Product datasheet

Anti-Caveolin-1 antibody ab2910

Overview

Product name
Anti-Caveolin-1 antibody

Description
Rabbit polyclonal to Caveolin-1

Host species
Rabbit

Specificity
Detects caveolin-1.

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

Species reactivity
Reacts with: Mouse, Rat, Goat, Hamster, Dog, Human
Predicted to work with: Sheep, Rabbit, Horse, Cow, Cat, Pig, Chimpanzee, Gorilla, African green monkey, African bush elephant

Immunogen
Synthetic peptide corresponding to Human Caveolin-1 aa 1-17.
Sequence:
MSGKTYVDSEGHLYTVP

Database link: Q03135
(Peptide available as ab4928)

Positive control
Human lung, heart or spleen

General notes
This antibody can be used as a marker for lipid raft fractions.

Properties

Form
Liquid

Storage instructions

Storage buffer
Preservative: 0.05% Sodium azide
Constituents: 0.1% BSA, 99% PBS

Purity
Immunogen affinity purified

Purification notes
Antigen affinity chromatography.

Clonality
Polyclonal

Isotype
IgG
Function
May act as a scaffolding protein within caveolar membranes. Interacts directly with G-protein alpha subunits and can functionally regulate their activity (By similarity). Involved in the costimulatory signal essential for T-cell receptor (TCR)-mediated T-cell activation. Its binding to DPP4 induces T-cell proliferation and NF-kappa-B activation in a T-cell receptor/CD3-dependent manner. Recruits CTNNB1 to caveolar membranes and may regulate CTNNB1-mediated signaling through the Wnt pathway.

Tissue specificity
Expressed in muscle and lung, less so in liver, brain and kidney.

Involvement in disease
Defects in CAV1 are the cause of congenital generalized lipodystrophy type 3 (CGL3) [MIM:612526]; also called Berardinelli-Seip congenital lipodystrophy type 3 (BSCL3). Congenital generalized lipodystrophies are autosomal recessive disorders characterized by a near absence of adipose tissue, extreme insulin resistance, hypertriglyceridemia, hepatic steatosis and early onset of diabetes.

Sequence similarities
Belongs to the caveolin family.

Post-translational modifications
The initiator methionine for isoform Beta is removed during or just after translation. The new N-terminal amino acid is then N-acetylated.

Cellular localization

Applications
Our Abpromise guarantee covers the use of ab2910 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>
</tr>
</thead>
<tbody>
<tr>
<td>ICC/IF</td>
<td>★★★★★★</td>
<td>1/500. PubMed: 17502389</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td></td>
<td>Use at an assay dependent concentration. PubMed: 20351069</td>
</tr>
<tr>
<td>IP</td>
<td>★★★★★★</td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>WB</td>
<td>★★★★★★</td>
<td>Use a concentration of 1 - 2 µg/ml. Detects a band of approximately 22 kDa (predicted molecular weight: 20 kDa). Can be blocked with Human Caveolin-1 peptide (ab4928).</td>
</tr>
<tr>
<td>IHC-P</td>
<td>★★★★★★</td>
<td>Use at an assay dependent concentration.</td>
</tr>
</tbody>
</table>
**Western blot - Anti-Caveolin-1 antibody (ab2910)**

All lanes: Anti-Caveolin-1 antibody (ab2910) at 1.5 µg/ml

Lane 1: Human lung
Lane 2: Human heart
Lane 3: Human spleen

Lysates/proteins at 20 µg per lane.

**Secondary**

All lanes: Alexa Fluor anti-rabbit at 1/5000 dilution

**Predicted band size:** 20 kDa
**Observed band size:** 20 kDa

Immunohistochemical analysis of formaldehyde-fixed paraffin-embedded human cardiac tissue, labelling Caveolin 1 with ab2910 at a dilution of 1/10000 incubated for 2 hours at 21°C in TBS / BSA / Aside solution. Heat mediated antigen retrieval was performed with citric acid. Blocking was with 1% BSA incubated for 10 minutes at 21°C. Secondary used was a goat anti-rabbit polyclonal biotin conjugate at 1/300. Image shows strong immunopositivity at the membranes of cardiomyocytes (invaginations of immunostaining show points of branching of each myocyte). There is intense positivity in the smooth muscle of of arterioles. Not seen is the intense positivity of what seems to be the endothelial lining cells of the endocardium.
Rat astrocytes stained with fluorescently labelled Caveolin-1 antibody. Primary antibody is ab2910 (dilution 1/500) and the secondary antibody is Texas red labelled anti-rabbit IgG (dilution 1/1000).

This image was kindly supplied as part of the review submitted by Donghui Zhu.

ab2910 at 1/250 dilution staining mouse NIH 3T3 cells by Immunocytochemistry (panel B). The antibody was incubated with the paraformaldehyde fixed cells for 12 hours. Bound antibody was detected using an Alexa Fluor ® 594 conjugated Goat anti-rabbit antibody (ab150080). Panel A shows staining with a mouse anti-Caveolin 1 antibody (clone 2297). Panel C shows the merged image.

This image is courtesy of an Abreview by William Ackerman.

ab2910 staining Caveolin-1 - Caveolae Marker in HeLa cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with paraformaldehyde. Samples were incubated with primary antibody (1/200 in PBS + 0.05% Saponin) for 1 hour at 37°C. A Cy3®-conjugated Donkey anti-rabbit polyclonal (1/500) was used as the secondary antibody.

This image is courtesy of an anonymous Abreview.
**Immunoprecipitation - Anti-Caveolin-1 antibody**

(ab2910)

This image is courtesy of an anonymous Abreview.

*ab2910* diluted 1/500 and was incubated with A549 whole cell lysate and a Protein A/G matrix for 16 hours at 4°C to achieve immunoprecipitation. 400 µg of lysate was present in the input.

An HRP-conjugated goat anti-rabbit was used for the Western Blot step.

Lane 1: Whole Cell

Lane 2: IP-cav-1

Lane 3: Unrelated antibody

Lane 4: Unrelated antibody

**Western blot - Anti-Caveolin-1 antibody**

Western blot of caveolin-1 on rat heart protein extract using *ab2910*.

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**Please note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE"

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