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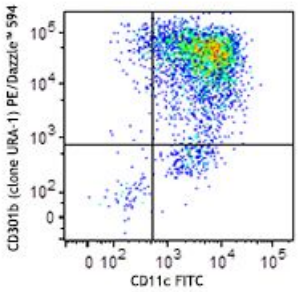
Product Data Sheet

PE/Dazzle™ 594 anti-mouse CD301b (MGL2)

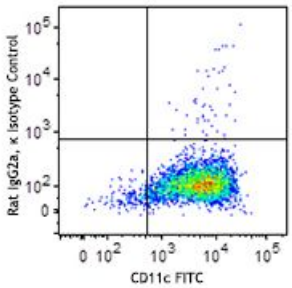
Catalog # / Size:	1334075 / 25 µg 1334080 / 100 µg
Clone:	URA-1
Isotype:	Rat IgG2a, λ
Immunogen:	Purified and recombinant mouse MGL2
Reactivity:	Mouse
Preparation:	The antibody was purified by affinity chromatography and conjugated with PE/Dazzle™ 594 under optimal conditions.
Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Workshop Number:	VII 70312
Concentration:	0.2



C57BL/6 bone marrow-derived dendritic cells were stained with CD11c FITC and CD301b (clone URA-1) PE/Dazzle™ 594 (top) or rat IgG2a, κPE/Dazzle™ 594 isotype control (bottom).

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. * PE/Dazzle™ 594 has a maximum excitation of 566 nm and a maximum emission of 610 nm.



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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 ~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 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 DCs.

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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