



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



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Diagnostik & molekulare Diagnostik



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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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# LBP shRNA (h) Lentiviral Particles: sc-43890-V

## 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

- Schumann, R.R., Leong, S.R., Flaggs, G.W., Gray, P.W., Wright, S.D., Mathison, J.C., Tobias, P.S. and Ulevitch, R.J. 1990. Structure and function of lipopolysaccharide binding protein. *Science* 249: 1429-1431.
- Jack, R.S., Fan, X., Bernheiden, M., Rune, G., Ehlers, M., Weber, A., Kirsch, G., Mentel, R., Füll, 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.
- 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.
- 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.

## CHROMOSOMAL LOCATION

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

## PRODUCT

LBP shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200  $\mu$ l frozen stock containing  $1.0 \times 10^6$  infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see LBP siRNA (h): sc-43890 and LBP shRNA Plasmid (h): sc-43890-SH as alternate gene silencing products.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

LBP shRNA (h) Lentiviral Particles is recommended for the inhibition of LBP expression in human cells.

## SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200  $\mu$ l frozen viral stock containing  $1.0 \times 10^6$  infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

## GENE EXPRESSION MONITORING

LBP (N-17) : sc-14666 is recommended as a control antibody for monitoring of LBP gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LBP gene expression knockdown using RT-PCR Primer: LBP (h)-PR: sc-43890-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

## STORAGE

Store lentiviral particles at -80° C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4° C for up to one week. Avoid repeated freeze thaw cycles.

## RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.