# FABP4/A-FABP Human Recombinant Protein

## PRODUCT OVERVIEW

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| **Product Name** | FABP4/A-FABP, Recombinant Protein |
| **Full Product Name** | Recombinant Human FABP4/A-FABP Protein (N-His) |
| **Product Gene Name** | FABP4/A-FABP recombinant protein |
| **Product Synonym Names** | Fatty Acid-Binding Protein Adipocyte; Adipocyte Lipid-Binding Protein; ALBP; Adipocyte-Type Fatty Acid-Binding Protein; A-FABP; AFABP; Fatty Acid-Binding Protein 4 |
| **Sequence** | Cys2-Ala13 2 |
| **Host** | E Coli |
| **Form/Format** | Lyophilized from a 0.2 mum filtered solution of 20mM PB, 150mM NaCl, pH7.4. |
| **Purity/Purification** | >95% as determined by reducing SDS-PAGE. |
| **Preparation and Storage** | Lyophilized protein should be stored at < -20 degree C, though stable at room temperature for 3 weeks. Reconstituted protein solution can be stored at 4-7 degree C for 2-7 days. Aliquots of reconstituted samples are stable at < -20 degree C for 3 months. |
| **Molecular Weight** | Molecular Mass: 16.88kDa<br>Actual Protein Molecular Mass: 15kDa |
| **OMIM** | 600434 |
| **3D Structure** | ModBase 3D Structure for P15090 |
| **Species** | Human |
| **Endotoxin** | < 1.0 EU per mug as determined by the LAL method. |
| **Fusion Tag** | N-His |
| **ISO Certification** | Manufactured in an ISO 9001:2015 Certified Laboratory. |
| **Related Product Information for FABP4/A-FABP recombinant protein** | Protein Construction: Recombinant Human FABP4 is produced by our E Coli expression system and the target gene encoding Cys2-Ala132 is expressed with a 6His tag at the N-terminus.<br><br>Background: Fatty Acid-Binding Protein 4 (FABP4) is a cytoplasm protein that belongs to the fatty-acid binding protein (FABP) family of calycin superfamily. Fatty acid binding proteins are a family of small, highly conserved, cytoplasmic proteins that bind long-chain fatty acids. FABP4 is expressed in a differentiation-dependent fashion in adipocytes and is a critical gene in the regulation of the biological function of these cells. FABP4 is thought to participate in Lipid transport protein in adipocytes. FABP4 binds to the long chain fatty acids and retinoic acid, delivers long-chain fatty acids and retinoic acid to their cognate receptors in the nucleus. FABP4 modulates inflammatory responses and cholesterol ester accumulation. FABP4 is a plasma marker of metabolic disturbances in HIV-infected patients, and therefore, could serve to guide therapeutic intervention in this group of patients. |
| **Other Notes** | Small volumes of FABP4/A-FABP recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply. |
| **Searchable Terms for FABP4/A-FABP purchase** | MBS2557291 is a recombinant protein targeting FABP4/A-FABP. Also known as Recombinant Human FABP4/A-FABP Protein (N-His). Host: E Coli. |

## ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for FABP4/A-FABP. It may not necessarily be applicable to this product.

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| **NCBI GI #** | 119781 |
| **NCBI GeneID** | 2167 |
| **NCBI Accession #** | P15090.3 |
| **UniProt Primary Accession #** | P15090 |
| **UniProt Related Accession #** | P15090 |
| **NCBI Official Full Name** | Fatty acid-binding protein, adipocyte |
| **NCBI Official Synonym Full Names** | fatty acid binding protein 4 |
| **NCBI Official Symbol** | FABP4 |
| **NCBI Official Synonym Symbols** | aP2; ALBP; AFABP; A-FABP; HEL-S-104 |
| **UniProt Protein Name** | Fatty acid-binding protein, adipocyte |
| **UniProt Synonym Protein Names** | Adipocyte lipid-binding protein; ALBP; Adipocyte-type fatty acid-binding protein; A-FABP; AFABP; Fatty acid-binding protein 4 |
| **UniProt Gene Name** | FABP4 |
| **UniProt Synonym Gene Names** | ALBP; A-FABP; AFABP |
| **UniProt Entry Name** | FABP4_HUMAN |
| **NCBI Protein Information** | fatty acid-binding protein, adipocyte |
| **NCBI Summary for FABP4/A-FABP** | FABP4 encodes the fatty acid binding protein found in adipocytes. Fatty acid binding proteins are a family of small, highly conserved, cytoplasmic proteins that bind long-chain fatty acids and other hydrophobic ligands. It is thought that FABPs roles include fatty acid uptake, transport, and metabolism. [provided by RefSeq, Jul 2008] |
| **UniProt Comments for FABP4/A-FABP** | FABP4: a lipid transport protein that is the predominant fatty acid binding protein found in adipocytes. Also expressed in macrophages. Binds both long chain fatty acids and retinoic acid. Delivers long-chain fatty acids and retinoic acid to their cognate receptors in the nucleus. Homodimer. Forms a beta-barrel structure that accommodates hydrophobic ligands in its interior. Interacts with PPARG. Monomer. FABP4 knockout mice fed a high-fat and high-calorie diet become obese but develop neither insulin resistance nor diabetes, suggesting that this protein might be a link between obesity and insulin resistance and diabetes. Mice deficient in both FABP4 and ApoE show protection against atherosclerosis when compared with mice deficient only in ApoE. Mice carrying a FABP4 genetic variant exhibit both reduced FABP4 expression and a reduced potential for developing type 2 diabetes and coronary heart disease. A related study in humans indicated a similar pattern, suggesting that FABP4 may be a potential therapeutic target in the treatment of these disorders. Belongs to the calycin superfamily,fatty-acid binding protein (FABP) family.<br><br>Protein type: Lipid-binding<br><br>Chromosomal Location of Human Ortholog: 8q21<br><br>Cellular Component: cytoplasm; lipid particle; nucleus<br><br>Molecular Function: transporter activity; fatty acid binding<br><br>Biological Process: cholesterol homeostasis; transport; white fat cell differentiation; triacylglycerol catabolic process; brown fat cell differentiation; negative regulation of protein kinase activity; cytokine production; negative regulation of transcription, DNA-dependent; positive regulation of inflammatory response |
| **Research Articles on FABP4/A-FABP** | **1.** Circulating AFABP levels were predictive of incident adverse renal outcomes, even in participants with relatively well-preserved kidney function at baseline, suggesting its potential to be a useful marker for early risk stratification in DKD. |
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