Technical Data Sheet

Recombinant Human LT-α

Product Information

Material Number:	**554619**
Size:	10 µg
Concentration:	200 µg/ml
Reactivity:	QC Testing: Human
Storage Buffer:	Frozen aqueous buffered solution containing BSA.

Description

Lymphotoxin (LT-α), also known as, Tumor Necrosis Factor-β (TNF-β) is a potent multifunctional cytokine which is primarily produced by activated lymphocytes. LT-α has cytotoxic activity against a wide range of tumor cells and certain other target cells. Other LT-α activities include the activation of neutrophils, osteoclasts, and endothelial cells and the upregulation of the membrane expression of MHC antigens and adhesion molecules by various cell types. Human LT-α is a 18 kDa protein containing 171 amino acid residues. Recombinant human LT-α (Cat. No. 554619) is supplied as a frozen liquid comprised of 0.22 µm sterile-filtered aqueous buffered solution, containing bovine serum albumin, with no preservatives. Recombinant human LT-α is ≥ 95% pure as determined by SDS-PAGE analysis, and an absorbance assay based on the Beers-Lambert Law. The endotoxin level is ≤0.1 ng per µg of LT-α, as measured in a chromogenic LAL assay.

Preparation and Storage

Store product at -80°C prior to use or for long term storage of stock solutions.
Rapidly thaw and quick-spin product prior to use.
Avoid multiple freeze-thaws of product.
This preparation contains no preservatives, thus it should be handled under aseptic conditions.

Application Notes

Application

ELISA Standard	Routinely Tested
Bioassay	Tested During Development

Recommended Assay Procedure:

Upon initial thawing, recombinant human LT-α (Cat. No. 554619) should be aliquoted into polypropylene microtubes and frozen at -80°C for future use. Alternatively, the product can be diluted in sterile neutral buffer containing not less than 0.5 - 10 mg/mL carrier protein, such as human or bovine albumin, aliquoted and stored at -80°C. For *in vitro* biological assay use, carrier-protein concentrations of 0.5 - 1 mg/mL are recommended. For use as an ELISA standard carrier-protein concentrations of 5 - 10 mg/mL are recommended. Failure to add carrier protein or store at indicated temperatures may result in a loss of activity. Carrier proteins should be pre-screened for possible effects in each investigator's experimental system. Carrier proteins may have an undesired influence on experimental results due to toxicity, high endotoxin levels or possible blocking activity.

ELISA Standard: Recombinant human LT-α (Cat. No. 554619) can be useful as a quantitative standard for measuring human LT-α protein levels using sandwich ELISA with the purified 359-238-8 antibody (Cat. No. 551222) as a capture antibody and biotinylated 359-81-11 antibody (Cat. No. 554555) as the detection antibody. For measuring human LT-α in serum or plasma, investigators are highly encouraged to use the BD OptEIA™ Human LT-α ELISA Set (Cat. No. 550995).

Bioassay: Investigators are advised that the Bioassay application is not routinely tested for this material and are highly encouraged to both titrate this material and include appropriate controls in relevant experiments. An activity range of 0.3 - 5.0 x 10^9 units/mg, encompassing an ED50= 2 - 30 pg/mL, has previously been reported using L929 as indicator cells in an MTT/actinomycin D cytolysis assay, with a unit defined as the amount of material needed to stimulate a half-maximal response at cytokine saturation.

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Suggested Companion Products

Catalog Number	Name	Size	Clone
551222	Purified Mouse Anti-Human LT-α	1.0 mg	359-238-8
554555	Biotin Mouse Anti-Human LT-α	0.5 mg	359-81-11
550995	Human LT-α ELISA Set	20 plates	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Paul NL, Ruddle NH. Lymphotoxin. *Annu Rev Immunol.* 1988; 6:407-438. (Biology)

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