

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human LAIR2 protein			
	Human LAIR2 (Gln22-Pro152) Accession # NP_002279.2	IEGRMD	Human IgG ₁ (Pro100-Lys333)	Avi-tag
	N-terminus		C-terminus	
N-terminal Sequence Analysis	Gln22; deduced from Glu23 upon deblocking			
Structure / Form	Disulfide-linked homodimer, biotinylated via Avi-tag			
Predicted Molecular Mass	42 kDa			

SPECIFICATIONS

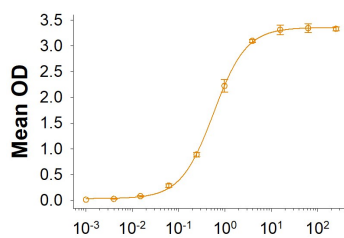
SDS-PAGE	50-59 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Bovine Collagen I is coated at 10 µg/mL (100 µL/well), Biotinylated Recombinant Human LAIR2 Fc Chimera Avi-tag (Catalog # AVI10166) binds with an ED ₅₀ of 0.175-1.4 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

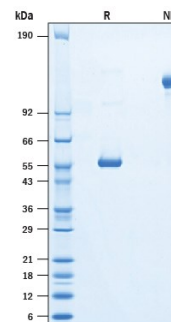
Binding Activity



When Bovine Collagen I is coated at 10 µg/mL (100 µL/well), Biotinylated Recombinant Human LAIR2 Fc Chimera Avi-tag (Catalog # AVI10166) binds with an ED₅₀ of 0.175-1.4 ng/mL.

Biotinylated Recombinant Human LAIR2 Fc Chimera Avi-tag (ng/mL)

SDS-PAGE



2 µg/lane of Biotinylated Recombinant Human LAIR2 Fc Chimera Avi-tag Protein (Catalog # AVI10166) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 50-59 kDa and 100-120 kDa, respectively.

BACKGROUND

LAIR2 (leukocyte-associated Ig-like receptor-2; CD306) is a secreted, 131 amino acid (aa) protein that contains one Ig-like C2 type domain, making it a member of the Ig superfamily. When compared to LAIR1, its transmembrane counterpart, LAIR2 shares 83% aa identity across the signal sequence and extracellular domains (1-3). Although one is secreted and the other is membrane-bound, the two LAIR proteins are thought to have arisen from a common gene ancestor and appear to share similar adhesion profiles. This suggests that LAIR2 may compete with LAIR1 for ligand binding (3, 4). A 114 aa alternate splice form of LAIR-2 is truncated at the C-terminus, but retains the entire Ig domain (1-3). The expression profile of these splice forms, and the presence of orthologs in other species, have not been reported. LAIR2 is a soluble collagen-receptor, and it can be detected in the synovial fluid of rheumatoid arthritis patients, urine of pregnant women, and as well as primary cells (5, 6). In vitro studies have demonstrated LAIR2 can compete with LAIR1 for the same collagen binding site and suggesting LAIR2 may play an important role in immune cell activation (5, 6). LAIR2 can interact with complement component 1q (C1q) and mannose-binding lectin (MBL) and act as a complement inhibitor for the treatment and prevention of antibody-mediated allograft rejection and antibody-mediated clinical conditions (7). Our Avi-tag Biotinylated human LAIR2 features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

References:

1. Meyaard, L. (2003) *J. Biol. Regul. Homeost. Agents* **17**:330.
2. Meyaard, L. *et al.* (1999) *J. Immunol.* **162**:5800.
3. Meyaard, L. *et al.* (1997) *Immunity* **7**:283.
4. Xu, X.G. *et al.* (2005) *Xi Bao Yu Fen Zi Mian Yi Xue Za Zhi.* **21**:553.
5. Lebbink, R.J. *et al.* (2008) *J. Immunol.* **180**:1662.
6. Olde Nordkamp, M.J. *et al.* (2011) *Arthritis Rheum.* **63**:3749.
7. Olde Nordkamp, M.J. *et al.* (2014) *J. Innate Immun.* **6**:284.