



Recombinant Human FABP5-His

20160808BR



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no:	400-024
Size:	25 µg
Lot. No.:	According to product label
Country of origin:	Germany

Scientific Background

Gene:	<i>FABP5</i>
Synonyms:	Epidermal-type fatty acid-binding protein, E-FABP, Fatty acid-binding protein 5, PA-FABP

Fatty acids (FAs) are the major substrate for energy production in the heart. It was hypothesized that capillary endothelial fatty acid binding protein 4 (FABP4) and FABP5 play an important role in providing sufficient FAs to the myocardium. Both FABP4/5 were abundantly expressed in capillary endothelium in the heart and skeletal muscle. Capillary endothelial FABP4/5 are required for FA transport into FA-consuming tissues that include the heart. These findings identify FABP4/5 as promising targets for controlling the metabolism of energy substrates in FA-consuming organs that have muscle-type continuous capillary. In addition, during prolonged fasting, fatty acid (FA) released from adipose tissue is a major energy source for peripheral tissues, including the heart, skeletal muscle and liver. In addition, hypothermia is rapidly induced during cold exposure when thermoregulatory mechanisms, including fatty acid (FA) utilization, are disturbed. FA binding protein 4 (FABP4) and FABP5, which are abundantly expressed in adipose tissues and macrophages, have been identified as key molecules in the pathogenesis of overnutrition-related diseases, such as insulin resistance and atherosclerosis. Recently it was shown that FABP4/5 are prominently expressed in capillary endothelial cells in the heart and skeletal muscle and play a crucial role in FA utilization in these tissues. However, the role of FABP4/5 in thermogenesis remains to be determined.

References

1. Masouye I et al, *Circ Res* 81(3):297-303, 1997
2. Antohe F et al, *Eur J Cell Biol* 76(2):102-9, 1998
3. Adamson J et al, *Oncogene* 22(18):2739-49, 2003.
4. Kitanaka N et al, *Histochem Cell Biol* 120(6):465-73, 2003
5. Han Q et al, *Int J Cardiol* 145(2):396-8, 2010
6. Iso T et al, *Arterioscler Thromb Vasc Biol* 33(11):2549-57, 2013
7. Syamsunamo MR et al, *PLoS One* 8(11):e79386, 2013
8. Syamsunamo MR et al, *PLoS One* 9(6):e90825, 2014

Sequence

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ATVQQLEGRWRLVDSKGFDEYMKELGVGIALRKMAMAKPDCIITCDGKNLT  
IKTESTLKTTQFSCSTLGEKFEETTADGRKTQVCNFTD GALVQHQEWDGKES  
TITRKLKDGKLVVECVMMNVTCRIYKVEVTRHHHHHH
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Database References

Protein RefSeq:	NP_001435
Uniprot ID:	Q01469
mRNA RefSeq:	NM_001444

Product Specifications

Expressed in	E.coli
Purity	> 98% by SDS-PAGE & Coomassie stain
Buffer	PBS
Stabilizer	None
Formulation	lyophilized
Length (aa):	142
MW:	16.2 kDa
Result by N-terminal sequencing	ATVQQ

Stability: The lyophilized human FABP5, though stable at room temperature, is best stored desiccated below 0°C. Reconstituted human FABP5 should be stored in working aliquots at -20°C.

Reconstitution: Human FABP5 should be reconstituted in water to a concentration of 0.1 mg/ml. This solution can be diluted in water or other buffer solutions or stored at -20°C.



AVOID REPEATED FREEZE AND THAW CYCLES!

Biological activity: Not tested so far.

Applications:

1. Positive control for Western blot analysis



Recombinant Human FABP5-His

Handling/Application

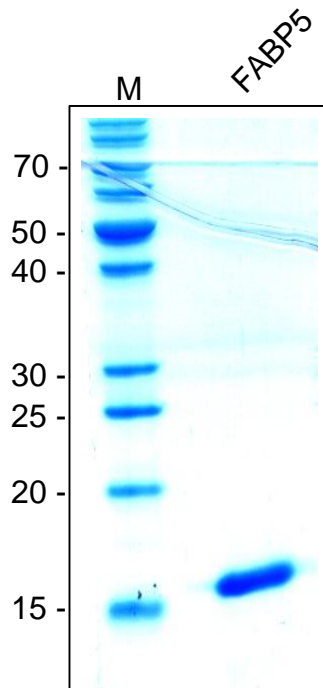


Fig. 1: SDS-PAGE analysis of recombinant human FABP5. Sample was loaded in 15% SDS-polyacrylamide gel under reducing condition and stained with Coomassie blue.