



Recombinant Protein Technical Manual

Recombinant Human LAIR1 Protein (aa 2263, His Tag)
RPES3105

Product Data:

Product SKU: RPES3105

Size: 10µg

Species: Human

Expression host: Human Cells

Uniprot: Q6GTX8

Protein Information:

Molecular Mass: 16.5 kDa

AP Molecular Mass: 28 kDa

Tag: C-6His

Bio-activity:

Purity: > 95 % as determined by reducing SDS-PAGE.

Endotoxin: < 1.0 EU per µg as determined by the LAL method.

Storage: Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

Shipping: This product is provided as lyophilized powder which is shipped with ice packs.

Formulation: Lyophilized from a 0.2 µm filtered solution of 20mM PB, 150mM NaCl, pH 7.2.

Reconstitution: Please refer to the printed manual for detailed information.

Application:

Synonyms: Leukocyte-Associated Immunoglobulin-Like Receptor 1; LAIR; hLAIR1; CD305; LAIR1

Immunogen Information:

Sequence: Gln22-His163

Background:

Leukocyte-Associated Immunoglobulin-Like Receptor 1 (LAIR1) is a single-pass type I membrane protein. LAIR1 expressed on the majority of peripheral mononuclear cells, including natural killer (NK) cells, T-cells, B-cells, monocytes, and dendritic cells, highly in naive T-cells and B-cells. As an inhibitory receptor, LAIR1 plays a constitutive negative regulatory role on cytolytic function of natural killer (NK) cells, B-cells and T-cells. Activation by Tyr phosphorylation results in recruitment and activation of the phosphatases PTPN6 and PTPN11. It also reduces the increase of intracellular calcium evoked by B-cell receptor ligation. LAIR1 plays inhibitory role independently of SH2-containing phosphatases and modulates cytokine production in CD4+ T-cells. It down-regulates IL2 and IFNG production while inducing secretion of transforming growth factor beta, also down-regulates IgG and IgE production in B-cells as well as IL8, IL10 and TNF secretion. LAIR1 inhibits the differentiation of peripheral blood precursors towards dendritic cells. It also restrains proliferation and induces apoptosis in myeloid leukemia cell lines as well as prevents nuclear translocation of NF-kappa-B p65 subunit/RELA and phosphorylation of I-kappa-B alpha/CHUK in these cells.