Mouse MGL1/CD301a Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF4938

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse MGL1/CD301a in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 5% cross-reactivity with recombinant mouse MGL2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse MGL1/CD301a Gln57-Ser304 Accession # AAH14811
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

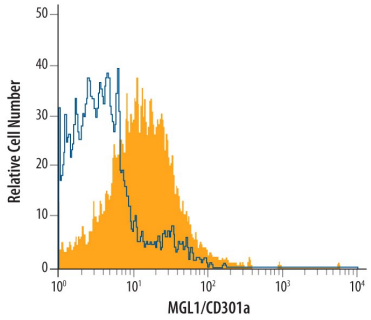
APPLICATIONS

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
Western Blot	0.1 µg/mL	Recombinant Mouse MGL1/CD301a (Catalog # 4297-MG)
Flow Cytometry	2.5 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

Flow Cytometry



Detection of MGL1/CD301a 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/CD301a Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4938, filled histogram) or control antibody (Catalog # AB-108-C, open histogram), followed by Allophycocyanin-conjugated Anti-Goat IgG Secondary Antibody (Catalog # F0108).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

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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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bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956