

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

Cat. No. LTA-051H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Biotinylated Recombinant Human LTA(Leu35-Leu205) protein, fused to His/Avi tag at the C-terminus, was expressed in HEK293 cells .
Species	Human
Source	HEK293
ProteinLength	Leu35-Leu205
Description	Lymphotoxin alpha (LT-α), and Lymphotoxin beta (LT-β) are pro-inflammatory TNF superfamily ligands that play important roles in immune system development (1, 2). The 25 kDa mature human LT-α is a secreted protein that shares 75% amino acid (aa) sequence identity with mouse and rat LT-α (3, 4). The 33 kDa mature human LT-β is a type II transmembrane protein that shares 73% aa sequence identity with mouse and rat LT-β within common regions of their extracellular domains (5). Relative to the human protein, mouse and rat LT-β have a 66 aa or 65 aa insertion within the ECD, respectively. LT-α can be secreted as a homotrimer that binds and activates TNF RI/TNFRSF1A, TNF RII/TNFRSF1B, HVEM/TNFRSF14, and Troy/TNFRSF19 (6-8). LT-α is required for development of the spleen, lymph nodes, and Peyer's patches (9). It also regulates T cell homing to the gut and IgA induction (10). In addition, LT-α can form membrane-associated heterotrimers with two copies of LT-β on the surface of B, T, LTi, and ILC3 cells (2, 5, 11). The Lymphotoxin

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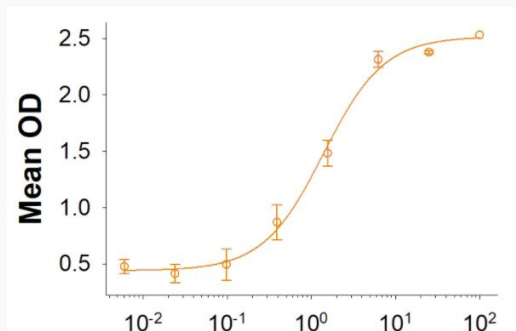
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$\alpha 1/\beta 2$ heterotrimer binds and activates the Lymphotoxin beta R/TNFRSF3 (LT β R) which is expressed on macrophages, dendritic cells, hepatocytes, intestinal epithelial cells (IEC), follicular dendritic cells (FDC), and high endothelial venules (HEV) (2, 12, 13). LT β R also serves as a receptor for LIGHT/TNFSF14 (14). LT- $\alpha 1/\beta 2$ promotes the development of FDC networks and HEV in lymphoid tissue, the class switching of immature B cells for IgA production, and the production of homeostatic IL-22 by ILCs (10, 15-17). It can be shed by ADAM17 or MMP-8 mediated cleavage, and the released heterotrimer circulates in the serum and is elevated in synovial fluid of rheumatoid arthritis patients (18).

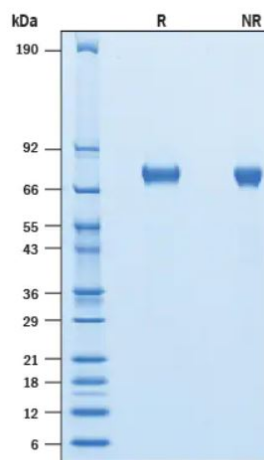
Predicted N Terminal	Leu35
Form	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose.
Bio-activity	Measured by its binding ability in a functional ELISA. When Recombinant Human Lymphotoxin beta R Fc Chimera is immobilized at 25 ng/mL (100 μ L/well), the concentration of Biotinylated Recombinant Human Lymphotoxin LTA His-tag Avi-tag that produces 50% of the optimal binding response is 0.75-4.5 ng/mL.
Molecular Mass	69-80 kDa
Endotoxin	<0.10 EU per 1 μ g 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

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	LTA lymphotoxin alpha (TNF superfamily, member 1) [Homo sapiens]
Official Symbol	LTA
Synonyms	LTA; lymphotoxin alpha (TNF superfamily, member 1); TNFB; lymphotoxin-alpha; LT; TNFSF1; LT-alpha; TNF-beta; tumor necrosis factor beta; tumor necrosis factor ligand superfamily member 1;
Gene ID	4049
mRNA Refseq	NM_000595
Protein Refseq	NP_000586
MIM	153440
UniProt ID	P01374

Binding Activity



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.