

**DESCRIPTION**

<b>Source</b>	Human embryonic kidney cell, HEK293-derived human CD300e/LMIR6 protein		
	Human CD300e/LMIR6 (Leu18-Leu169) Accession # Q496F6.2	IEGRMD	Human IgG <sub>1</sub> (Pro100-Lys330)
	N-terminus		C-terminus
<b>N-terminal Sequence Analysis</b>	Leu18		
<b>Structure / Form</b>	Disulfide-linked homodimer		
<b>Predicted Molecular Mass</b>	44 kDa		

**SPECIFICATIONS**

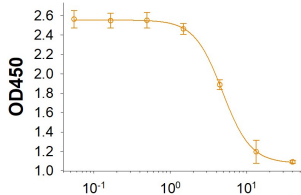
<b>SDS-PAGE</b>	45-58 kDa and 106-125 kDa (non-reducible dimer), under reducing conditions
<b>Activity</b>	Measured by its ability to inhibit anti-CD3 antibody induced IL-2 or IFN-gamma secretion by human T cells. The ED <sub>50</sub> for this effect 0.6-6.0 µg/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in Tris and NaCl. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 200 µg/mL in 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> </ul>

**DATA**

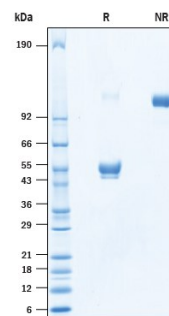
**Bioactivity**



Measured by its ability to inhibit anti-CD3 antibody induced IFN-gamma secretion by human T cells. The ED<sub>50</sub> for this effect is 0.6-6.0 µg/mL.

Recombinant Human CD300e/LMIR6 (µg/mL)

**SDS-PAGE**



2 µg/lane of Recombinant Human CD300e/LMIR6 Fc Chimera Protein (Catalog # 10479-CD) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 45-58 kDa/106-125 kDa (non-reducible dimer) and 106-125 kDa, respectively.

**BACKGROUND**

CD300e, also known as LMIR6, IREM-2, and CMRF35-like 2 (CLM-2), is an approximately 35-kDa type I transmembrane glycoprotein in the LMIR family of immune regulatory proteins (1). It consists of a 156 amino acid (aa) extracellular domain (ECD), a 21 aa transmembrane segment, and an 11 aa cytoplasmic stub (2). The ECD contains an Ig-like V-type domain with a single disulfide bond and an N-linked glycosylation site. Within the ECD, human CD300e shares 57% sequence identity with mouse and rat CD300e. Its transmembrane segment contains a charged lysine residue which mediates CD300e association with the signaling adaptor molecule DAP12 and enables CD300e to function as an activating receptor (2, 3, 5). The ligand of CD300e is unknown; sphingomyelin has been demonstrated to bind human and mouse CD300e (5). CD300e is highly expressed on intermediate and non-classical monocytes, and myeloid dendritic cells (3, 4). CD300e on monocytes from HIV-infected patients under cART is correlated with markers of disease progression and immune inflammation (6). The cross-linking of CD300e enhances LPS-mediated cytokine production by monocytes, enhancing TNF- $\alpha$  production while no enhancement is observed on IL-1 $\beta$ , IL-6 and IL-10 (7). Our in-house data indicate that CD300e inhibits T cell activation, including anti-CD3-induced IL-2 and IFN-gamma secretion.

**References:**

1. Clark, G.J. *et al.* (2009) Trends Immunol. **30**:209.
2. Chung, D.H. *et al.* (2003) J. Immunol. **141**:6541.
3. Aguilar, H. *et al.* (2004) J. Immunol. **173**:6703.
4. Brockalo, T. *et al.* (2010) Eur. J. Immunol. **40**:722.
5. Isobe, M. *et al.* (2018) J. Biol. Chem. **293**:3793.
6. Vitalle, J. *et al.* (2017) Front. Immunol. **8**:836.
7. Zenarruabeitia O. *et al.* (2016) Sci Rep. **6**:32693.