

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 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
Formulation	Supplied 0.2 mg/mL 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	0.25-1 µg/10 ⁶ cells	Human whole blood monocytes

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.

BACKGROUND

CD300f, also known as CD300LF, LMIR3, IREM-1, CLM-1, IgSF13, DlgR1, 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 DlgR2, 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:

1. Clark, G.J. *et al.* (2009) Trends Immunol. **30**:209.
2. Sui, L. *et al.* (2004) Biochem. Biophys. Res. Commun. **319**:920.
3. Alvarez-Errico, D. *et al.* (2004) Eur. J. Immunol. **34**:3690.
4. Korver, W. *et al.* (2009) Leukemia **23**:1587.
5. Izawa, K. *et al.* (2009) J. Immunol. **183**:925.
6. Alvarez-Errico, D. *et al.* (2007) J. Immunol. **178**:808.
7. Can, I. *et al.* (2008) J. Immunol. **180**:207.
8. Izawa, K. *et al.* (2007) J. Biol. Chem. **282**:17997.
9. Shi, L. *et al.* (2006) Blood **108**:2678.
10. Xi, H. *et al.* (2010) J. Exp. Med. **207**:7.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.