

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human LILRB2/CD85d/ILT4 in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 35% cross-reactivity with recombinant human (rh) ILT2 is observed and 5% cross-reactivity with rhILT5 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human LILRB2/CD85d/ILT4 Gly24-His458 Accession # Q8N423
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<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.

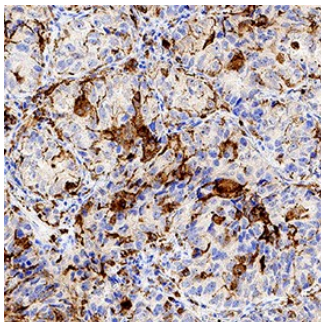
## APPLICATIONS

**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.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human LILRB2/CD85d/ILT4 Fc Chimera (Catalog # 2078-T4)
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	Human peripheral blood monocytes
<b>Immunohistochemistry</b>	1-25 µg/mL	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
<b>Neutralization</b>	Measured by its ability to neutralize LILRB2/CD85d/ILT4-mediated adhesion of the HSB2 human peripheral blood acute lymphoblastic leukemia cell line. Cosman, D. et al. (1997) <i>Immunity</i> 7:273. The Neutralization Dose (ND <sub>50</sub> ) is typically 0.3-1.0 µg/mL in the presence of 35 µg/mL Recombinant Human LILRB2/CD85d/ILT4 Fc Chimera.	

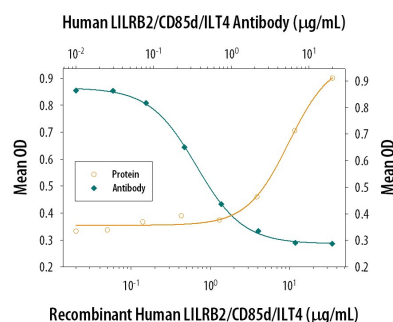
## DATA

### Immunohistochemistry



**LILRB2/CD85d/ILT4 in Human Lung.** LILRB2/CD85d/ILT4 was detected in immersion fixed paraffin-embedded sections of human lung using Goat Anti-Human LILRB2/CD85d/ILT4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2078) at 1 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC004). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to macrophages. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

### Neutralization



**Cell Adhesion Mediated by LILRB2/CD85d/ILT4 and Neutralization by Human LILRB2/CD85d/ILT4 Antibody.** Recombinant Human LILRB2/CD85d/ILT4 Fc Chimera (Catalog # 2078-T4), immobilized onto a microplate, supports the adhesion of the HSB2 human peripheral blood acute lymphoblastic leukemia cell line in a dose-dependent manner (orange line). Adhesion elicited by Recombinant Human LILRB2/CD85d/ILT4 Fc Chimera (35 µg/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human LILRB2/CD85d/ILT4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2078). The ND<sub>50</sub> is typically 0.3-1.0 µg/mL.

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 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**

The immunoglobulin-like transcript (ILT) comprise a family of activating and inhibitory type immunoreceptors whose genes are located in the same locus that encodes killer cell Ig-like receptors (KIR) (1-3). ILT4, also known as LIR-2 and LILRB2, is a type I transmembrane protein expressed primarily on monocytes and dendritic cells (DC) (4). Human ILT4 is produced as a 598 amino acid (aa) precursor including a 21 aa signal sequence, a 440 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 116 aa cytoplasmic domain. The ECD contains four Ig-like domains, and the cytoplasmic domain contains three immunoreceptor tyrosine-based inhibitory motifs (ITIM) (5). The ECD of human ILT4 shares 76% aa identity with chimpanzee ILT4 and 74%, 81%, 33%, 52%, 77%, 61%, and 64% aa identity with human ILT1, 2, 3, 5, 6, 7, and 8, respectively. ILT4 binds to classical MHC I proteins as well as the non-classical HLA-G1 and HLA-F molecules (5-9). It competes with CD8 $\alpha$  for MHC I binding but does not compete with KIR2DL1 (7). Ligand of ILT4 induces Tyr phosphorylation within its cytoplasmic ITIMs, a requirement for association with SHP-1 (4, 6). Activation of ILT4 inhibits signaling through Fc $\gamma$  RI (4) and Fc $\epsilon$  RI (6) and causes DC to become tolerogenic by down-regulation of co-stimulatory molecules (10, 11). ILT4 mediates tolerogenic DC-induced CD4<sup>+</sup> T cell energy *in vitro* and *in vivo* (10-12).

**References:**

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