FABP4 Cell Lysate – Tissue Lysate

PRODUCT OVERVIEW

Product Name	FABP4, Cell Lysate
Full Product Name	Mouse FABP4 HEK293 Overexpression Lysate
Product Gene Name	FABP4 cell lysate
Product Synonym Names	Mouse FABP4/ALBP/A-FABP HEK293 Cell Lysate (WB positive control); fatty acid binding protein 4, adipocyte; Mouse 422/aP2 Overexpression Lysate; Mouse ALBP/Ap2 Overexpression Lysate; Mouse Ap2 Overexpression Lysate; Mouse Lbpl Overexpression Lysate
Sequence	Met1-Ala13 2
Host	HEK293 Cells
Form/Format	1x Sample Buffer (1x modified RIPA buffer+1x SDS loading buffer). Modified RIPA Lysis Buffer: 50 mM Tris-HCl pH 7.4, 150 mM NaCl, 1mM EDTA, 1% Triton X-100, 0.1% SDS, 1% Sodium deoxycholate, 1mM PMSF.
Preparation and Storage	Store at 4 degree C for up to twelve months from date of receipt. After re-dissolution, aliquot and store at -80 degree C for up to twelve months. Avoid repeated freeze-thaw cycles. Samples are stable for up to twelve months from date of receipt.
Molecular Weight	14,650 Da
Sequence Positions	143aa
3D Structure	ModBase 3D Structure for P04117
Species	Mouse
Recommend Usage	1. Centrifuge the tube for a few seconds and ensure the pellet at the bottom of the tube.**2. Re-dissolve the pellet using 200uL pure water and boil for 2-5 min.**
Sequence Construction	A DNA sequence encoding the mouse FABP4 (NP_077717.1) (Met 1-Ala 132) was expressed, with a C-terminal polyhistidine tag.
Preparation Method	Cell lysate was prepared by homogenization of the over-expressed cells in ice-cold modified RIPA Lysis Buffer with cocktail of protease inhibitors. Cell debris was removed by centrifugation. Protein concentration was determined by Bradford assay (protein assay, Microplate Standard assay). The cell lysate was boiled for 5 min in 1 x SDS loading buffer (50mM Tris-HCl pH 6.8, 12.5% glycerol, 1% sodium dodecylsulfate, 0.01% bromophenol blue) containing 5% b-mercaptoethanol, and lyophilized.
Product Categories/Family for FABP4 cell lysate	Early Mesodermal Lineage Markers
Applications Tested/Suitable for FABP4 cell lysate	Western Blot (WB)
Application Notes for FABP4 cell lysate	WB: Use at an assay dependent dilution.

Related Product Information for FABP4 cell lysate	Fatty acid-binding protein, adipocyte, also known as Adipocyte-type fatty acid-binding protein, Fatty acid-binding protein 4, Adipocyte lipid-binding protein, and FABP4, is a cytoplasm protein which belongs to thecalycin superfamily and Fatty-acid binding protein (FABP) family. In familial combined hyperlipidemia (FCHL), FABP4 correlated to body mass index (BMI), waist circumference and homeostasis model assessment (HOMA) index.FABP4 levels were associated with triglyceride-rich lipoproteins. In humans serum FABP4 levels correlate significantly with features of PCOS. It appears to be a determinant of atherogenic dyslipidemia. FABP4 pathway mediates the sebaceous gland hyperplasia in keratinocyte-specific Pten-null mice. FABP4 concentration significantly increased with an increasing of MS features and was strongly correlated with body-mass index, triglycerides, HDL-cholesterol concentrations and blood pressure. Patients in the highest quartile of FABP4 presented a six-fold increased odds ratio for MS and a three-fold increased odds for LD, adjusted by age, sex, body-mass index and the antiretroviral therapy. FABP4 is a strong plasma marker of metabolic disturbances in HIV-infected patients, and therefore, could serve to guide therapeutic intervention in this group of patients. This Mouse FABP4 overexpression lysate was created in HEK293 Cells and intented for use as a Western blot (WB) positive control. Purification of FABP4 protein from the overexpression lysate was verified.
Product References and Citations for FABP4 cell lysate	van Dongen, M.J. et al., 2002, J Am Chem Soc. 124 (40): 11874-80. Coll, B. et al., 2008, Atherosclerosis 199 (1):147-53. Hoashi, S. et al., 2008, BMC Genet. 9 :84. Cai, H. et al., 2010, Bioorg Med Chem Lett 20 (12):3675-9.
Other Notes	Small volumes of FABP4 cell lysate 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 purchase	MBS8116764 is a cell lysate targeting FABP4. Also known as Mouse FABP4 HEK293 Overexpression Lysate. Host: HEK293 Cells.

ADDITIONAL DETAILS

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

NCBI GI #	14149635
NCBI GeneID	11770
NCBI Accession #	NP_077717.1
UniProt Primary Accession #	P04117
UniProt Related Accession #	P04117
GenBank Nucleotide #	NM_024406.2
NCBI Official Full Name	fatty acid-binding protein, adipocyte
NCBI Official Synonym Full Names	fatty acid binding protein 4, adipocyte
NCBI Official Symbol	Fabp4
NCBI Official Synonym Symbols	Ap2; Lbpl; 422/aP2; ALBP/Ap2
UniProt Protein Name	Fatty acid-binding protein, adipocyte
UniProt Synonym Protein Names	3T3-L1 lipid-binding protein; Adipocyte lipid-binding protein; ALBP; Adipocyte-type fatty acid-binding protein; A-FABP; AFABP; Fatty acid-binding protein 4; Myelin P2 protein homolog; P15; P2 adipocyte protein; Protein 422
Protein Family	Fatty acid-binding protein
UniProt Gene Name	Fabp4
UniProt Synonym Gene Names	Ap2; ALBP; A-FABP; AFABP
UniProt Entry Name	FABP4_MOUSE
NCBI Protein Information	fatty acid-binding protein, adipocyte

UniProt Comments for FABP4	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. Protein type: Lipid-binding Cellular Component: cytoplasm; cytosol Biological Process: brown fat cell differentiation; cholesterol homeostasis; cytokine production; fatty acid metabolic process; negative regulation of protein kinase activity; negative regulation of transcription, DNA-dependent; positive regulation of cell proliferation; positive regulation of inflammatory response; white fat cell differentiation
Research Articles on FABP4	**1.** Data suggest Fabp4 is up-regulated and DNA methylation is down-regulated in aorta in hyperhomocysteinemia induced by high-methionine diet; up-regulation of DNA methyltransferase 1 (Dnmt1) promotes DNA methylation and decreases Fabp4 expression.
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