Recombinant Mouse Lymphotoxin α2/β1

Catalog Number: 1008-LY

DESCRIPTION

Source	*Spodoptera frugiperda*, *Sf* 21 (baculovirus)-derived Leu34-Leu202 (LTα) & Gly136-Gly306 (LTβ) Accession # P09225 (LTα) & P41155 (LTβ)
N-terminal Sequence Analysis	Leu34 (LTα) & Gly136 (LTβ)
Structure / Form	Noncovalently-linked heterotrimer
Predicted Molecular Mass	18.5 kDa (LTα), 18.4 kDa (LTβ)

SPECIFICATIONS

SDS-PAGE	18-22 kDa, reducing conditions
Activity	Measured in a cytotoxicity assay using L-929 mouse fibroblast cells in the presence of the metabolic inhibitor actinomycin D. Matthews, N. and M.L. Neale (1987) in Lymphokines and Interferons, A Practical Approach. Clemens, M.J. *et al.* (eds): IRL Press. 221. The ED_{50} for this effect is 10-40 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 with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 10 µg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.
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 (LTα), also known as tumor necrosis factor (TNF) β, and lymphotoxin-β (LTβ) are members of the TNF family. LTα cDNA encodes a 202 amino acid (aa) secreted soluble protein with a 33 aa signal sequence. LTβ cDNA encodes a 306 aa type II membrane protein with an N-terminal cytoplasmic domain (residues 1 - 18), a transmembrane region (residues 29 - 48), and an extracellular domain (residues 49 - 306). Secreted LTα assembles as a soluble homotrimer, LTα3. In addition, secreted LTα also complexes with the membrane associated LTβ to generate two types of heterotrimers, LTα1/β2 and LTα2/β1 (1). The soluble LTα3 binds both TNF RI (p55) and TNF RII (p75). In contrast, the predominant membrane-bound heterotrimer, LTα1/β2, binds only to the lymphotoxin β receptor (LTβR). LTα2/β1 is capable of binding LTβR, TNF RI (p55), and TNF RII (p75). LT plays a role in normal lymphoid organogenesis (2, 3). Transgenic LTα 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 naïve 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:

1. Browning *et al.* (1993) Cell **72**:847.
2. Ettinger *et al.* (1996) Proc. Natl. Acad. Sci. USA **93**:13102.
3. Cuff *et al.* (1998) J. Immunol. **161**:6853.
4. Browning *et al.* (1997) J. Immunol. **159**:3288.
5. Gramaglia *et al.* (1999) J. Immunol. **162**:1333.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449