Anti-human FABP5

20160906BB

FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	**102-PA142S**
Size:	100 µg
Lot. No.:	According to product label
Country of origin:	Germany

Preparation: Produced from sera of rabbits pre-immunized with highly pure (>98%) recombinant human FABP5 (Ala2-Glu135) derived from E. coli.

Target Background

Synonyms:	Epidermal-type fattyacid-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. Syamsunarno MR et al, PLoS One 8(11):e79386, 2013
8. Syamsunarno MR et al, PLoS One 9(6):e90825, 201

Database References Antigen

Protein RefSeq:	NP_001435.1
Uniprot ID:	P01469
mRNA RefSeq:	NM_001444.2

Product Specifications

Species reactivity	human
Clone/Ab feature	rabbit IgG
Cross reactivity	human FABP4
Host	rabbit
Clonality	polyclonal
Purification	Protein A purified
Immunogen	recombinant human FABP5 (RT #400-024)
Formulation	Lyophilized
Buffer	5 mM PBS, pH 7.2

Stability: The lyophilized antibody is stable at room temperature for up to 1 month. The reconstituted antibody is stable for at least two weeks at 2-8°C. Frozen aliquots are stable for at least 6 months when stored at -20°C.

Reconstitution: Centrifuge vial prior to opening. Reconstitute in sterile water to a concentration of 0.1-1.0 mg/ml.

AVOID REPEATED FREEZE AND THAW CYCLES!

Applications

Western Blot:	Use at 1-5 µg/ml
IF:	Use at 2-10 µg/ml
IF/IHC	Use at 2-10 µg/ml

NOTE: OPTIMAL DILUTIONS SHOULD BE DETERMINED BY EACH LABORATORY FOR EACH APPLICATION!

Anti-human FABP5

Handling/Applications

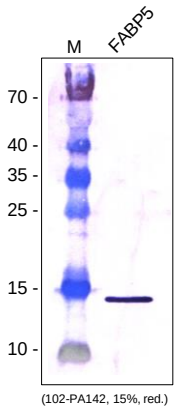

Fig. 1: Western analysis of recombinant human FABP5 using a rabbit anti-human FABP5 polyclonal antibody **[Cat# 102-PA142]**. (WB: AP-conjugated secondary antibody)

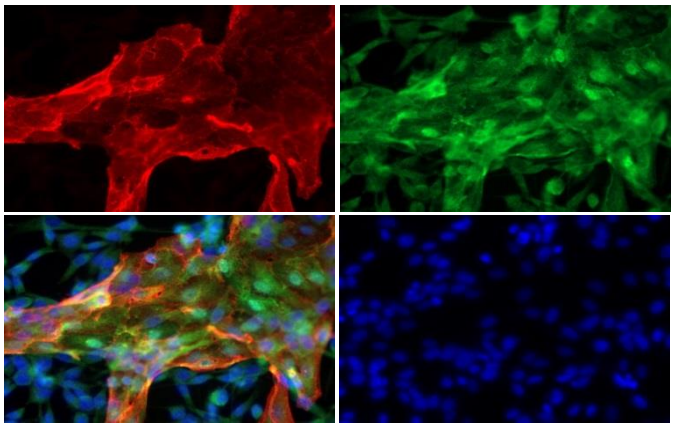

Fig. 2. Double IF staining of human FABP5 and CD31 in a coculture of HDLEC and NIH3T3 cells with a polyclonal rabbit anti-human FABP5 antibody [**Cat# 102-PA142**] and a monoclonal mouse anti-human CD31 antibody [**Cat# 101-M92**]. Conjugated secondary antibody: goat anti-rabbit ALEXA Flour 488 (1:600) [Dianova], goat anti-mouse PE (1:400) [Santa Cruz].

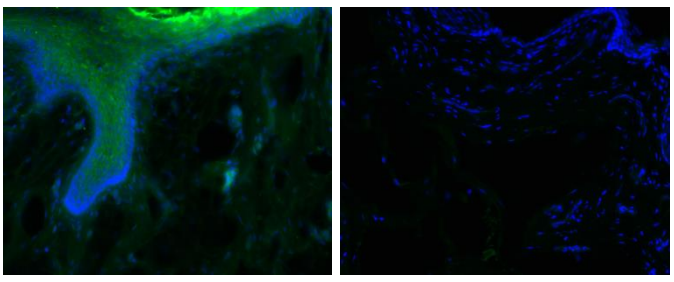

Fig. 3: Immunofluorescence staining (green) of cryo-sections of human foreskin (fixed 15 min in 4% PFA) with anti-human FABP5 (5µg/ml) [Cat# 102-PA142] and counter staining of nuclei with Dapi (left panel) and control (right panel).

The experiment was performed by the research group of Prof. Dr. J. Wilting and Dr. K. Buttler, University Göttingen, Germany.

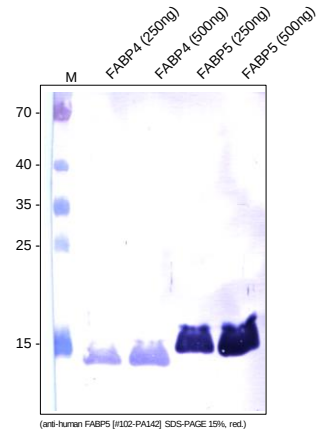

Fig. 4: Western analysis of recombinant human FABP4 [Cat# 400-018] and human FABP5 [Cat# 400-024] using a rabbit polyclonal anti-human FABP5 antibody [Cat# 102-PA142]. There is weak cross reactivity with FABP4 visible. [WB: AP-conjugated secondary antibody]