Product datasheet

Anti-ABCA1 antibody [AB.H10] ab18180


Overview

Product name  Anti-ABCA1 antibody [AB.H10]

Description  Mouse monoclonal [AB.H10] to ABCA1

Host species  Mouse

Tested applications  Suitable for: IHC-P, ICC/IF, Flow Cyt, WB, ELISA

Species reactivity  Reacts with: Mouse, Rat, Chicken, Cow, Human

Immunogen  Recombinant fragment corresponding to Human ABCA1 aa 1800-2260.

Database link: O95477

Positive control  testis, liver, and brain tissue (negative control: muscle tissue)

General notes  This product was changed from ascites to tissue culture supernatant on 5th February 2018. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

Properties

Form  Liquid

Storage instructions  Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.

Storage buffer  Preservative: 0.05% Sodium Azide

Constituents: PBS, pH 7.4

Purity  Protein A purified

Purification notes  Protein A purified from TCS

Clonality  Monoclonal

Clone number  AB.H10

Isotype  IgG1

Applications

Our Abpromise guarantee covers the use of ab18180 in the following tested applications.
Function

cAMP-dependent and sulfonylurea-sensitive anion transporter. Key gatekeeper influencing intracellular cholesterol transport.

Tissue specificity

Widely expressed, but most abundant in macrophages.

Involvement in disease

Defects in ABCA1 are a cause of high density lipoprotein deficiency type 1 (HDLD1) [MIM:205400]; also known as analphalipoproteinemia or Tangier disease (TGD). HDLD1 is a recessive disorder characterized by absence of high density lipoprotein (HDL) cholesterol from plasma, accumulation of cholesteryl esters, premature coronary artery disease (CAD), hepatosplenomegaly, recurrent peripheral neuropathy and progressive muscle wasting and weakness.

Defects in ABCA1 are a cause of high density lipoprotein deficiency type 2 (HDLD2) [MIM:604091]; also known as familial hypoalphalipoproteinemia (FHA). HDLD2 is inherited as autosomal dominant trait. It is characterized by moderately low HDL cholesterol, predilection toward premature coronary artery disease (CAD) and a reduction in cellular cholesterol efflux.

Sequence similarities

Belongs to the ABC transporter superfamily. ABCA family. Contains 2 ABC transporter domains.

Domain

Multifunctional polypeptide with two homologous halves, each containing an hydrophobic membrane-anchoring domain and an ATP binding cassette (ABC) domain.

Post-translational modifications

Phosphorylation on Ser-2054 regulates phospholipid efflux. Palmitoylation by DHHC8 is essential for membrane localization.

Cellular localization

Membrane.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

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<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tr>
<td>IHC-P</td>
<td>1/200. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.</td>
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<tr>
<td>ICC/IF</td>
<td>Use at an assay dependent concentration.</td>
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<tr>
<td>Flow Cyt</td>
<td>Use 1-2µg for 10⁶ cells. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.</td>
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<tr>
<td>WB</td>
<td>1/200 - 1/500. Predicted molecular weight: 254 kDa. Abcam recommends using BSA as the blocking agent and 80-100 ug of lysate.</td>
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<tr>
<td>ELISA</td>
<td>Use at an assay dependent concentration. Direct ELISA, where a 96-well plate was coated with recombinant ABCA1 C-terminal protein. The antibody was then added to the wells and a goat anti-mouse IgG HRP conjugate was used for colour development. For ABCA1 quantification, a pair of anti-ABCA1 antibodies should be used to formulate a Sandwich ELISA and with a presence of an ABCA1 protein Standard. Optimal dilution to be determined by the end user.</td>
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</tbody>
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Target

Function
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Images

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Western blot analysis of ABCA1 induction by cholesterol (+) in human fibroblast cells from different patients (1,2,3,4). Simultaneous blotting with anti-actin antibody was used for protein loading control. Western blot analysis of ABCA1 induction by cholesterol (+) in human fibroblast cells from different patients (1,2,3,4). Simultaneous blotting with anti-actin antibody was used for protein loading control.

Overlay histogram showing HepG2 cells stained with ab18180 (red line). The cells were fixed with methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab18180, 2µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in HepG2 cells fixed with 4% paraformaldehyde/permeabilized in 0.1% PBS-Tween used under the same conditions.

All lanes : Anti-ABCA1 antibody [AB.H10] (ab18180) at 1/1000 dilution

Lanes 1 & 3 & 5 : Wild type mouse liver tissue lysate
Lanes 2 & 4 & 6 : Knockout mouse liver tissue lysate

Lysates/proteins at 100 µg per lane.

Predicted band size: 254 kDa
Observed band size: 254 kDa

The lower bands are from the secondary anti-mouse antibody reacting to the endogenous mouse antibodies from the tissue.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ABCA1 antibody (AB.H10) (ab18180)

Immunoreactivity of pancreas tissue for ABCA1 protein. Left panel: strong immunopositivity of exocrine glandular cells of the pancreas, especially in the basal region (arrows). Interstitial microvascular cells are apparently negative. Cells within the islet were weakly positive (data not shown). Right panel: the negative control. Hematoxylin counterstain.

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