Anti-human FABP4

20160906BB

FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	**102-PA134S**
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 FABP4 (Cys2-Ala132) derived from E. coli.

Target Background

Synonyms:	Adipocyte lipid-binding protein, Fatty acid-binding protein 4, Adipocyte-type fatty acid-binding protein

Fatty acid binding protein 4 (FABP4), also known as adipocyte P2 and A FABP (adipocyte FABP), is a FABP family member that is expressed in adipocytes and monocyte derived foam cells. It is a lipid transport protein that binds long chain fatty acid and retinoic acid. Human and mouse FABP4 share a 91% amino acid sequence homology.
FABP4 plays an important role in maintaining glucose and lipid homeostasis. However recent studies suggest that it may be more widely expressed. A strong FABP4 expression was found in endothelial cells (ECs) of capillaries and small veins in several mouse and human tissues, including the heart and kidney. FABP4 was also detected in the ECs of mature human placental vessels and infantile hemangiomas, the most common tumor of infancy and ECs. In most of these cases, FABP4 was detected in both the nucleus and cytoplasm. FABP4 mRNA and protein levels were significantly induced in cultured ECs by VEGF-A and bFGF treatment. The effect of VEGF-A on FABP4 expression was inhibited by chemical inhibition or short-hairpin (sh) RNA-mediated knockdown of VEGFR-2 (KDR), whereas the VEGFR1 agonists, PlGF-1 and PlGF-2, had no effect on FABP4 expression. Knockdown of FABP4 in ECs significantly reduced proliferation both under baseline conditions and in response to VEGF and bFGF. Thus, FABP4 emerged as a novel target of the VEGF/VEGFR-2 pathway and a positive regulator of cell proliferation in ECs.

References

1. Ghelfi E et al, Am J Pathol 182(4):1425-33, 2013
2. Ghelfi E et al, Am J Respir Cell Mol Biol 45(3):550-6, 2011
3. Elmasri H et al, Angiogenesis 15(3):457-68, 2012
4. Cataltepe O et al, Neuropathol Appl Neurobiol 38(5):400-10, 2012
5. Basak S et al, Life Sci 13;93(21):755-62, 2013
6. Harjes U et al, J Biol Chem pii: jbc.M114.576512, 2014
7. Cataltepe S et al, Neuropathol Appl Neurobiol, 2014

Database References Antigen

Protein RefSeq:	NP_001433.1
Uniprot ID:	P15090
mRNA RefSeq:	NM_001442.2

Product Specifications

Species reactivity	human
Clone/Ab feature	rabbit IgG
Cross reactivity	n.d.
Host	rabbit
Clonality	polyclonal
Purification	Protein A purified
Immunogen	recombinant human FABP4 (RT #400-018)
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/IHC:	IF: Use at 2-10 µg/ml

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

Anti-human FABP4

Handling/Applications

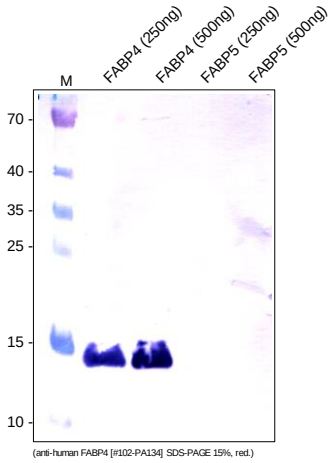

Fig. 1: Western analysis of recombinant human FABP4 [Cat# 400-018] and human FABP5 [Cat# 400-024] using a rabbit polyclonal anti-human FABP4 antibody [Cat# 102-PA134]. There is no cross reactivity with FABP5 visible. [WB: AP-conjugated secondary antibody]

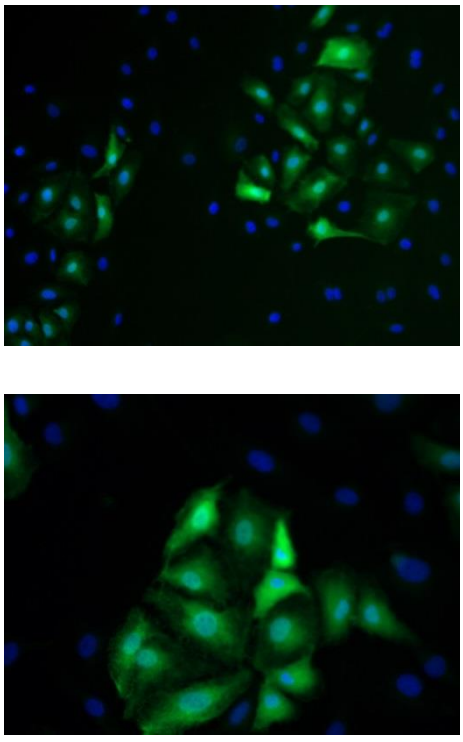

Fig. 2: Immunofluorescence staining of FABP4 in primary human dermal microvascular endothelial cells (HDMEC) with anti-human FABP4 (10 µg/ml) [**Cat# 102-PA134**] and counter staining of nuclei with Dapi. As secondary antibody goat anti-rabbit ALEXA Flour 488 (Dianova) was used 1:600. **NOTE:** The antibody seems to detect solely the lymphatic ECs and not the blood ECs. (Upper panel: 200X; Lower panel: 400X)

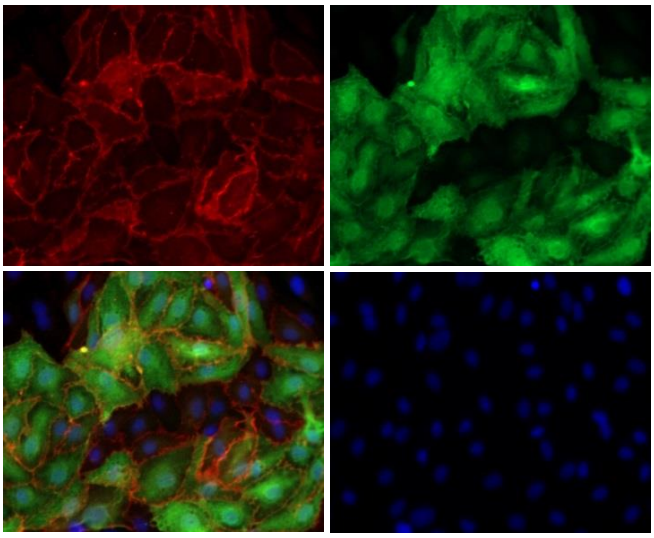

Fig. 3: Double IF staining of human FABP4 and CD31 in a coculture of HDLECs and C2C12 cells with a polyclonal rabbit anti-human FABP4 antibody **[Cat# 102-PA134;** Protein-A purified**]** and a monoclonal mouse anti-human CD31 antibody **[Cat# 101-M92]**. Conjugated secondary antibodies: goat anti-rabbit ALEXA Flour 488 (1:600) [Dianova], goat anti-mouse PE (1:400) [Santa Cruz].