Data Sheet (Cat.No.TMPY-04353)

TargetMol

LAIR1 Protein, Human, Recombinant (His)

General Information

Synonyms:	leukocyte-associated immunoglobulin-like receptor 1;LAIR-1;CD305
Protein Construction:	A DNA sequence encoding the human LAIR1 (AAF71275.2) (Met1-Tyr165) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Gln 22
Species:	Human
Expression Host:	HEK293 Cells
Accession:	AAF71275.2
Molecular Weight:	17.2 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. ≥ 90 % as determined by SEC-HPLC.
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.

Actual storage temperature shall be subject to the COA.

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. (1999) Leukocyte-associated Ig-like receptor-1 functions as an inhibitory receptor on cytotoxic T cells. J Immunol. 162 (10): 5800-4.

Meyaard L,et al. (2001) The epithelial cellular adhesion molecule (Ep-CAM) is a ligand for the leukocyte-associated immunoglobulin-like receptor (LAIR). J Exp Med. 194 (1): 107-12.

Xu M,et al. (2000) Identification and characterization of leukocyte-associated Ig-like receptor-1 as a major anchor protein of tyrosine phosphatase SHP-1 in hematopoietic cells. J Biol Chem. 275 (23): 17440-6.

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