

## Background

The immunoglobulin-like transcript (ILT) family of activating and inhibitory type immunoreceptors are expressed on many leukocyte subsets and function in the regulation of immune responses (1 - 3). This family was also named leukocyte Ig-like receptors (LIR) and monocyte/macrophage Ig-like receptors (MIR). ILTs share significant homology with killer cell Ig-like receptors (KIR). The ILT genes are located on human chromosome 19q13.4 in the leukocyte receptor complex, which also include the genes encoding KIRs (4). With the exception of ILT-6, which is a soluble molecule, all ILT family members are type I transmembrane proteins having two or four extracellular Ig-like domains (2, 3). One subset of the ILT receptors (referred to as subfamily B of the LIRs) has long cytoplasmic tails containing immunoreceptor tyrosine-based inhibitory motifs (ITIMs) that inhibit signaling events by recruiting SH2-containing protein tyrosine phosphatase-1. Another subset of the ILT receptors (referred to as subfamily A of the LIRs) contains activating receptors with short cytoplasmic regions that lack signal transduction motifs. These receptors contain a basic arginine residue within their transmembrane domains, which allows association with Fc R<sub>γ</sub>, an immunoreceptor tyrosine-based activation motif (ITAM)-bearing signal adapter protein (1 - 3).

ILT2, also known as LIR1, MIR7, and CD85j, is expressed on most monocytes, dendritic cells, and mature B cells (1 - 3). It is also expressed on small percentages of T cells and NK cells. ILT2 has four extracellular Ig-like domains and three cytoplasmic ITIMs. It functions as an inhibitory receptor that prevents cellular activation. ILT2 has been shown to bind classical (HLA-A and -B) and nonclassical (HLA-G1, -E and -F) MHC class I molecules (MHCI) (1 - 3). ILT2 also binds with high affinity to an MHC class I homologue from human cytomegalovirus (3). Ligation of ILT2 by MHC class I may function to poise cellular activation thresholds and inhibit various leukocyte effector mechanisms that are regulated by MHC class I molecules on target cells.

## References:

1. Allen, D. *et al.* (2000) *Immunobiol.* **202**:34.
2. Colonna, M. *et al.* (1999) *J. Leukocyte Biol.* **66**:375.
3. Borges, L. and D. Cosman (2000) *Cytokine Growth Factor Rev.* **11**:209.
4. Young, N. *et al.* (2001) *Immunogenetics* **53**:270.

## Description

<b>Source</b>	Murine myeloma cell line, NS0-derived		
	Human ILT2 (Gly24 - His458) Accession # Q8NHL6	IEGRMD	Human IgG <sub>1</sub> (Pro100 - Lys330)
	N-terminus		C-terminus
<b>N-terminal Sequence Analysis</b>	Gly24		
<b>Structure / Form</b>	Disulfide-linked homodimer		
<b>Predicted Molecular Mass</b>	73.8 kDa (monomer)		

## Specifications

<b>SDS-PAGE</b>	106 kDa, reducing conditions
<b>Activity</b>	Measured by its ability to support the adhesion of HSB2 human peripheral blood acute lymphoblastic leukemia cells. Immobilized rhILT2/Fc at 5 µg/mL, 100 µL/well can support 60 - 80% HSB2 cell adhesion, when 1 x 10 <sup>5</sup> cells were added in each well of a 96-well plate.
<b>Endotoxin Level</b>	<1.0 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>90%, by SDS-PAGE under reducing conditions and visualized by silver stain.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

## Preparation and Storage

<b>Reconstitution</b>	Reconstitute at 100 µg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <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>● 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> <li>● 2 weeks, 2 to 8 °C under sterile conditions after reconstitution.</li> </ul>

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