorochrome emission is collected at the same instrument settings as for allophycocyanin (APC).
4. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
5. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
6. 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.
7. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
8. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Brennan J, Mager D, Jefferies W, Takei F. Expression of different members of the Ly-49 gene family defines distinct natural killer cell subsets and cell adhesion properties. *J Exp Med.* 1994; 180(6):2287-2295. (Biology)

Brown MG, Dokun AO, Heusel JW, et al. Vital involvement of a natural cell activation receptor in resistance to viral infection. *Science.* 2001; 292(5518):934-937. (Clone-specific: Activation, Bioassay, Blocking, Cytotoxicity, Flow cytometry)

Orr MT, Sun JC, Hesslein DG, et al. Ly49H signaling through DAP10 is essential for optimal natural killer cell responses to mouse cytomegalovirus infection. *J Exp Med.* 2009; 206(4):807-817. (Clone-specific: Blocking, Flow cytometry)

Silver ET, Elliott JF, Kane KP. Alternatively spliced Ly-49D and H transcripts are found in IL-2-activated NK cells. *Immunogenetics.* 1996; 44(6):478-482. (Biology)

Smith HRC, Chuang HH, Wang LL, et al. Nonstochastic Coexpression of activation receptors on murine Natural Killer cells. *J Exp Med.* 2000; 191(8):1341-1354. (Clone-specific: Activation, Cytotoxicity, Flow cytometry, Immunoprecipitation)