

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD300a/LMIR1 in ELISA.
Source	Monoclonal Rat IgG ₁ Clone # 232618
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Y3 rat myeloid cell line transfected with human CD300a/LMIR1
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
*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.

ELISA Optimal dilution of this antibody should be experimentally determined.

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

CD300a, also known as LMIR1 (in rodents), CMRF-35H, IRp60, CLM-8, and MAIR-I, is a 60 kDa glycoprotein member of the immunoglobulin superfamily (1). Human CD300a consists of a 163 amino acid (aa) extracellular domain (ECD) with one Ig-like V-type domain, a 21 aa transmembrane segment, and a 98 aa cytoplasmic domain that contains three immunoreceptor tyrosine-based inhibitory motifs (ITIMs) and a non-canonical ITIM (2). Alternative splicing may generate additional isoforms that either lack the Ig-like domain or contain only the cytoplasmic domain. Within the ECD, human CD300a shares 40% and 43% aa sequence identity with mouse and rat LMIR1, respectively. In human, CD300a is expressed on peripheral blood eosinophils, mast cells, neutrophils, plasmacytoid dendritic cells, and various T cell subsets (3-7). Antibody crosslinking of CD300a induces phosphorylation of tyrosine residues in the cytoplasmic domain. This leads to the recruitment of phosphatases SHIP, SHP-1, and SHP-2 and inhibition of NK cell, eosinophil, and mast cell activation (2, 3, 5-7). Crosslinking of CD300a to other surface proteins such as SCF R or Fc epsilon RI on mast cells, Fc gamma RIIA on neutrophils, or CCR3 on mast cells and eosinophils inhibits downstream signaling from those receptors (5, 10-12). CD300a crosslinking also limits the *in vivo* activities of these cells with a subsequent reduction of allergic inflammation symptoms (4, 11, 12).

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.