Mouse MGL1/2 (CD301a/b) PE-conjugated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: FAB4297P
100 TESTS

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse MGL1 (CD301a) and MGL2 (CD301b) in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse MGL1/2 (CD301a/b) Gln57-Ser304 Accession # AAH14811
Conjugate	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 nm
Formulation	Supplied 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.

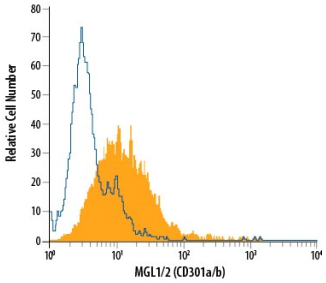
APPLICATIONS

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	10 µL/10^6 cells	See Below

DATA

Flow Cytometry



Detection of MGL1/2 (CD301a/b) in RAW 264.7 Mouse Cell Line by Flow Cytometry. RAW 264.7 mouse monocyte/macrophage cell line was stained with Goat Anti-Mouse MGL1/2 (CD301a/b) PE-conjugated Antigen Affinity-purified Polyclonal Antibody (Catalog # FAB4297P, filled histogram) or isotype control antibody (Catalog # IC108P, open histogram). View our protocol for Staining Membrane-associated Proteins.

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

Mouse MGL1 (macrophage galactose N-acetyl-galactosamine (GalNAc) specific Lectin 1, CD301a), also called ASGP-BP (asialoglycoprotein binding protein), is a 38 kDa type II transmembrane glycoprotein of the C-type lectin family (1). Two MGL proteins are encoded by separate genes in the mouse, but share 91% amino acid (aa) identity in the extracellular domain (ECD) (2). Only one MGL occurs in human and rat, and this is more structurally similar to mouse MGL1 than MGL2. However, mouse MGL1 binds Lewis X, in contrast to human MGL and mouse MGL2 which both bind specifically to terminal GalNAc residues (2). Lewis X is a trisaccharide commonly found on leukocytes and some tumor cells. Both mouse MGL proteins are expressed on immature dendritic cells. Mouse MGL1 and MGL2 are markers for connective tissue macrophages of a type termed alternately activated macrophages. These macrophages are induced by IL-4 that is produced during Th2-mediated inflammatory responses to parasitic infections or allergic airway inflammation (3, 4). Quantitative RT-PCR after helminth infection shows a peak of MGL1 expression at 7 days, while MGL2 shows increasing expression for at least 29 days (3). This, and data from MGL1 knockout mice (5), indicates that MGL1 is critical during the formation of granulation tissue, with MGL2 remaining involved during chronic infection. Mouse MGL1 is synthesized with an N-terminal 35 aa cytoplasmic region, a 21 aa transmembrane segment and a 248 aa ECD. The ECD contains one 129 aa carbohydrate recognition domain (CRD) that shows 78% and 63% aa identity with rat and human MGL, respectively.

References:

1. Sato, M. *et al.* (1992) J. Biochem. **111**:331.
2. Tsuiji, M. *et al.* (2002) J. Biol. Chem. **277**:28892.
3. Raes, G. *et al.* (2005) J. Leukoc. Biol. **77**:321.
4. Sato, K. *et al.* (2005) Int. Immunol. **17**:559.
5. Sato, K. *et al.* (2005) Blood **106**:207.

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