

#### DESCRIPTION

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse LAIR1 in direct ELISAs.
<b>Source</b>	Recombinant Monoclonal Rabbit IgG Clone # 2459B
<b>Purification</b>	Protein A or G purified from cell culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived mouse LAIR1 Gln22-Tyr141 & Ser25-Tyr141 Accession # Q8BG84
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or 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.

<b>Blockade of Receptor-ligand Interaction</b>	In a functional ELISA binding assay, 1-8 µg/mL of this antibody will block 50% of the binding of 2 µg/mL of Recombinant Mouse LAIR1 (Catalog # 4016-LR) to immobilized Bovine Collagen-I coated at 10 µg/mL (100 µL/well). At 30 µg/mL, this antibody will block >90% of the binding.
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#### PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

#### BACKGROUND

Leukocyte-associated Ig-like receptor-1 (LAIR1; also CD305) is a 46 kDa inhibitory receptor of the Ig superfamily that is structurally related to inhibitory members of KIR and ILT/CD85 families (1-3). It is expressed on immune cells, including NK cells, T cells, B cells, monocytes, immature neutrophils, dendritic cells and most thymocytes (2-4). The 253 amino acid (aa) type I transmembrane (TM) protein contains a 21 aa signal sequence, a 124 aa extracellular domain (ECD), a 20 aa TM domain and a 98 aa cytoplasmic domain. The ECD includes one C2-type Ig-like domain and two potential N-linked glycosylation sites. Tyrosine phosphorylation of two cytoplasmic ITIM motifs results in recruitment of phosphatases and down-regulation of signaling through activating receptors (2, 3, 5). Crosslinking of LAIR1 inhibits processes such as B cell receptor-mediated activation, NK cell and T cell cytotoxicity and basophil degranulation (1-3). Four mouse LAIR1 splice variants have been identified, but it is not known whether they are expressed as proteins (3). LAIR1b, which is the major alternate transcript, lacks most of the ECD. Of the minor transcripts, LAIR1c lacks a signal sequence, and LAIR1d and 1e lack a TM sequence. All mouse splice forms are identical in the last 90 aa of the cytoplasmic domain. LAIR1 shows high-affinity binding of collagens that results in inhibition of degranulation in a basophilic leukemia cell line (6). Human and mouse LAIR1 ECD share only 32% aa identity but, where studied, sites of expression and activity are similar (3-6). Mouse LAIR1 ECD also shares 62%, 31% and 28% aa identity with rat, canine, and bovine orthologs, respectively.

#### References:

1. Meyaard, L. (2003) *J. Biol. Regul. Homeost. Agents* **17**:330.
2. Meyaard, L. *et al.* (1997) *Immunity* **7**:283.
3. Lebbink, R.J. *et al.* (2004) *J. Immunol.* **172**:5535.
4. Verbrugge, A. *et al.* (2006) *J. Leukoc. Biol.* **79**:828.
5. Verbrugge, A. *et al.* (2003) *Int. Immunol.* **15**:1349.
6. Lebbink, R.J. *et al.* (2006) *J. Exp. Med.* **203**:1419.