Anti-Caveolin-2 antibody ab2911

Overview

Product name: Anti-Caveolin-2 antibody

Description: Rabbit polyclonal to Caveolin-2

Host species: Rabbit

Specificity: Detects caveolin-2 from rat tissues. This antibody does not detect caveolin-1 or -3.

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

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

Immunogen: Synthetic peptide corresponding to Rat Caveolin-2 aa 1-19.
Sequence: MGLETEKADVQLFMADDAY

Database link: Q2IBC5
(Peptide available as ab4929)

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: 0.1% BSA, 99% PBS

Purity: Immunogen affinity purified

Clonality: Polyclonal

Isotype: IgG

Applications

Our Abpromise guarantee covers the use of ab2911 in the following tested applications.
Function
May act as a scaffolding protein within caveolar membranes. Interacts directly with G-protein alpha subunits and can functionally regulate their activity. Acts as an accessory protein in conjunction with CAV1 in targeting to lipid rafts and driving caveolae formation. The Ser-36 phosphorylated form has a role in modulating mitosis in endothelial cells. Positive regulator of cellular mitogenesis of the MAPK signaling pathway. Required for the insulin-stimulated nuclear translocation and activation of MAPK1 and STAT3, and the subsequent regulation of cell cycle progression.

Tissue specificity
Expressed in endothelial cells, smooth muscle cells, skeletal myoblasts and fibroblasts.

Sequence similarities
Belongs to the caveolin family.

Post-translational modifications
Phosphorylated on serine and tyrosine residues. CAV1 promotes phosphorylation on Ser-23 which then targets the complex to the plasma membrane, lipid rafts and caveolae. Phosphorylation on Ser-36 appears to modulate mitosis in endothelial cells (By similarity). Phosphorylation on both Tyr-19 and Tyr-27 is required for insulin-induced "Ser-727" phosphorylation of STAT3 and its activation. Phosphorylation on Tyr-19 is required for insulin-induced phosphorylation of MAPK1 and DNA binding of STAT3. Tyrosine phosphorylation is induced by both EGF and insulin.

Cellular localization

Images

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

<table>
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<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tbody>
<tr>
<td>WB</td>
<td>[Stars]</td>
<td>Use at an assay dependent concentration. Can be blocked with Caveolin-2 peptide (ab4929). Can be blocked with Caveolin-2 peptide.</td>
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<tr>
<td>IP</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
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<tr>
<td>IHC-P</td>
<td></td>
<td>Use a concentration of 5 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. PubMed: 20130741</td>
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<td>ICC/IF</td>
<td>1/200.</td>
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Western blot of caveolin-2 on rat skeletal muscle protein extract using ab2911.

IHC image of ab2911 staining in human normal cervix formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab2911, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

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