



LD Biopharma, Inc.  
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## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human LTA4H Protein  
**Catalog Number:** hRP-1636  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Leukotriene A4 hydrolase, also known as *LTA4H* is a bi-functional enzyme (EC 3.3.2.6) which converts leukotriene A4 to leukotriene B4 and acts as an aminopeptidase. Leukotriene B4 is a leukotriene involved in inflammation. It is produced from leukocytes in response to inflammatory mediators and is able to induce the adhesion and activation of leukocytes on the endothelium, allowing them to bind to and cross it into the tissue. In neutrophils, it is also a potent chemoattractant, and is able to induce the formation of reactive oxygen species and the release of lysosome enzymes by these cells. It is synthesized by *LTA4H* from leukotriene A4. Recent data indicated that LTB4 promote insulin resistance in mice model, by acting on macrophage, hepatocytes and myocytes.

Full-length mature human LTA4H cDNA ( 610 aa, derived from BC032528 ) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (31aa) fusion at its N-terminal. This protein was expressed in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** LTA4H  
**Accession Number:** NP\_000886  
**Species:** Human  
**Size:** 20 µg / Vial  
**Composition:** 0.2 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.  
**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

### Key References

Pingping Li, et al., *LTB4 promotes insulin resistance in obese mice by acting on macrophage, hepatocytes and myocytes*. Nature Med. February. Doi: 10.1038/nm.3800. (2015)



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Dalli J, et al., *The novel 13S,14S-epoxy-maresin is converted by human macrophages to maresin 1 (MaR1), inhibits leukotriene A4 hydrolase (LTA4H), and shifts macrophage phenotype.* FASEB J. 27 (7), 2573-2583 (2013)

Zhao J, et al., *Leukotriene A4 hydrolase haplotype, diet and atherosclerosis: a twin study.* Atherosclerosis 226 (1), 238-244 (2013)

## Applications

1. May be used for in vitro LTA4H protein mediated inflammation / insulin resistance regulation in macrophage / liver cells study by intracellular delivery of this protein with “ProFectin” reagent.
2. May be used for mapping LTA4H protein-protein interaction.
3. As antigen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHENLYFQGGFEFGSPEIVDTCSLSPASVCR TKHLHLRCSVDFTRRT  
LTGTAALTVQSQEDNLRSLVLDTKDLTIEKVVINGQEVKYALGERQSYKGSPEI SLP IALS KN  
QEIVIEISFETSPKSSALQWLTPEQTSKGHEPYLFSQCQAIHCRAILPCQDTPSVKLT YTAEVS  
VPKELVALMSAIRDGETDPEDPSRKIYKFIQKVPIPCYLIALVVGALSRQIGPRTLWSEKE  
QVEKSAYEFSETESMLKIAEDLGGPYVWVGQYDLLVLPSPFPYGGMENPCLTFVTP TLLAGDKSL  
SNVIAHEISHSWTGNLVTNKTWDHFWLNEGHTVYLERHICGRLFG EKFRHFNALGGWGELQNSV  
KTFGETHPFTKLVVDLTDIDPDVAYSSVPYEKGFALLFYLEQLLGGPEIFLGF LKAYVEKFSYK  
SITDDWKDFLYSYFKDKVDVLNQVDWNAWLYSPGLPPIKPNYDMTLTNACIALSQRWITAKED  
DLNSFNATDLKDLSSHQLNEFLAQT LQRAPLPLGHIKRMQEVYNFNA INNSEIRFRWLRLCIQS  
KWEDAIPLALKMATEQGRMKFTRPLFKDLAAFDKSHDQAVRTYQEHKASMPV TAMLVGKDLKV  
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