Recombinant Human Lymphotoxin α2/β1
Catalog Number: 679-TX/CF

DESCRIPTION

Source Spodoptera frugiperda, Sf 21 (baculovirus)-derived
Leu35-Leu205 (LTα) & Leu54-Gly244 (LTβ), both with an N-terminal Met & Thr41 - Leu205 (LTα)
Accession #: P01374 (LTα) & Q06643 (LTβ)

N-terminal Sequence Analysis Met & Thr41 (LTα) & Met (LTβ)
Structure / Form Noncovalently-linked heterotrimer
Predicted Molecular Mass 18 kDa (LTα), 18.5 kDa (LTβ)

SPECIFICATIONS

SDS-PAGE 18 - 26 kDa, reducing conditions
Activity Measured in a cytotoxicity assay using L-929 mouse fibroblast cells.
The ED50 for this effect is 0.5 - 3 ng/mL.
Endotoxin Level <1.0 EU per 1 µg of the protein by the LAL method.
Purity >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 µg/mL in sterile PBS.
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & 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.

BACKGROUND

Lymphotoxin-α (LT-α), also known as tumor necrosis factor (TNF) β, and lymphotoxin-β (LT-β) are members of the TNF family. LT-α cDNA encodes a 205 amino acid secreted soluble protein with a 34 amino acid signal sequence. LT-β cDNA encodes a 244 amino acid type II membrane protein with an N-terminal cytoplasmic domain (residues 1 - 18), a transmembrane region (residues 19 - 48), and an extracellular domain (residues 49 - 244). Secreted LT-α assembles as a soluble homotrimer, LT-α3. In addition, secreted LT-α also complexes with the membrane associated LT-β to generate two types of heterotrimers, LT-α1/β2 and LT-α2/β1 (1). The soluble LT-α3 binds both TNF RI (p55) and TNF RII (p75). In contrast, the predominant membrane-bound heterotrimer, LT-α1/β2, binds only to the lymphotoxin β receptor (LTβR). LT-α2/β1 is capable of binding LTβR, TNF RI (p55), and TNF RII (p75). LT plays a role in normal lymphoid organogenesis (2, 3). Transgenic LT-α knock-out mice exhibited a loss in lymph node development, a change in splenic architecture, and impaired germinal center formation (4). LT is expressed by activated naive CD4 cells, unpolarized IL-2-secreting effectors, and Th1 effectors. A loss of LT expression and lack of TNF-α or TNF-β secretion is associated with prior exposure to IL-4 and a Th2 phenotype (5).

References: