

## PRODUCT DATASHEET

### Adipocyte Fatty Acid Binding Protein Human E. coli Tag free

**Cat. No.:** RD172036100

**Type:** Recombinant

**Size:** 0.1 mg

**Source:** E. coli

**Species:** Human

#### Description

Total 132 AA. MW: 14.7 kDa (calculated). UniProtKB acc.no. P15090. 131 AA of recombinant Human AFABP and one extra AA, N-terminal methionin (highlighted).

#### Other names

Adipocyte-type fatty acid-binding protein, A-FABP, Fatty acid-binding protein 4, Adipocyte lipid-binding protein, ALBP, FABP4

#### 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<sup>-/-</sup> 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

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

#### Amino Acid sequence

MCDAFVGTWK LVSSNFDDY MKEVGVGFAT RKVAGMAKPN MIISVNGDVI TIKSESTFKN TEISFILGQE FDEVTADDRK VKSTITLDGG VLVHVQKWDG KSTTIKRRRE DDKLVVECVK KGVSTSTRVYE RA

#### Purity

Purity as determined by densitometric image analysis: > 95 %

#### Endotoxin

< 0.1 EU/ug

#### Formulation:

Filtered (0.4 µm) and lyophilized in 0.5 mg/mL in phosphate buffered saline pH=7,4

#### Reconstituion:

Add deionized water to prepare a working stock solution of approximately 0.5 mg/mL and let the lyophilized pellet dissolve completely. Filter sterilize your culture media/working solutions containing this non-sterile product before using in 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  $-80\text{ }^{\circ}\text{C}$ . Lyophilized protein remains stable until the expiry date when stored at  $-80\text{ }^{\circ}\text{C}$ . Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at  $-80\text{ }^{\circ}\text{C}$  for long term storage. Reconstituted protein can be stored at  $4\text{ }^{\circ}\text{C}$  for a week.

**Quality control**

BCA to determine quantity of the protein.

SDS PAGE to determine purity of the protein.

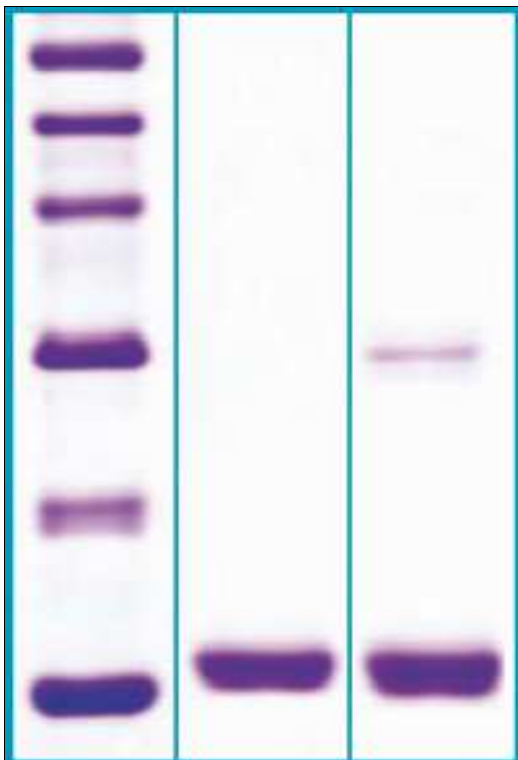
LAL to determine quantity of endotoxin.

**Applications**

ELISA, Western blotting

**Note**

This product is intended for research use only.



12% SDS-PAGE separation of Human AFABP

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

2. reduced and heated sample,  $5\mu\text{g/lane}$

3. non-reduced and non-heated sample,  $5\mu\text{g/lane}$