Adipocyte Fatty Acid Binding Protein NATIVE, Human Adipose Tissue

Product Data Sheet

Type: Native
Source: Human adipose tissue
Species: Human
Other names: Adipocyte-type fatty acid-binding protein, A-FABP, Fatty acid-binding protein 4, Adipocyte lipid-binding protein, ALBP, FABP4

Cat. No.:

RD165036050	(0.05 mg)

Description

Native protein isolated from Human Adipose Tissue, 131 AA, MW 14,587 kDa (calculated without glycosylation). Protein identity confirmed by LC-MS/MS (NCBI no. gi|4557579).

Introduction to the Molecule

Adipocyte fatty acid binding protein AFABP is a 15 kDa member of the intracellular fatty acid binding protein (FABP) family, which is known for the ability to bind fatty acids and related compounds (bile acids or retinoids) in an internal cavity. AFABP is expressed in a differentiation-dependent fashion in adipocytes and is a critical gene in the regulation of the biological function of these cells . In mice, targeted mutations in AFABP provide significant protection from hyperinsulinemia and insulin resistance in the context of both dietary and genetic obesity. Adipocytes obtained from AFABP-deficient mice also have reduced efficiency of lipolysis in vitro and in vivo, and these mice exhibited moderately improved systemic dyslipidemia. Recent studies also demonstrated AFABP expression in macrophages upon differentiation and activation. In these cells, AFABP modulates inflammatory responses and cholesterol ester accumulation, and total or macrophage-specific AFABP deficiency confers dramatic protection against atherosclerosis in the *apoE*$^{-/-}$ mice. These results indicate a central role for AFABP in the development of major components of the metabolic syndrome through its distinct actions in adipocytes and macrophages.

Research topic

Diabetology - Other Relevant Products, Energy metabolism and body weight regulation

Amino Acid Sequence

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CDAFVGTWKL VSSENFDDYM KEVGVGFATR KVAGMAKPNM IISVNGDVIT IKSESTFKNT EISFILGQEF DEVTADDRKV
KSTITLDGGV LVHVQKWDGK STTIKRKRED DKLVVECVMK GVTSTRVYER A
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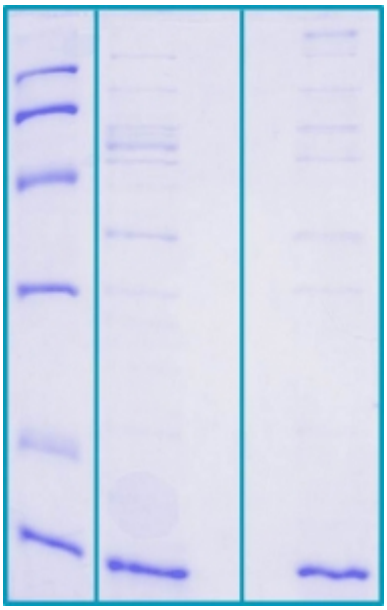
Source

Human adipose tissue

Purity

Purity as determined by densitometric image analysis: > 85 %

SDS-PAGE gel



SDS-PAGE analysis of Adipocyte Fatty Acid-Binding Protein, NATIVE
14% gel stained with Coomassie Brillant Blue R250

1) M.W. marker - 14, 21, 31, 45, 66, 97 kDa

2) reduced and heated sample, 2.5µg/lane

3) non-reduced and non-heated sample, 2.5µg/lane

Endotoxin

< 1.0 EU/ug

Formulation

Filtered (0,4 µm) and lyophilized in 0,5 mg/mL in in 0,05M phosphate buffer, 0,075M NaCl, pH 6,5.

Reconstitution

Add deionized water to prepare a working stock solution of approximately 0.5 mg/mL and let the lyophilized pellet dissolve completely. Product is not sterile! Please filter the product by an appropriate sterile filter before using it in the cell culture.

Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage, Stability/Shelf Life

Store the lyophilized protein at -80°C. Lyophilized protein remains stable until the expiry date when stored at -80°C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at -80°C for long term storage. Reconstituted protein can be stored at 4°C for a week.

Quality Control Test

BCA to determine quantity of the protein.
SDS PAGE to determine purity of the protein.
LAL to determine quantity of endotoxin.

Applications

Cell culture and/or animal studies, ELISA, Immunological methods, Western blotting

Note

This product is intended for research use only.

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