Technical Data Sheet

V450 Hamster Anti-Mouse KLRG1

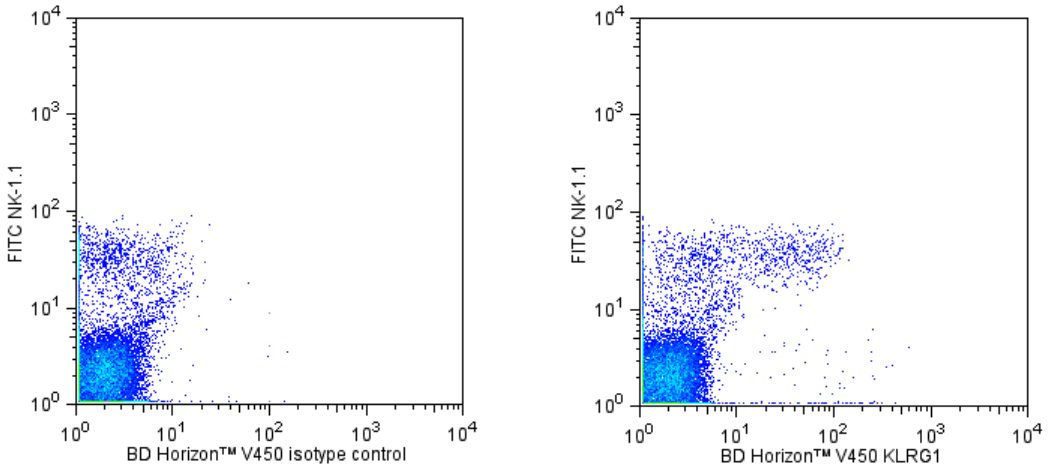
Product Information

Material Number:	**561625**
Alternate Name:	Klrg1; Killer cell lectin-like receptor subfamily G member 1; MAFA
Size:	50 µg
Concentration:	0.2 mg/ml
Clone:	2F1
Immunogen:	A-LAK from C57BL/6 mice
Isotype:	Syrian Hamster IgG2, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing protein stabilizer and ≤0.09% sodium azide.

Description

The 2F1 monoclonal antibody specifically binds to KLRG1 (*K*iller cell *L*ectin-like *R*eceptor *G1*), which is the mouse homologue of the rat mast cell function-associated antigen (MAFA), on all mouse strains tested (eg, AKR/J, BALB/c, C3H/HeN, C3H.SW, C57BL/6, DBA/1, SJL, 129/J). Unlike rat MAFA, which is expressed on mast cells, mouse KLRG1 is expressed on a large subset of NK cells, lymphokine-activated killer (LAK) cells, adherent LAK (A-LAK) cells, subsets of activated CD8+ T lymphocytes, and small fractions of CD4+ and CD8+ T cells, but not mast cells. The expression of KLRG1 is correlated with reduced proliferative capacity of activated T lymphocytes or reduced effector functions of activated NK cells. This molecule is believed to play a common role in the regulation of leukocytes of both the innate and adaptive immune system. It has been observed that the 2F1 mAb stains the rat basophilic leukemia cell line, RBL-2H3, which is known to express MAFA. The KLRG1 protein is an inhibitory lectin-like type II transmembrane receptor containing a cytoplasmic motif similar to ITIM (*I*mmunoreceptor *T*yrosine-based *I*nhibitory *M*otif); its ligand has not been identified KLRG1 is expressed mainly as a homodimeric molecule consisting of two N-glycosylated subunits of approximately 30-38 kDa. The level of KLRG1 expression is reduced in MHC class I-deficient mice, although direct binding of KLRG1 to MHC class I antigens could not be detected. Cross-linking of KLRG1 by 2F1 mAb reduces TCR-mediated Ca++ mobilization and cytotoxic responses (but not IFN-γ production) by CD8+ T cells and inhibits IFN-γ and TNF-α production and redirected lysis by NK cells.

The antibody is conjugated to BD Horizon™ V450, which has been developed for use in multicolor flow cytometry experiments and is available exclusively from BD Biosciences. It is excited by the Violet laser Ex max of 406 nm and has an Em Max at 450 nm. Conjugates with BD Horizon™ V450 can be used in place of Pacific Blue™ conjugates.



Multicolor flow cytometric analysis of KLRG1 expression on mouse splenocytes. *C57BL/6 splenocytes were preincubated with Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™) (Cat. no. 553141/553142) and then stained with FITC Mouse Anti-Mouse NK-1.1 antibody (Cat. No. 553164/561082) and either BD Horizon™ V450 Hamster IgG2, κ Isotype Control (Cat. No. 560563, Left Panel) or BD Horizon™ V450 Hamster Anti-Mouse KLRG1 antibody (Cat. No. 561625, Right Panel). Two-color flow cytometric dot plots showing the expressed levels of KLRG1 (or Ig isotype control staining) versus NK-1.1 were derived from gated events with the forward and side light-scatter characteristics of viable splenocytes. Flow cytometry was performed using a BD™ LSR II flow cytometry system.*

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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 with BD Horizon™ V450 under optimum conditions, and unreacted BD Horizon™ V450 was removed.

Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
560563	V450 Hamster IgG2, κ Isotype Control	0.1 mg	B81-3
554656	Stain Buffer (FBS)	500 ml	(none)
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2
553142	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.5 mg	2.4G2
553164	FITC Mouse Anti-Mouse NK-1.1	0.5 mg	PK136
561082	FITC Mouse Anti-Mouse NK-1.1	25 µg	PK136

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. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
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.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
6. BD Horizon™ V450 has a maximum absorption of 406 nm and maximum emission of 450 nm. Before staining with this reagent, please confirm that your flow cytometer is capable of exciting the fluorochrome and discriminating the resulting fluorescence.
7. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.
8. Although hamster immunoglobulin isotypes have not been well defined, BD Biosciences Pharmingen has grouped Armenian and Syrian hamster IgG monoclonal antibodies according to their reactivity with a panel of mouse anti-hamster IgG mAbs. A table of the hamster IgG groups, Reactivity of Mouse Anti-Hamster Ig mAbs, may be viewed at http://www.bdbiosciences.com/pharmingen/hamster_chart_11x17.pdf.

References

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Corral L, Hanke T, Vance RE, Cado D, Raulet DH. NK cell expression of the killer cell lectin-like receptor G1 (KLRG1), the mouse homolog of MAFA, is modulated by MHC class I molecules. *Eur J Immunol.* 2000; 30(3):920-930. (Immunogen)

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McMahon CW, Zajac AJ, Jamieson AM. Viral and bacterial infections induce expression of multiple NK cell receptors in responding CD8(+) T cells. *J Immunol.* 2002; 169(3):1444-1452. (Biology)

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Robbins SH, Terrizzi SC, Sydora BC, Mikayama T, Brossay L. Differential regulation of killer cell lectin-like receptor G1 expression on T cells. *J Immunol.* 2003; 170(12):5876-5885. (Clone-specific: (Co)-stimulation, Stimulation)

Voehringer D, Blaser C, Brawand P, Raulet DH, Hanke T, Pircher H. Viral infections induce abundant numbers of senescent CD8 T cells. *J Immunol.* 2001; 167(9):4838-4843. (Biology)