SANTA CRUZ BIOTECHNOLOGY, INC.

LBP (4E8): sc-293253

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Lipopolysaccharide-binding protein (LBP) is essential for the rapid induction of an inflammatory response in the presence of small amounts of lipopolysaccharide (LPS) or Gram-negative bacteria. During Gram-negative bacterial infections, membrane associated LPS, the principal stimulator of the innate immune system, is bound by the acute-phase reactant LBP. Secretion of LBP sensitizes the immune system to endotoxin, enhances the neutralization of endotoxin by high density lipoprotein and, at elevated levels, protects against sepsis. The human LBP sequence consists of a 25-residue signal sequence followed by a 452-residue mature protein containing four cysteine residues and five putative glycosylation sites. During inflammation, LBP is secreted by hepatic cells and intestinal epithelial cells. LPS bound to LBP through lipid A moieties is transferred to LPS receptors (CD14) on the surface of macrophages or to high-density lipoprotein (HDL) particles.

REFERENCES

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2. Jack, R.S., Fan, X., Bernheiden, M., Rune, G., Ehlers, M., Weber, A., Kirsch, G., Mentel, R., Furll, B., Freudenberg, M., Schmitz, G., Stelter, F. and Schutt, C. 1997. Lipopolysaccharide-binding protein is required to combat a murine Gram-negative bacterial infection. Nature 389: 742-745.
3. Nakatomi, K., Aida, Y., Kusumoto, K., Pabst, M.J. and Maeda, K. 1998. Neutrophils responded to immobilized lipopolysaccharide in the absence of lipopolysaccharide-binding protein. J. Leukoc. Biol. 64: 177-184.
4. Tapping, R.I., Orr, S.L., Lawson, E.M., Soldau, K. and Tobias, P.S. 1999. Membrane-anchored forms of lipopolysaccharide (LPS)-binding protein do not mediate cellular responses to LPS independently of CD14. J. Immunol. 162: 5483-5489.
5. Vreugdenhil, A.C., Snoek, A.M., Greve, J.W. and Buurman, W.A. 2000. Lipopolysaccharide-binding protein is vectorially secreted and transported by cultured intestinal epithelial cells and is present in the intestinal mucus of mice. J. Immunol. 165: 4561-4566.

CHROMOSOMAL LOCATION

Genetic locus: LBP (human) mapping to 20q11.23.

SOURCE

LBP (4E8) is a mouse monoclonal antibody raised against amino acids 26-477 representing full length LBP of human origin.

PRODUCT

Each vial contains 200 µl ascites containing IgM with < 0.1% sodium azide.

STORAGE

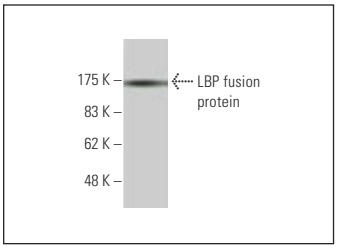
For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

APPLICATIONS

LBP (4E8) is recommended for detection of LBP of human origin by Western Blotting (starting dilution: to be determined by researcher, dilution range 1:100-1:5000), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:30-1:5000).

Suitable for use as control antibody for LBP siRNA (h): sc-43890, LBP shRNA Plasmid (h): sc-43890-SH and LBP shRNA (h) Lentiviral Particles: sc-43890-V.

DATA



LBP (4E8): sc-293253. Western blot analysis of human recombinant LBP fusion protein.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.