

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse KLRG1 in direct ELISAs.
Source	Monoclonal Hamster IgG Clone # 2F1
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	IL-2 activated NK cells from C57/BL6 mice Accession # O88713
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	Mouse splenocytes

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

KLRG1 (Killer cell Lectin-like Receptor G1), also called MAFA (Mast cell Function Associated), is an inhibitory type II transmembrane glycoprotein of the C-type lectin family, designated CLEC15A (1). Mature mouse KLRG1 consists of a 33 amino acid (aa) cytoplasmic domain with one Immunoreceptor Tyrosine-based Inhibitory Motif (ITIM), a 23 aa transmembrane segment, and a 132 aa extracellular domain (ECD) with one C-type lectin domain (CTLD) (2). Within the ECD, mouse KLRG1 shares 57% and 80% aa sequence identity with human and rat KLRG1, respectively. Alternate splicing generates additional isoforms of mouse KLRG1 that lack either the CTLD or the CTLD, transmembrane segment, and a portion of the cytoplasmic domain (3). KLRG1 is expressed as a 30 - 40 kDa N-glycosylated molecule that forms disulfide-linked homodimers, trimers, and tetramers (4, 5). It is expressed on subpopulations of CD8⁺, CD4⁺, regulatory, and gamma/delta T cells as well as on NK cells (2, 4, 6 - 8). KLRG1 is expressed on T cells found in cord blood, but it is down-regulated postnatally and is subsequently re-expressed on antigen-exposed T cells (7, 9). It is expressed by a greater proportion of CD8⁺ T cells in the elderly and by virus-specific CD8⁺ T cells during chronic virus infection (10 - 12). KLRG1 binds to E-, N-, and R-Cadherins, triggering ITIM-dependent KLRG1 signaling and inhibition of T cell activation (5, 13, 14). The response is bi-directional, as KLRG1 binding to E-Cadherin on dendritic cells (DC) can induce an anti-inflammatory DC phenotype (increased IL-10 production and decreased IL-6 and TNF-α production) (15).

References:

- Henson, S.M. and A.N. Akbar (2009) *Age* **31**:285.
- Hanke, T. *et al.* (1998) *Eur. J. Immunol.* **28**:4409.
- Voehringer, D. *et al.* (2001) *Immunogenetics* **52**:206.
- Corral, L. *et al.* (2000) *Eur. J. Immunol.* **30**:920.
- Rosshart, S. *et al.* (2008) *Eur. J. Immunol.* **38**:3354.
- Voehringer, D. *et al.* (2002) *Blood* **100**:3698.
- Beyersdorf, N. *et al.* (2007) *Eur. J. Immunol.* **37**:3445.
- Eberl, M. *et al.* (2005) *J. Leukoc. Biol.* **77**:67.
- Marcolino, I. *et al.* (2004) *Eur. J. Immunol.* **34**:2672.
- Ouyang, Q. *et al.* (2003) *Exp. Gerontol.* **38**:911.
- Thimme, R. *et al.* (2005) *J. Virol.* **79**:12112.
- Cush, S.S. and E. Flano (2011) *J. Immunol.* **186**:4051.
- Ito, M. *et al.* (2006) *J. Exp. Med.* **203**:289.
- Tessmer, M.S. *et al.* (2007) *Int. Immunol.* **19**:391.
- Banh, C. *et al.* (2009) *Blood* **114**:5299.

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