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ProductInformation

LYMPHOTOXIN-b RECEPTOR (TNF RIII, TNF R-related protein)/Fc Chimera
Human, Recombinant
Expressed in mouse NSO cells
Product Number **L2885**

Product Description

Recombinant human lymphotoxin-β receptor, extracellular domain[1], is a chimeric protein expressed in mouse NSO cells. Lymphotoxin-β receptor cDNA encodes a 435 amino acid residue type I membrane protein with a putative 30 amino acid residue signal peptide, a 193 amino acid residue extracellular domain and a 171 amino acid residue cytoplasmic domain. The reduced monomer has a calculated mass of approximately 49.6 kDa. Due to glycosylation, recombinant human lymphotoxin-β receptor migrates as a 70 kDa protein in SDS-PAGE under reducing conditions.

Lymphotoxin-β receptor, also known as TNF RIII and TNF R-related protein, a member of the TNF receptor family, is a disulfide-linked homodimeric protein. The extracellular domain of lymphotoxin-β receptor has four cysteine-rich motifs. At the amino acid level, human and mouse LT-β are 76% homologous. TNF-β can form heterotrimers with one or two molecules of the related membrane-bound lymphotoxin-β (LT-β). Reportedly, LT-α1/β2, the predominant heterotrimer, binds and activates only lymphotoxin-β receptor. The other heterotrimer, LT-α2/β1 binds and activates TNFR1 and TNFR2 but not lymphotoxin-β receptor.[2] Genes for TNF-β, LT-β and TNF-α are tightly linked near each other within the MHC. Depending on the cell type, activation of lymphotoxin-β receptor induces NFκβ activation, chemokine production, growth arrest, and apoptosis. *In vivo*, lymphotoxin-β receptor plays a critical role in controlling cellular immune functions and lymphoid organogenesis.[3] This receptor is expressed in a variety of tissues and cell lines of monocytic lineage, as well as in fibroblast and human melanoma cell lines. Unlike other members of the TNF receptor family, lymphotoxin-β receptor is not expressed by peripheral blood T cells.[4]

Reagents

Recombinant human lymphotoxin-β receptor is supplied as an approximately 100 µg of protein lyophilized from a 0.2 µm filtered solution of phosphate buffered saline.

Preparation Instructions

Reconstitute the contents of the vial using sterile phosphate-buffered saline (PBS) containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 50 µg/ml.

Storage/Stability

Store at –20°C. Upon reconstitution, store at 2-8°C for one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended.

Product Profile

Lymphotoxin-β receptor is measured by the ability of the immobilized lymphotoxin-β receptor/Fc to bind lymphotoxin α2/β1 and lymphotoxin-α1/β2 in ELISA.

Purity: >95% as determined by SDS-PAGE, visualized by silver stain.
Endotoxin: < 0.1 ng/µg of protein, determined by the LAL method.

References

1. Baens, M., et al., Construction and evaluation of a hncDNA library of human 12p transcribed sequences derived from a somatic cell hybrid. Genomics, **16**, 214-218 (1993).
2. Browning, J.L., et al., Lymphotoxin beta, a novel member of the TNF family that forms a heteromeric complex with lymphotoxin on the cell surface. Cell **72**, 847-856 (1993).

3. Mackay, F., et al., Lymphotoxin beta receptor triggering induces activation of the nuclear factor kappaB transcription factor in some cell types. J. Biol. Chem., **271**, 24934-24938 (1996).

4. Degli-Exposti, M.A., et al., Activation of the lymphotoxin beta receptor by cross-linking induces chemokine production and growth arrest in A 375 melanoma cells. J. Immunol., **158**, 1756-1762 (1997).

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