

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human LILRB3/CD85a/ILT5 in direct ELISA.
Source	Monoclonal Mouse IgG ₁ Clone # 1057017
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human embryonic kidney cell, HEK293-derived human LILRB3/CD85a/ILT5 Gly24-Glu443 Accession # O75022
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and 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.

Flow Cytometry	Titration recommended for optimal concentration with starting range of 0.1-1 µg/1 million cells. Sample used for this experiment was PBMCs with CD14 costain.
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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

Leukocyte immunoglobulin-like receptor subfamily B (LILRB3), also known as ILT5, LIR3, and CD85a, is an immunoglobulin superfamily member that is involved in immune regulation. Subfamily B members have cytoplasmic immunoreceptor tyrosine-based inhibitory motifs (ITIMs) that inhibit signaling events via phosphatase SHP-1. Subfamily A members are activating receptors that lack ITIMs and signal through association with FcRγ (1, 2). Mature LILRB3 is a highly polymorphic 85-95 kDa glycoprotein that consists of a 420 amino acid (aa) extracellular domain (ECD) with four Ig-like domains, a 21 aa transmembrane segment, and a 167 aa cytoplasmic domain with three ITIMs (3). Alternative splicing generates an isoform with a 17 aa insertion in the juxtamembrane ECD. In mouse and rat, the LILRB3 gene encodes the PIR-B protein which has six Ig-like domains. Rodent PIR-B and human LILRB3 share 55% aa sequence identity within common regions of their ECDs. LILRB3 is expressed on the surface of peripheral monocytes, neutrophils, eosinophils, basophils, and mast cell progenitors (4-6). Triggering of LILRB3 inhibits the activation of macrophages, mast cells, neutrophils, basophils, and B cells (5, 7). On osteoclast precursors, LILRB3 ligation inhibits RANK L/TRANCE or M-CSF induced differentiation (8). LILRB3 can also bind to ligands exposed on necrotic tumor cells (9). Both PIR-B and LILRB3 are receptors for S. aureus, and activation of these receptors by bacteria influences the innate immune response triggered by TLRs (3). R&D Systems in-house testing indicates that LILRB3 binds to Angiopoietin-like 7, consistent with the demonstrated functional interactions between other members of these protein families (10). In the mouse CNS, PIR-B functions as a receptor for the myelin proteins Nogo, MAG, and OMgp and mediates their inhibitory action on neurite outgrowth and axon regeneration (11). Upon binding to MAG, PIR-B associates with TrkB and NGF R/p75 in cerebellar granule neurons (12).

References:

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