

## LAIR1 Protein, Human, Recombinant (His & Avi), Biotinylated

### General Information

Synonyms:	CD305;leukocyte-associated immunoglobulin-like receptor 1;LAIR-1
Protein Construction:	A DNA sequence encoding the human LAIR1 (AAF71275.2) (Met1-Tyr165) was expressed with a c-terminal polyhistidine tagged AVI tag at the C-terminus. The expressed protein was biotinylated in vivo by the Biotin-Protein ligase (BirA enzyme) which is co-expressed. Predicted N terminal: Gln 22
Species:	Human
Expression Host:	HEK293 Cells
Accession:	AAF71275.2
Molecular Weight:	19 kDa (predicted)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

Reconstitution:	A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.
Stability & Storage:	It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Leukocyte-associated Ig-like receptor-1 (LAIR1) is a surface molecule expressed on human mononuclear leukocytes that functions as an inhibitory receptor on human NK cells. In addition to NK cells, LAIR1 is expressed on T cells, B cells, macrophages, and dendritic cells. It is predicted to mediate inhibitory functions based on the

presence of immunoreceptor tyrosine-based inhibitory motifs (ITIMs) in its cytoplasmic domain. Cross-linking of LAIR1 on human T cell clones results in inhibition of cytotoxicity only in T cell clones that lack CD28 and can spontaneously lyse certain targets in vitro. Moreover, the cytolytic activity of freshly isolated T cells, which is thought to be mainly due to "effector" T cells, can be inhibited by anti-LAIR1 mAb. Thus, LAIR1 functions as an inhibitory receptor not only on NK cells but also on human T cells. This indicates that LAIR1 provides a mechanism of regulation of effector T cells and may play a role in the inhibition of unwanted bystander responses mediated by Ag-specific T cells.

### Reference

- Meyaard, L. et al., 1997, *Immunity*. 7:283-290.  
Meyaard, L. et al., 1999, *J. Immunol.* 162:5800-5804.  
Meyaard, L. et al., 2001, *J. Exp. Med.* 194 (1): 107-112.  
Meyaard, L., 2003, *J Biol Regul Homeost Agents.* 17 (4): 330-333.  
Lebbink, R. J. et al., 2008, *J Immunol.* 180 (3):1662-1669.  
Lebbink, R.J. et al., 2009, *Matrix Biol.* 28 (4):202-210.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel: 781-999-4286 E\_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481