SONY

Product Data Sheet

APC/Fire™ 750 anti-mouse CD301 (MGL1/MGL2)

Catalog # / Size: 1328560 / 100 µg
1328555 / 25 µg

Clone: LOM-14

Isotype: Rat IgG2b, κ

Immunogen: Purified and recombinant mouse MGL1 and MGL2

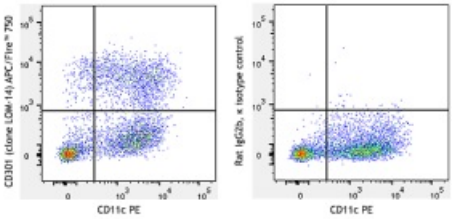
Reactivity: Mouse

Preparation: The antibody was purified by affinity chromatography and conjugated with APC/Fire™ 750 under optimal conditions.

Formulation: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide

Workshop Number: 750 under optimal conditions.

Concentration: 0.2



C57BL/6 bone marrow derived dendritic cells were stained with CD11c PE and CD301 (MGL1/MGL2) (clone LOM-14) APC/Fire™ 750 (left) or rat IgG2b, κ APC/Fire™ 750 isotype control (right).

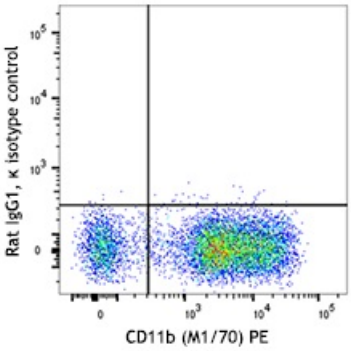
Applications:

Applications: Flow Cytometry

Recommended Usage: Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For flow cytometric staining, the suggested use of this reagent is ≤ 1.0 µg per million cells in 100 µL volume. It is recommended that the reagent be titrated for optimal performance for each application.

* APC/Fire™ 750 has a maximum excitation of 650 nm and a maximum emission of 787 nm.

Application Notes: LOM-14 recognizes mouse CD301a and CD301b. Additional reported applications (for relevant formats) include: immunohistochemical staining of frozen tissue sections[1-3] and immunoprecipitation[4].



C57BL/6 mouse bone marrow cells were stained with CD150 (SLAM) (clone TC15-12F12.2) APC/Fire™ 750 (filled histogram) or rat IgG2a, κ APC/Fire™ 750 isotype control (open histogram).

Application References:

1. Denda-Nagai K, *et al.* 2010. *J. Biol. Chem.* 285:19193. (IHC)
2. Sato K, *et al.* 2005. *Blood* 106:207. (IHC)
3. Tsuiji M, *et al.* 2002. *J. Biol. Chem.* 277:28892. (IHC)
4. Kimura T, *et al.* 1995. *J. Biol. Chem.* 270:16056. (IP)

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Description: Mouse CD301, also known as macrophage galactose-type C-type lectin, has two homologue genes, CD301a (MGL1) and CD301b (MGL2), while there is only one MGL in human and rat. Mouse CD301a and CD301b are about 42 kD type II transmembrane glycoproteins containing a cytoplasmic domain, a transmembrane domain, a neck domain, and a carbohydrate recognition domain (CRD) within each molecule. CD301a is mainly expressed on a subset of macrophages and immature dendritic cells (DCs). CD301b is mainly found on conventional DCs. Although CD301a and CD301b share high amino acid sequence homology (92% for the intact sequence and 80% for the CRD), they display different carbohydrate specificities. CD301a was found to be highly specific for Lewis X and Lewis A structures, whereas CD301b, more similar to the human MGL, recognizes N-actetylgalactosamine (GalNAc) and galactose, including the O-linked Tn-antigen, TF-antigen, and core 2. So far, CD301a has been reported to be involved in recognition and endocytosis of glycoproteins with terminal Gal/GalNAc moieties. This contributes to defense against tumor cell metastasis, tissue remodeling, and clearance of apoptotic cells in embryos. CD301b is involved in the internalization of soluble polyacrylamide polymers (PAA) with α-GalNAc residues (GalNAc-PAA) in bone marrow derived dendritic cells.

Antigen References:

1. Denda-Nagai K, *et al.* 2010. *J. Biol. Chem.* 285:19193.
2. Westcott D, *et al.* 2009. *J. Exp. Med.* 206:3143.
3. Singh SK, e*t al.* 2009. *Mol. Immunol.* 46:1240.
4. Sakakura M, *et al.* 2008. *J. Biol. Chem.* 283:33665.
5. Tsuiji M, *et al.* 2002. *J. Biol. Chem.* 277:28892.

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