Mouse MGL2/CD301b Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2835

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse 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 MGL2/CD301b Ser72-Pro332 Accession # NP_660119
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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 either lyophilized or 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 MGL2/CD301b (Catalog # 2835-MG)
Blockade of Receptor-ligand Interaction	In a functional ELISA, 1.5-4.5 µg/mL of this antibody will block 50% of the binding of 75 ng/mL of biotinylated β-Galactosamine-N-Acetyl-Polyacrylamide to immobilized Recombinant Mouse MGL2 (Catalog # 2835-MG) coated at 2.5 µg/mL (100 µL/well). At 30 µg/mL, this antibody will block >90% of the binding.	

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.

BACKGROUND

Mouse Macrophage Galactose N-acetyl-Galactosamine (GalNAc) specific Lectin 2 (MGL2), also known as CD301b, is a 38 kDa member 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) (1). Only one MGL occurs in human and rat and this MGL is structurally more similar to mouse MGL1 than MGL2. However, human MGL and mouse MGL2 both bind specifically to terminal GalNAc residues, in contrast with mouse MGL1 which binds Lewis X (1, 2). GalNAc recognition is likely to be important in dendritic cell-mediated tolerance to self-gangliosides as well as recognition of tumor antigens and parasite glycoproteins (2). Both mouse MGL proteins are expressed on immature dendritic cells. Mouse MGL2 and MGL1 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 increasing expression of MGL2 for at least 29 days while MGL1 shows a peak expression at 7 days (3). This, and data from MGL1 knockout mice (5), indicates that MGL1 is critical during formulation of granulation tissue, but MGL2 remains involved during chronic infection. Mouse MGL2 is synthesized as a 332 aa type II transmembrane protein with an N-terminal 51 aa cytoplasmic region, a 26 aa TM segment, and a 255 aa ECD. The ECD contains one 150 aa carbohydrate recognition domain (CRD) that shows 76% and 68% aa identity with rat or human MGL, respectively.

References:

1. Tsuiji, M. *et al.* (2002) J. Biol. Chem. **277**:28892.
2. Van Vliet, S. J. *et al.* (2005) Int. Immunol. **17**:661.
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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