AFABP (Adipocyte Fatty Acid Binding Protein, FABP4) Human (E. coli)

Product Data Sheet

Type: Recombinant
Tag: Tagless
Source: E. coli
Species: Human
Other names: AFABP, FABP4

Cat. nr.: RD172036100 (0.1 mg)
           RD172036100+ (10 x 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).

Amino Acid Sequence
MCDAFVGTWK LVSSENFDYY MKEVGVGFAT RKVAGMAKPN MIISVNGDVI TIKSESTFKN TEISFILGQE
FDEVTADDRK VKSTITLDDG VLVHVQKWDG KSTTIKRKRE DDKLVVECVM KGVSTRVYE RA

Source
E. coli

Purity
>90%

SDS-PAGE gel
12% SDS-PAGE separation of Human A FABP
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 buffered 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.
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 two weeks 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.

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.

References to this Product

References
- Prinsen CF, de Bruijn DR, Merkx GF, Veerkamp JH. Assignment of the human adipocyte fatty acid-binding protein gene (FABP4) to chromosome 8q21 using somatic cell hybrid and fluorescence in situ hybridization techniques.
- Wittthuhn BA, Bernlohr DA. Upregulation of bone morphogenetic protein GDF-3/Vgr-2 expression in adipose tissue of FABP4/aP2 null mice.
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