

## Product datasheet

# Anti-Caveolin-2 (phospho Y19) antibody ab3417

★★★★☆ 4 Abreviews 6 References 3 Images

### Overview

<b>Product name</b>	Anti-Caveolin-2 (phospho Y19) antibody
<b>Description</b>	Rabbit polyclonal to Caveolin-2 (phospho Y19)
<b>Host species</b>	Rabbit
<b>Specificity</b>	Detects phospho-caveolin-2 phosphorylated on Tyr 19.
<b>Tested applications</b>	<b>Suitable for:</b> ICC, WB, IP, ICC/IF, IHC-P
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human <b>Predicted to work with:</b> Rabbit
<b>Immunogen</b>	Synthetic peptide corresponding to Mouse Caveolin-2 aa 14-25. Sequence: MADDAY <sub>p</sub> SHHSGC (Peptide available as <a href="#">ab4962</a> )

[Run BLAST with](#)

[Run BLAST with](#)

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	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.
<b>Storage buffer</b>	Constituents: 0.1% BSA, 99% PBS
<b>Purity</b>	Immunogen affinity purified
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG

### Applications

Our [Abpromise guarantee](#) covers the use of **ab3417** in the following tested applications.

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

Application	Abreviews	Notes
ICC		1/10 - 1/100.

Application	Abreviews	Notes
WB	★★★★☆	Use a concentration of 2 µg/ml. Detects a band of approximately 21 kDa. Can be blocked with <a href="#">Mouse Caveolin-2 peptide (ab4962)</a> .
IP	★★★★☆	Use at an assay dependent concentration.
ICC/IF	★★★★★	1/10 - 1/100.
IHC-P		Use a concentration of 1 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

## Target

### 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.

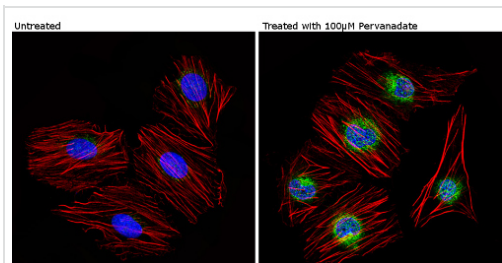
### Post-translational modifications

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

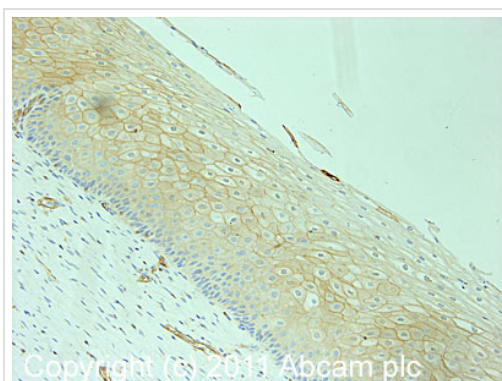
Nucleus. Cytoplasm. Golgi apparatus membrane. Cell membrane. Membrane > caveola. Potential hairpin-like structure in the membrane. Membrane protein of caveolae. Tyr-19-phosphorylated form is enriched at sites of cell-cell contact and is translocated to the nucleus in complex with MAPK1 in response to insulin (By similarity). Tyr-27-phosphorylated form is located both in the cytoplasm and plasma membrane. CAV1-mediated Ser-23-phosphorylated form locates to the plasma membrane. Ser-36-phosphorylated form resides in intracellular compartments.

## Images



Immunocytochemistry/ Immunofluorescence - Anti-Caveolin-2 (phospho Y19) antibody (ab3417)

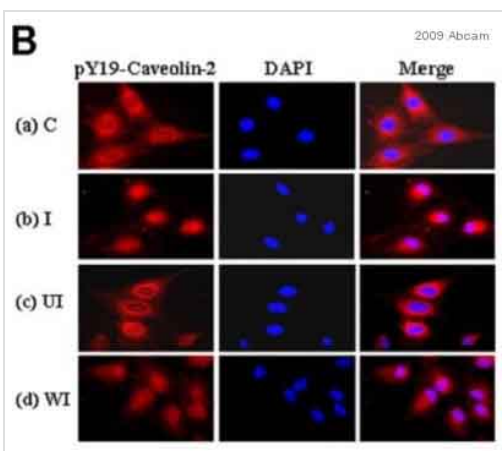
Immunocytochemistry/Immunofluorescence analysis of Phospho-Caveolin-2 pTyr19 (green) showing staining in the cytoplasm and nucleus of HUVEC cells treated with 100µM pervanadate (left) and untreated HUVEC cells (right). Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were incubated with ab3417 in 3% BSA-PBS at a dilution of 1:20 and incubated overnight at 4°C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight-conjugated secondary antibody in PBS at room temperature in the dark. F-actin (red) was stained with a fluorescent red phalloidin and nuclei (blue) were stained with Hoechst or DAPI. Images were taken at a magnification of 60x.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Caveolin-2 (phospho Y19) antibody (ab3417)

IHC image of ab3417 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 ab3417, 1µg/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.



Immunocytochemistry/ Immunofluorescence - Anti-Caveolin-2 (phospho Y19) antibody (ab3417)

Image courtesy of Y Pak by Abreview.

ab3417 at a 1/250 dilution staining Caveolin-2 in rat fibroblasts by Immunocytochemistry/ Immunofluorescence. Cells were fixed in paraformaldehyde, permeabilized with Triton X-100 and blocked using 1% BSA. The secondary used was a TRITC conjugated anti-rabbit at a 1/100 dilution. (a) Control cells untreated cells (b) 100nM Insulin for 10 min (c) 10uM U0126 for 2 hr and 100nM Insulin for 10 min (d) 100 nM Wortmannin for 1hr and 100nM Insulin for 10 min

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