abcam

ab36152

# Anti-Caveolin-1 antibody - Caveolae Marker

Lab Essentials

## Key facts

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|---|---|
| **Isotype** | IgG |
| **Host species** | Goat |
| **Storage buffer** | pH: 7.3 Preservative: 0.02% Sodium azide Constituents: 0.5% BSA |
| **Form** | Liquid |
| **Clonality** | Polyclonal |
| **Immunogen** | Synthetic Peptide within Human CAV1 aa 1-50. The exact immunogen used to generate this antibody is proprietary information. Database link Q03135 |
| **Purification technique** | Affinity purification Immunogen |
| **Specificity** | No cross-reactivity expected to Caveolin-2 and Caveolin-3. |
| **Concentration** | 0.5 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |
| **Purification notes** | Purified from goat serum by ammonium sulphate precipitation followed by antigen affinity chromatography using the immunizing peptide. |

## Reactivity data

## ICC

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 10 µg/mL |

| | |
|---|---|
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Mouse, Rat, Dog, Pig |
| **Dilution info** | - |
| **Notes** | - |

## WB

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 0.001-0.01 µg/mL |
| **Notes** | 1 hour primary incubation is recommended for this product. |

### Predicted

| | |
|---|---|
| **Species** | Mouse, Rat, Dog, Pig |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Mouse, Rat, Dog, Pig |
| **Dilution info** | - |
| **Notes** | - |

## Target data

See full target information CAV1

| | |
|---|---|
| **Function** | May act as a scaffolding protein within caveolar membranes (PubMed:11751885). Forms a stable heterooligomeric complex with CAV2 that targets to lipid rafts and drives caveolae formation. Mediates the recruitment of CAVIN proteins (CAVIN1/2/3/4) to the caveolae (PubMed:19262564). 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 (PubMed:17287217). Recruits CTNNB1 to caveolar membranes and may regulate CTNNB1-mediated signaling through the Wnt pathway (By similarity). Negatively regulates TGFB1-mediated activation of SMAD2/3 by mediating the internalization of TGFBR1 from membrane rafts leading to its subsequent degradation (PubMed:25893292). Binds 20(S)-hydroxycholesterol (20(S)-OHC) (By similarity). |

## Storage

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|---|---|
| **Shipped at conditions** | Blue Ice |
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | -20°C |
| **Aliquoting information** | Upon delivery aliquot |
| **Storage information** | Avoid freeze / thaw cycle |

## Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

| | |
|---|---|
| **Activity summary** | Caveolin-1 also known as Cav-1 is an integral membrane protein with a molecular weight of approximately 22 kDa. It functions mechanically as a scaffolding protein in caveolae which are tiny invaginations in the plasma membrane of many cell types. These structures are particularly abundant in adipocytes endothelial cells and muscle cells. Caveolin-1 anchors itself to the cell membrane and plays a role in organizing and concentrating certain signaling molecules. |
| **Biological function summary** | Caveolae provide a platform for various signaling pathways and involve caveolin-1 as a major component. Caveolin-1 interacts with multiple signaling molecules such as G-protein coupled receptors and Src family kinases to modulate signal transduction. This protein forms part of a larger caveolar complex contributing to cellular processes including endocytosis and lipid regulation. Its presence as a marker in caveolae highlights its significance in cellular functions. |

| | |
|---|---|
| **Pathways** | Caveolin-1 influences the insulin signaling and nitric oxide (NO) signaling pathways. In the insulin signaling pathway caveolin-1 interacts with insulin receptors to modulate glucose uptake. It also associates with eNOS (endothelial nitric oxide synthase) in the NO signaling pathway impacting vascular function. These relationships highlight its role in cellular communication and regulatory mechanisms within the human body. |
| **Associated diseases and disorders** | Caveolin-1 is involved in cancer and cardiovascular diseases. In cancer altered expression of caveolin-1 contributes to tumor progression while in cardiovascular diseases it affects endothelial function through its interaction with eNOS. The connection of caveolin-1 to proteins like insulin receptors and eNOS reveals its critical influence in these conditions providing potential targets for therapeutic intervention. |

## Product promise

**Tested**

We have tested this species and application combination and it works. It is covered by our product promise.

