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ProductInformation

LYMPHOTACTIN (LPTN)
Mouse, Recombinant
Expressed in *Echerichia coli*

Product Number **L 6516**

Product Description

Recombinant mouse Lymphotactin (Lptn) is a protein expressed in *Escherichia coli*. This product is produced from a DNA sequence encoding the mature mouse lymphotactin sequence protein.[1] The 94 amino acid residue methionyl form of mature recombinant mouse lymphotactin has a predicted molecular mass of approximately 10 kDa.

Lymphotactin (Lptn), a member of γ or C subfamily of chemokines, is characterized by having only 2 cysteines. Mouse lymphotactin encodes a 114 amino acid residue precursor protein with a predicted signal peptide. It is the first chemotactic cytokine found to be specific for lymphocytes.[1] Mouse lymphotactin and its human homologue, also named human SCM-1 and ATAC, has been mapped to chromosome 1.

The expression of lymphotactin is restricted to activated mouse pro-T cells and to activated, class I MHC restricted T cells. Since lymphotactin is produced by lymphocytes and acts on lymphocytes, it is speculated that it is a messenger in T cell chemoattraction. Recombinant mouse lymphotactin is chemotactic for lymphocytes, NK cells [2], and mouse splenocytes but not monocytes or neutrophils.[1] It has been shown that lymphotactin is a key regulator of lymphocyte motility and adhesion during acute allograft rejection. [3] Lymphotactin has the ability to both inhibit and co-stimulate CD4+ and CD8+ T cell activation, respectively. [4]

Reagent

Recombinant mouse Lymphotactin (Lptn) is supplied as approximately 25 µg of protein lyophilized from a 0.2 µm filtered solution in 30 % acetonitrile, 0.1 % trifluoroacetic acid (TFA) containing 1.25 mg bovine serum albumin.

Preparation Instructions

Reconstitute the contents of the vial using sterile phosphate-buffered saline (PBS) containing 0.1 % human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 100 µg/ml.

Storage/Stability

Prior to reconstitution, store at –20 °C. Reconstituted product may be stored at 2 °C to 8 °C for at least one month. For prolonged storage, freeze in working aliquots at –20 °C. Avoid repeated freezing and thawing.

Product Profile

Recombinant mouse Lymphotactin (Lptn) is measured by its ability to chemoattract 3 week IL-2 cultured human lymphocytes and by its ability to chemoattract mouse BaF/3 cells transfected with h/XCR1.
The ED_{50} for chemotaxis of Il-2 cultured lymphocytes is generally 6 to 12 µg/ml. The ED_{50} for chemotaxis of BaF/3 hCXR1 cells is generally 0.05 to 0.1 µg/ml.
The ED_{50} is defined as the effective concentration of growth factor that elicits a 50 % increase in cell growth in a cell based bioassay.
Purity: >97 % as determined by SDS-PAGE, visualized by silver stain.
Endotoxin: <0.1 ng/µg determined by the LAL method.

References

1. Kelner, G.S., et al., Lymphotactin: a cytokine that represents a new class of chemokine. Science, **266**, 1395-1399 (1994).
2. Hedrick, J.A., et al., Lymphotactin is produced by NK cells and attracts both NK cells and T cells *in vivo*. J. Immunol., **158**, 1533-1540 (1997).
3. Wang, J.D., et al., Lymphotactin: a key regulator of lymphocyte trafficking during acute graft rejection. Immunology, **95**, 56-61 (1998).
4. Cerdan, C., et al., The C-class chemokine, lymphotactin, impairs the induction Th1-type lymphokines in human CD4(+) T cells. Blood, **96**, 420-428 (2000).

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