Human CD300f/LMIR3
Alexa Fluor® 488-conjugated Antibody

Monoclonal Rat IgG_{2B} Clone # 234903

Catalog Number: FAB2774G

100 TESTS

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD300f/LMIR3 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human LMIR1, 2, 4, 5, 6, or recombinant mouse LMIR3 is observed.
Source	Monoclonal Rat IgG_{2B} Clone # 234903
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Y3 rat myeloid cell line transfected with human CD300f/LMIR3
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 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.

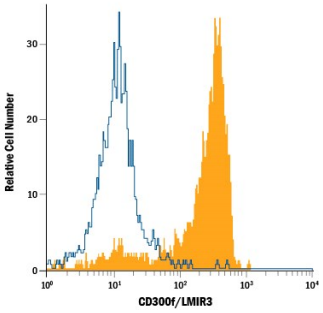
APPLICATIONS

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	5 µL/10^6 cells	See Below

DATA

Flow Cytometry



Detection of CD300f/LMIR3 in Human Blood Monocytes by Flow Cytometry. Human peripheral blood monocytes were stained with Rat Anti-Human CD300f/LMIR3 Alexa Fluor® 488-conjugated Monoclonal Antibody (Catalog # FAB2774G, filled histogram) or isotype control antibody (Catalog # IC013G, 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.

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BACKGROUND

CD300f, also known as CD300LF, LMIR3, IREM-1, CLM-1, IgSF13, DIgR1, and MAIR-V, is a 50–60 kDa glycoprotein member of the immunoglobulin superfamily (1). Human CD300f consists of a 137 amino acid (aa) extracellular domain (ECD) with one Ig-like V-type domain, a 21 aa transmembrane segment, and a 113 aa cytoplasmic domain that contains multiple immunoreceptor tyrosine-based inhibitory motifs (ITIMs) or ITIM-like sequences (2, 3). Alternate splicing generates additional isoforms that carry substituted C-terminal tails of varying lengths and sequences following the ECD or transmembrane segment (3). Within the ECD, human CD300f shares 43% aa sequence identity with mouse and rat CD300f. CD300f is expressed on the surface of dendritic cells, monocytes, granulocytes, and mast cells as well as on acute myeloid leukemia (AML) blasts (2-4). Pervanadate treatment or antibody crosslinking of CD300f induces phosphorylation of tyrosine residues in the cytoplasmic domain and the subsequent recruitment of phosphatases SHIP, SHP-1, SHP-2, and the p85 alpha subunit of PI3K (2, 3, 5, 6). CD300f ligation can induce cell death and inhibit signaling through multiple receptors including Fc epsilon RI, LMIR4, SCF R, TLR2, TLR3, and TLR9 (3-8). In contrast, it enhances TLR4-mediated signaling/cytokine production in mast cells through association with the activating signaling protein FcR gamma (5). In mouse, a splice variant of CD300f (known as DIgR2, with a 7 aa insertion in the ECD) inhibits $CD4^+$ T cell activation and *in vivo* Th1 and CTL responses (9). CD300f is upregulated on monocytes surrounding experimentally-induced spinal cord demyelination and functions as a negative regulator of inflammation in the CNS (10).

References:

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