Active Recombinant Human LAIR1 protein, His/Avi-tagged, Biotinylated

Cat. No. LAIR1-061H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Biotinylated Recombinant Human LAIR1(Gln22-His163) protein, fused to His/Avi tag at the C-terminus, was expressed in HEK293 cells .
Species	Human
Source	HEK293
ProteinLength	Gln22-His163
Description	LAIR1 (leukocyte-associated Ig-like receptor-1, designated CD305) is an approximately 40 kDa type I transmembrane inhibitory glycoprotein belonging to the Ig superfamily (1-4). LAIR1 is a collagen-binding protein that is expressed in a differentiation- and activation-dependent manner on most immune cells, including T, B, NK and dendritic cells (DC), monocytes, CD34+ hematopoietic progenitors, most thymocytes, and selected granulocyte populations (2-7). Mature human LAIR1 is a 266 amino acid (aa) type I transmembrane protein that includes a 144 aa extracellular domain (ECD) with one collagen-binding C2-type Ig-like domain, and a 101 aa cytoplasmic domain with two ITIM motifs (2, 3, 8, 9). Of four potential human LAIR1 splice variants, LAIR1b has a 17 aa deletion within the ECD, but outside the Ig domain. LAIR1c differs from LAIR1b by one aa. LAIR1d has a 78 aa cytoplasmic truncation and lacks ITIM motifs. Human LAIR1 ECD shares <45% aa sequence identity with mouse, rat, bovine or canine LAIR1 ECD, but all are functional orthologs. Humans, but not rodents, also express the 152 aa secreted protein LAIR2, which

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	shares 83% aa sequence identity with the LAIR1 ECD up to aa 140 and can block LAIR1 collagen binding (1, 2). A soluble form of LAIR1 found in plasma and urine also binds collagen (10). Adhesion of LAIR1 to collagens in the extracellular matrix, transmembrane collagens expressed by tumor cells, or antibody-mediated crosslinking of LAIR1, inhibits signals relayed by ITAM-bearing receptors and some cytokine-mediated signals (6-8, 13). Processes that are inhibited include B and T cell receptor-mediated activation, NK and T cell-mediated cytotoxicity, and basophil degranulation (1-4, 8). LAIR1 is reduced or absent on chronic lymphocytic leukemia (CLL) B cells, and some B and DC cells in systemic lupus erythematosus (SLE). Its under-expression potentially enhances CLL proliferation and SLE immune responses (7, 11, 12).
Predicted N Terminal	No results obtained: Gln22 inferred from enyzmatic pyroglutamate treatment revealing Glu23
Form	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose.
Bio-activity	Measured by its binding ability in a functional ELISA. When Bovine Collagen I is coated at 10 g/mL, 100 μL/well, Biotinylated Recombinant Human LAIR1 His-tag Avi-tag binds with an ED50 of 0.6-4.8 μg/mL.
Molecular Mass	25-38 kDa, under reducing conditions
Endotoxin	<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.
Applications	Bioactivity

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Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles.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.
Reconstitution	Reconstitute at 500 µg/mL in PBS.
Conjugation	Biotin

GENE INFORMATION

Gene Name	LAIR1 leukocyte-associated immunoglobulin-like receptor 1 [Homo sapiens]
Official Symbol	LAIR1
Synonyms	LAIR1; leukocyte-associated immunoglobulin-like receptor 1; leukocyte associated Ig like receptor 1; CD305; hLAIR1; leukocyte-associated Ig-like receptor 1; LAIR-1;
Gene ID	3903
mRNA Refseq	NM_002287
Protein Refseq	NP_002278
MIM	602992
UniProt ID	Q6GTX8

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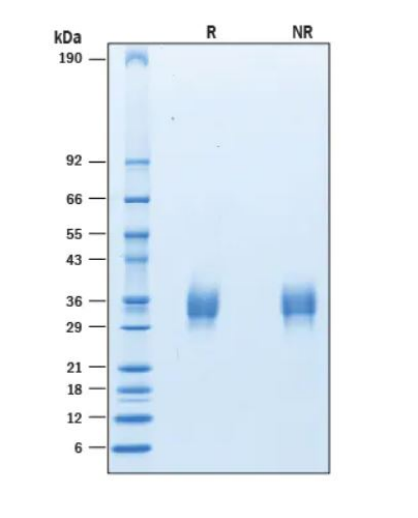
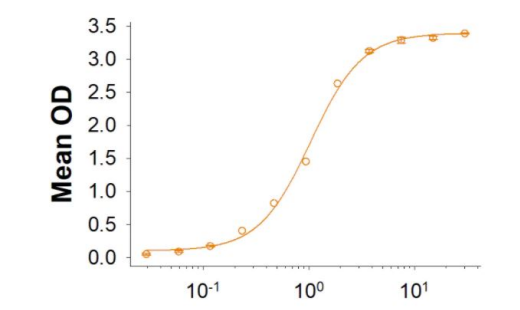
SDS-PAGE	 2 μg/lane Protein was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining.
Binding Activity	

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