BOSTER BIOLOGICAL TECHNOLOGY
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Anti-FABP4 Antibody Picoband®

Catalog Number: RP1085

About FABP4

Fatty acid binding proteins (FABPs) are small cytoplasmic proteins that are expressed in a highly tissue-specific manner and bind to fatty acids such as oleic and retinoic acid. Adipocyte fatty-acid-binding protein, aP2 (FABP4) is expressed in adipocytes and macrophages, and integrates inflammatory and metabolic responses. Studies in aP2-deficient mice have shown that this lipid chaperone has a significant role in several aspects of metabolic syndrome, including type 2 diabetes and atherosclerosis. It regulates allergic airway inflammation and may provide a link between fatty acid metabolism and asthma.

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Overview

Product Name	Anti-FABP4 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-FABP4 Antibody catalog # RP1085. Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains antibody formulated with stabilizing components, 0.9 mg NaCl, 0.2 mg Na2HPO4, and 0.05 mg NaN3. *This antibody is supplied in a stabilized formulation. Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P15090

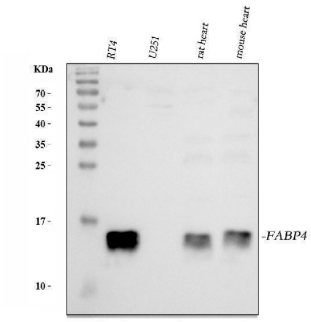
Technical Details

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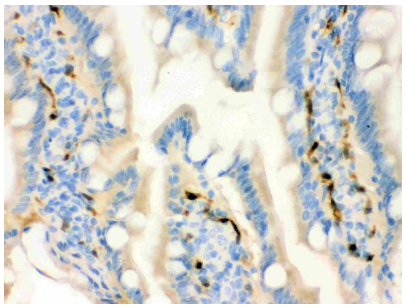
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human FABP4, identical to the related mouse and rat sequences.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Mouse, Rat, Human Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat

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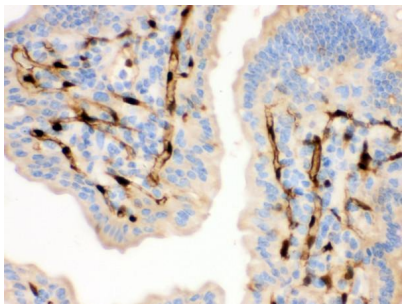
Anti-FABP4 Antibody Picoband® (RP1085) Images



Western blot analysis of FABP4 using anti-FABP4 antibody (RP1085). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human RT4 whole cell lysates, Lane 2: human U251 whole cell lysates, Lane 3: rat heart tissue lysates, Lane 4: mouse heart tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-FABP4 antigen affinity purified polyclonal antibody (Catalog # RP1085) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for FABP4 at approximately 15 kDa. The expected band size for FABP4 is at 15 kDa.



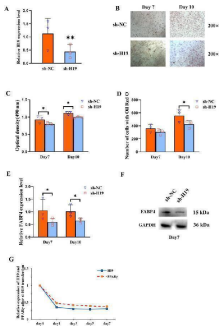
IHC analysis of FABP4 using anti-FABP4 antibody (RP1085). FABP4 was detected in a paraffin-embedded section of Rat Intestine tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-FABP4 Antibody (RP1085) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



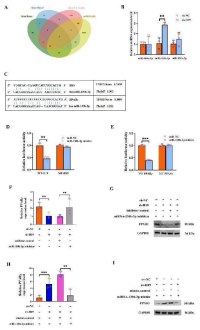
IHC analysis of FABP4 using anti-FABP4 antibody (RP1085). FABP4 was detected in a paraffin-embedded section of Mouse Intestine tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-FABP4 Antibody (RP1085) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

H19 participates in increased adipogenesis of BMSCs and positively regulates PPARgamma expression in SONFH. (A) Expression level of H19 in BMSCs after transfection with sh-H19. (B) Oil Red O staining (200×) of BMSCs after

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transfection with sh-H19. (C, D) Quantification of Oil Red O staining (200×) of BMSCs after transfection with sh-H19. (E, F) The expression of fatty acid-binding protein 4 (FABP4) was detected by qRT-PCR and Western blot after knocking-down of H19. (G) The expression levels of H19 and PPARgamma 1 week following the knockdown of H19. (n = 3, all data are shown as the mean ± SD of three independent experiments, *p < 0.05, **p < 0.01).Index in PubMed under a CC BY license. PMID: 40259926



H19 modulates PPARgamma expression through miR-130b-3p. (A) Three databases, StarBase, DIANA tools, and miRWalk, were used to predict candidate micro (mi)RNAs as shown in the Venn diagram. (B) Expression levels of three candidate miRNAs (miR-301b-3p, miR-130b-3p, and miR-130a-3p) after knockdown of H19. (C) The binding sites of miR-130b-3p with H19 and PPARgamma. (D) Effect of miR-130b-3p on the luciferase activity of wild-type (WT)-H19 and mutant (MT)-H19 reporter systems. (E) Effect of miR-130b-3p on the luciferase activity of WT-FABP4 and MT-FABP4 reporter systems was detected via luciferase reporter assay. (F, G) The expression of PPARgamma is significantly decreased upon knocking down H19. This reduction could be reversed through co-transfection with a miR-130b-3p inhibitor. (H, I) The expression of PPARgamma was significantly augmented when H19 was upregulated. This elevation in PPARgamma expression could be counteracted by co-transfecting with a miR-130b-3p mimic. (n = 3, all data are shown as the mean ± SD of three independent experiments, **p < 0.01, ***p < 0.001).Index in PubMed under a CC BY license. PMID: 40259926

1 Publications Citing This Product

1. PubMed ID: 32018039, Chen G,Wang Q,Li Z,Yang Q,Liu Y,Du Z,Zhang G,Song Y.Circular RNA CDR1as promotes adipogenic and suppresses osteogenic differentiation of BMSCs in steroid-induced osteonecrosis of the femoral head.Bone.2020 Apr;133:115258.doi:10.1016/j.bone.2020.115258.Epu

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Anti-FABP4 Antibody

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