

LAIR1 Protein, Human (HEK293, His-Avi)

Cat. No.:	HY-P78476
Synonyms:	CD305; HLAI1; LAIR1; LAIR-1
Species:	Human
Source:	HEK293
Accession:	Q6GTX8 (Q22-H163)
Gene ID:	3903
Molecular Weight:	30-36 kDa

PROPERTIES

Biological Activity	Immobilized Human LAIR1, His Tag at 0.5µg/ml (100µl/well) on the plate. Dose response curve for Anti-LAIR1 Antibody, hFc Tag with the EC ₅₀ of 15.3ng/ml determined by ELISA.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.4. Normally 5% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

The LAIR1 Protein serves as an inhibitory receptor, exerting a constitutive negative regulatory influence on the cytolytic function of natural killer (NK) cells, B-cells, and T-cells. Upon activation through tyrosine phosphorylation, it recruits and activates phosphatases PTPN6 and PTPN11. LAIR1 also dampens the increase in intracellular calcium triggered by B-cell receptor ligation. Beyond its dependency on SH2-containing phosphatases, it independently modulates cytokine production in CD4+ T-cells, suppressing IL2 and IFNG while promoting the secretion of transforming growth factor beta. Additionally, LAIR1 down-regulates IgG and IgE production in B-cells and hinders the secretion of IL8, IL10, and TNF. In myeloid leukemia cell lines, LAIR1 inhibits proliferation, induces apoptosis, and prevents nuclear translocation of NF-kappa-B p65 subunit/RELA, along with the phosphorylation of I-kappa-B alpha/CHUK. Moreover, LAIR1 inhibits the differentiation of peripheral blood precursors into dendritic cells. It interacts with the SH2 domains of tyrosine-protein phosphatases PTPN6 and PTPN11, with the interaction with PTPN6 being constitutive. Furthermore, LAIR1 binds with high affinity to extracellular matrix collagens, highlighting the functional importance of this interaction.

Caution: Product has not been fully validated for medical applications. For research use only.

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