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Certificate of Analysis and Data Sheet

Recombinant Mouse Lipopolysaccharide Binding Protein

Catalog No.	**Source**
228-11012	*Chinese Hamster Ovarian Cells (CHO).*

Synonyms

Lipopolysaccharide-binding protein, LBP, Ly88.

Introduction

Lipopolysaccharides (LPS) are a type of glycolipids on the outer cell wall of Gram-negative bacteria. Lipopolysaccharide binding protein (aka LBP) is a plasma protein which facilitates the diffusion of bacterial LPS (endotoxin). LBP is involved in the acute-phase immunologic response to gram-negative bacterial infections. In cooperation with bactericidal permeability-increasing protein (BPI), LBP binds LPS and interacts with the CD14 receptor, most likely playing a role in regulating LPS-dependent monocyte responses. LBP belongs to a family of structurally and functionally related proteins, including BPI, plasma cholesteryl ester transfer protein (CETP), and phospholipid transfer protein (PLTP). The LBP gene is found on chromosome 20, directly downstream of the BPI gene. LBP catalyzes the transfer of LPS monomers from LPS aggregates to HDL particles, to phospholipid bilayers, and to a binding site on soluble CD14 (sCD14). sCD14 is capable of speeding up the transfer by receiving an LPS monomer from an LPS aggregate, and then yielding it to an HDL particle, therefore acting as a soluble "shuttle" for an insoluble lipid.

Description

LBP is produced from mouse LBP transfected CHO-cells in serum free medium. For transfection we have cloned complete mouse LBP cDNA into expression vector pPOL-DHFR. Before tranfection the complete mouse LBP cDNA was amplified by PCR and cloned into expression vector p-POL-DHFR. RmLBP was produced by his-tag by means of metal affinity purification with Talon and controlled by SDS page.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

Recombinant Mouse LBP was lyophilized from a protein solution (1 mg/ml) containing phosphate-buffered saline, pH 7.2.

Solubility

It is recommended to reconstitute the lyophilized LBP in sterile 18MΩ-cm H2O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.

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Stability

Lyophilized LBP Mouse Recombinant although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution LBP should be stored at 4°C between 2-7 days and for future use below -18°C.
Please prevent freeze-thaw cycles.

Attention

His-tag at the c-terminal end of the LBP has no protease site and is not to split off. up to 2µg/ml LBP mediates binding of FITC-LPS (0.5µg/ml) to CD14+CHO transfectants (2 x 106/ml).
One unit is defined as the amount of enzyme needed to cleave 50µg of fusion protein in 16 hours to 95% completion at 25°C in a buffer containing 25mM Tris-HCl, pH 7.6, 50mM NaCl, and 2mM CaCl2.

Characterization

On SDS-PAGE commassie blue stained gel, the 95% purified recombinant protein shows a band at 58 kDa.

Applications

- ELISA
- Inhibition Assays
- Western Blotting.

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