Adipocyte Fatty Acid Binding Protein Human E. coli Tag free

Product Data Sheet

Type: Recombinant
Source: E. coli
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.:

RD172036100 (0.1 mg)

Description

Total 132 AA. MW: 14.7 kDa (calculated). 131 AA of recombinant Human AFABP and one extra AA, N-terminal methionin (highlighted).

Introduction to the Molecule

Adipocyte fatty acid binding protein AFABP is a 15 kDa member of the intracellular fatty acid binding protein (FABP) family. It is known for its ability to bind fatty acids and related compounds like bile acids or retinoids in an internal cavity. AFABP is expressed in a differentiation-dependent fashion in adipocytes. It is also 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 have also reduced efficiency of lipolysis in vitro and in vivo. Such mice exhibited moderately improved systemic dyslipidemia. According to recent studies, AFABP is expressed in macrophages upon differentiation and activation. In these cells, AFABP modulates inflammatory responses and cholesterol ester accumulation. In addition, 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

MCDAFVGTWK LVSSENFDDY MKEVGVGFAT RKVAGMAKPN MIISVNGDVI TIKSESTFKN TEISFILGQE FDEVTADDRK VKSTITLDGG VLVHVQKWDG KSTTIKRKRE DDKLVVECVM KGVTSTRVYE RA

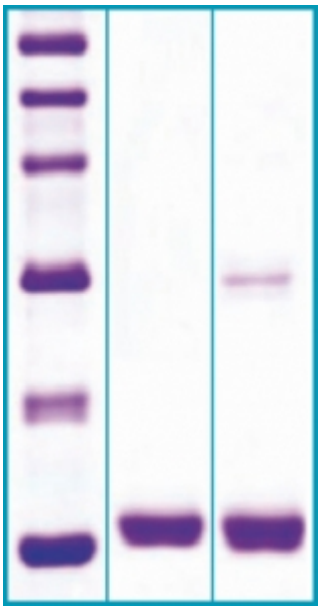
Source

E. coli

Purity

>90%

SDS-PAGE gel



12% SDS-PAGE separation of Human AFABP
1. M.W. marker - 14, 21, 31, 45, 66, 97 kDa
2. reduced and heated sample, 5µg/lane
3. non-reduced and non-heated sample, 5µg/lane

Formulation

Filtered (0,4 µm) and lyophilized in 0.5 mg/mL in phosphate bufferd saline.

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 lyophilized protein at -20°C. Lyophilized protein remains stable until the expiry date when stored at -20°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 limited period of time; it does not show any change after one week at 4°C.

Quality Control Test

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

Applications

ELISA, Western blotting

Note

This product is intended for research use only.

References to this Product

- Bronsky J, Karpisek M, Bronska E, Pechova M, Jancikova B, Kotolova H, Stejskal D, Prusa R, Nevoral J . *Adiponectin, adipocyte fatty acid binding protein, and epidermal fatty acid binding protein: proteins newly identified in human breast milk.* Clin Chem . Sep;52(9):1763-70 (2006)
- Ayyar BV, Hearty S, O'Kennedy R. *Highly sensitive recombinant antibodies capable of reliably differentiating heart-type fatty acid binding protein from noncardiac isoforms.* Anal Biochem. 2010 Dec 15;407 (2):165-71

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