Human CD300a/LMIR1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2640

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD300a/LMIR1 in direct ELISAs and Western blots. In direct ELISAs, less than 2% cross-reactivity with recombinant human (rh) LMIR2, rhLMIR3, rhLMIR5, and rhLMIR6 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CD300a/LMIR1 Leu18-Gln178 Accession # Q9UGN4
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

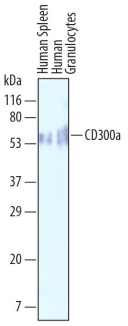
APPLICATIONS

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
Western Blot	1 µg/mL	See Below

DATA

Western Blot



Detection of Human CD300a/LMIR1 by Western Blot. Western blot shows lysates of human spleen tissue and human granulocytes. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human CD300a/LMIR1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2640) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF019). A specific band was detected for CD300a/LMIR1 at approximately 55-60 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 **Europe | Middle East | Africa** TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

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 LMIR1 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). Alternate splicing may generate additional isoforms that either lack the Ig-like domain or contain only the cytoplasmic domain. Within the ECD, human LMIR1 shares 40% and 43% aa sequence identity with mouse and rat LMIR1, respectively. In human, LMIR1 is expressed on peripheral blood eosinophils, mast cells, neutrophils, plasmacytoid dendritic cells, and various T cell subsets (3-7). Antibody crosslinking of LMIR1 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 LMIR1 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). LMIR1 crosslinking also limits the *in vivo* activities of these cells with a subsequent reduction of allergic inflammation symptoms (4, 11, 12).

References:

1. Clark, G.J. *et al*. (2009) Trends Immunol. **30**:209.
2. Cantoni, C. *et al*. (1999) Eur. J. Immunol. **29**:3148.
3. Munitz, A. *et al*. (2006) Blood **107**:1996.
4. Bachelet, I. *et al*. (2005) J. Immunol. **175**:7989.
5. Alvarez, Y. *et al*. (2008) Mol. Immunol. **45**:253.
6. Ju, X. *et al*. (2008) Blood **112**:1184.
7. Clark, G.J. *et al*. (2007) J. Leukoc. Biol. **82**:1126.
8. Kumagai, H. *et al*. (2003) Biochem. Biophys. Res. Commun. **307**:719.
9. Yotsumoto, K. *et al*. (2003) J. Exp. Med. **198**:223.
10. Bachelet, I. *et al*. (2008) J. Immunol. **180**:6064.
11. Bachelet, I. *et al*. (2006) J. Allergy Clin. Immunol. **117**:1314.
12. Munitz, A. *et al*. (2006) J. Allergy Clin. Immunol. **118**:1082.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 **Europe | Middle East | Africa** TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956