

## DESCRIPTION

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Mouse                                                                                                |
| <b>Specificity</b>                                                                                                                                                                                      | Detects mouse LAIR1 in direct ELISAs.                                                                |
| <b>Source</b>                                                                                                                                                                                           | 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<br>Gln22-Tyr141 & Ser25-Tyr141<br>Accession # Q8BG84 |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 700<br>Excitation Wavelength: 675-700 nm<br>Emission Wavelength: 723 nm                  |
| <b>Formulation</b>                                                                                                                                                                                      | 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.

**Blockade of Receptor-ligand Interaction** Optimal dilution of this antibody should be experimentally determined.

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## 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.

## PRODUCT SPECIFIC NOTICES

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