

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 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 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

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