Product name: Anti-FABP4 antibody [EPR3579] ab92501

Description: Rabbit monoclonal [EPR3579] to FABP4

Host species: Rabbit

Specificity: Ab92501 may cross-react with FABP, FABP3 and FABP9 based on the blast alignments. The mouse and rat recommendation is based on the WB results. We do not guarantee IHC-P for mouse and rat.

Tested applications: Suitable for: WB, ICC/IF, IHC-P, mIHC

Species reactivity: Reacts with: Mouse, Rat, Human

Immunogen: Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.

Positive control: WB: Mouse brown adipose tissue, Mouse heart, Mouse kidney, Mouse lung, Human adipose tissue, Rat adipose tissue and fetal heart lysates; ICC/IF: Adipocytes and 3T3-L1 cells; IHC-P: human breast tissue. mIHC: Human parathyroid gland and breast tissues.

General notes: This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free production

For more information see here.

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

Properties

Form: Liquid


Storage buffer: pH: 7.20
Preservative: 0.01% Sodium azide
Constituents: 59% PBS, 40% Glycerol, 0.05% BSA

Purity: Protein A purified
Clonality: Monoclonal
Clone number: EPR3579
Isotype: IgG

Applications

The Abpromise guarantee Our Abpromise guarantee covers the use of ab92501 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>WB</td>
<td>🌟🌟🌟🌟🌟 (2)</td>
<td>1/1000 - 1/5000. Detects a band of approximately 15 kDa (predicted molecular weight: 15 kDa).</td>
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<tr>
<td>ICC/IF</td>
<td></td>
<td>1/50. For unpurified use at 1/1000.</td>
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<tr>
<td>IHC-P</td>
<td></td>
<td>1/16000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. See IHC antigen retrieval protocols. The mouse and rat recommendation is based on the WB results. We do not guarantee IHC-P for mouse and rat.</td>
</tr>
<tr>
<td>mIHC</td>
<td></td>
<td>1/10000.</td>
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</tbody>
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Target

Function: Lipid transport protein in adipocytes. Binds both long chain fatty acids and retinoic acid. Delivers long-chain fatty acids and retinoic acid to their cognate receptors in the nucleus.
Sequence similarities: Belongs to the calycin superfamily. Fatty-acid binding protein (FABP) family.
Domain: Forms a beta-barrel structure that accommodates hydrophobic ligands in its interior.
Cellular localization: Cytoplasm. Nucleus. Depending on the nature of the ligand, a conformation change exposes a nuclear localization motif and the protein is transported into the nucleus. Subject to constitutive nuclear export.

Images
Fluorescence multiplex immunohistochemical analysis of the human breast (Formalin/PFA-fixed paraffin-embedded sections).

Panel A: merged staining of anti-B7H4 (ab252438, red; Opal™690), anti-CD10 (ab255609, gray; Opal™520) and anti-FABP4 (ab92501, cyan; Opal™570) on human breast. Panel B: anti-B7H4 stained on glandular lumens. Panel C: anti-CD10 stained on myoepithelial cells. Panel D: anti-FABP4 stained on adipocytes. Opal Polymer HRP Ms + Rb was used as a secondary antibody.

The section was incubated in three rounds of staining: in the order of ab252438 at 1/100 dilution (4.69 μg/ml), ab255609 at 1/1000 dilution (0.615 μg/ml) and ab92501 at 1/10000 dilution (0.047 μg/ml) for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins. DAPI (blue) was used as a nuclear counter stain.

Fluorescence multiplex immunohistochemical analysis of the human parathyroid gland (Formalin/PFA-fixed paraffin-embedded sections).

Panel A: merged staining of anti-CaSR (ab259846, magenta; Opal™690), anti-Cytochrome C (ab247438, green; Opal™520) and anti-FABP4 (ab92501, red; Opal™570) on human parathyroid gland. Panel B: anti-CaSR stained on parathyroid chief cells. Panel C: anti-Cytochrome C stained on parathyroid oxyphil cells. Panel D: anti-FABP4 stained on adipocytes. Opal Polymer HRP Ms + Rb was used as a secondary antibody.

The section was incubated in three rounds of staining: in the order of ab259846 at 1/5000 dilution (0.103 μg/ml), ab247438 at 1/5000 dilution (0.195 μg/ml), and ab92501 at 1/10000 dilution (0.047 μg/ml).
μg/ml) for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins. DAPI (blue) was used as a nuclear counter stain.

Fluorescence multiplex immunohistochemical analysis of the human parathyroid gland (Formalin/PFA-fixed paraffin-embedded sections).

Panel A: merged staining of anti-Parathyroid Hormone (ab236229, magenta; Opal™690), anti-Cytochrome C (ab247438, green; Opal™520) and anti-FABP4 (ab92501, red; Opal™570) on human parathyroid gland. Panel B: anti-Cytochrome C stained on parathyroid oxyphil cells. Panel C: anti-Parathyroid Hormone stained on parathyroid chief cells. Panel D: anti-FABP4 stained on adipocytes. Opal Polymer HRP Ms + Rb was used as a secondary antibody.

The section was incubated in three rounds of staining: in the order of ab236229 at 1/200 dilution (5.065 μg/ml) for 10 mins, then ab247438 at 1/5000 dilution (0.195 μg/ml) and ab92501 at 1/10000 dilution (0.047 μg/ml) for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins. DAPI (blue) was used as a nuclear counter stain.
Western blot - Anti-FABP4 antibody [EPR3579] (ab92501)

All lanes: Anti-FABP4 antibody [EPR3579] (ab92501) at 1/1000 dilution (Purified)

Lane 1: Mouse brown adipose tissue lysates
Lane 2: Mouse heart lysates
Lane 3: Mouse kidney lysates
Lane 4: Mouse lung lysates
Lane 5: Human adipose tissue lysates
Lane 6: Rat adipose tissue lysates

Lysates/proteins at 20 µg per lane.

Secondary
All lanes: Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 15 kDa
Observed band size: 15 kDa

FABP4 is abundantly expressed in adipose tissue and at a lower level in lung, heart, skin, kidney, liver and brain (PMID: 23143994).
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast tissue sections labeling FABP4 with Purified ab92501 at 1/16,000 dilution (0.03 µg/ml). Heat mediated antigen retrieval was performed Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.

Immunocytochemistry/ Immunofluorescence analysis of 3T3-L1 (Mouse embryonic fibroblast) differentiated for 6 days cells labeling FABP4 with Purified ab92501 at 1/50 dilution (9.9 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.

FABP4 (green) was detected using FABP4 primary antibody (unpurified ab92501; diluted 1/1000). Alpha tubulin (red) was detected using our mouse monoclonal (ab7291) antibody. Cells were imaged by confocal microscopy, using z-stack for adipocyte-like cells.
Western blot - Anti-FABP4 antibody [EPR3579] (ab92501)

All lanes: Anti-FABP4 antibody [EPR3579] (ab92501) at 1/1000 dilution (unpurified)

Lane 1: Human adipose tissue lysate
Lane 2: Human fetal heart lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes: goat anti-rabbit HRP at 1/2000 dilution

Predicted band size: 15 kDa
Observed band size: 15 kDa

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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