



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human FABP1 Protein
Catalog Number: hRP-1841
Manufacturer: LD Biopharma, Inc.

Introduction

The fatty-acid-binding proteins (FABPs) are a family of transport proteins for fatty acids and other lipophilic substances such as eicosanoids and retinoids. These proteins are thought to facilitate the transfer of fatty acids between extra- and intracellular membranes. Some family members are also believed to transport lipophilic molecules from outer cell membrane to certain intracellular receptors such as PPAR. Levels of fatty-acid-binding protein have been shown to decline with ageing in the mouse brain, possibly contributing to age-associated decline in synaptic activity. FABP1 and FABP6 protein are mainly expressed in human liver (the ileal fatty acid binding protein) are also able to bind bile acids. FABP1 plays an important role in regulation of cholesterol uptake in liver. Recent data indicated that expression level of human FABP1 protein is variable in multiple types of tumors, which could be used for prognosis application.

Full-length of human FABP1 cDNA (derived from BC032801) 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: FABP1 (FABPL; L-FABP)
Accession Number: NP_001434
Species: Human
Size: 50 µg / Vial
Composition: 0.5 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.



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Key References

Huang H, et al., *Human FABP1 T94A variant enhances cholesterol uptake* Biochim. Biophys. Acta 1851 (7), 946-955 (2015)

Hughes ML, et al., *Fatty Acid-binding Proteins 1 and 2 Differentially Modulate the Activation of Peroxisome Proliferator-activated Receptor alpha in a Ligand-selective Manner.* J. Biol. Chem. 290 (22), 13895-13906 (2015)

Xu Y, et al., *L-FABP: A novel biomarker of kidney disease.* Clin. Chim. Acta 445, 85-90 (2015)

Tian Y, et al., *Association of L-FABP T94A and MTP I128T polymorphisms with hyperlipidemia in Chinese subjects.* Lipids 50 (3), 275-282 (2015)

Inoue M, et al., *Significance of downregulation of liver fatty acid-binding protein in hepatocellular carcinoma.* World J. Gastroenterol. 20 (46), 17541-17551 (2014)

Applications

1. May be used for in vitro FABP1 mediated long-chain fatty acid metabolism regulation study for cancer cells or neuronal cell differentiation regulation by intracellular delivery of this protein with ProFectin Reagent.
2. May be used for protein-protein interaction mapping.
3. As enzymatic substrate for various proteases.
4. Potential biomarker protein for cancer diagnostic or monitoring kidney diseases.
5. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGFEGSSFSGKYQLQSQENFEAFMKAIGLPEELIQKGD
IKGVSEIVQNGKHKFKFTITAGSKVIQNEFTVGEECELETMTGEKVKTVVQLEGDNKLVTTFKNI
KSVTELNVDIITNTMTLGDIVFKRISKRI