**Expected**

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

**Predicted**

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

**Not recommended**

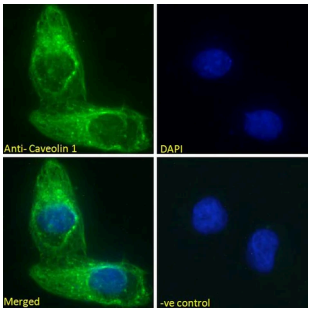
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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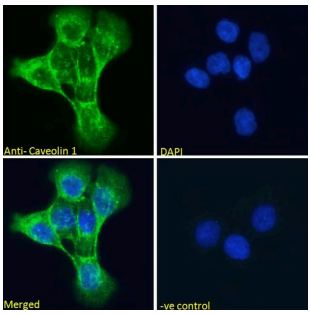
## 5 product images




## Immunocytochemistry - Anti-Caveolin-1 antibody - Caveolae Marker (ab36152)

Caveolin-1 Immunocytochemistry staining using goat Anti-Caveolin-1 antibody

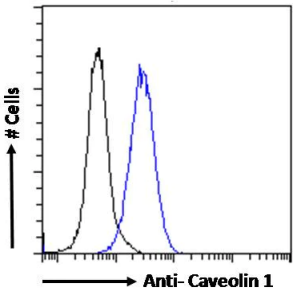
Immunocytochemistry analysis of paraformaldehyde fixed U-2 OS (human bone osteosarcoma epithelial cell line) cells labeling Caveolin-1 with ab36152 at 10 µg/mL. Cells permeabilized with 0.15% Triton. Primary incubation for 1 hour followed by Alexa Fluor® 488 secondary antibody at 2 µg/mL (green). The nuclear stain is DAPI (blue). Negative control: Unimmunized goat IgG (10 µg/mL) followed by Alexa Fluor® 488 secondary antibody at 2 µg/mL.




## Immunocytochemistry - Anti-Caveolin-1 antibody - Caveolae Marker (ab36152)

Caveolin-1 Immunocytochemistry staining using goat Anti-Caveolin-1 antibody

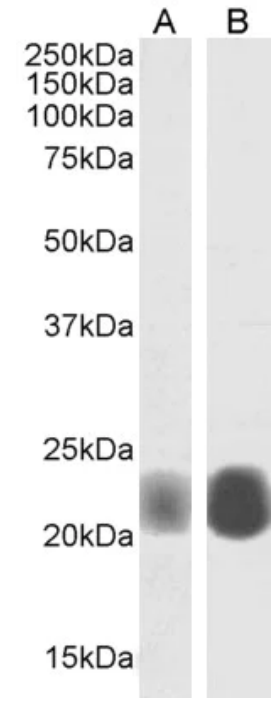
Immunocytochemistry analysis of paraformaldehyde fixed A431 (human epidermoid carcinoma cell line) cells labeling Caveolin-1 with ab36152 at 10 µg/mL. Cells permeabilized with 0.15% Triton. Primary incubation for 1 hour followed by Alexa Fluor® 488 secondary antibody at 2 µg/mL (green). The nuclear stain is DAPI (blue). Negative control: Unimmunized goat IgG (10 µg/mL) followed by Alexa Fluor® 488 secondary antibody at 2 µg/mL.




## Flow Cytometry (Intracellular) - Anti-Caveolin-1 antibody - Caveolae Marker (ab36152)

Caveolin-1 Flow Cytometry (Intracellular) staining using goat Anti-Caveolin-1 antibody

Flow Cytometry (Intracellular) analysis of paraformaldehyde fixed HeLa (human epithelial cell line from cervix adenocarcinoma) cells labeling Caveolin-1 with ab36152 at 10 µg/mL (blue line). Cells permeabilized with 0.5% Triton. Primary incubation overnight followed by Alexa Fluor® 488 secondary antibody at 1 µg/mL.
IgG control: Unimmunized goat IgG (black line) followed by Alexa Fluor® 488 secondary antibody.




## Western blot - Anti-Caveolin-1 antibody - Caveolae Marker (ab36152)

Caveolin-1 Western blot staining using goat Anti-Caveolin-1 antibody

Lane 1:
Western blot - Anti-Caveolin-1 antibody - Caveolae Marker (ab36152) at 0.003 µg/mL

Lane 2:
Western blot - Anti-Caveolin-1 antibody - Caveolae Marker (ab36152) at 0.001 µg/mL

Lane 1:
A431 cell lysate at 35 µg

Lane 2:
A549 cell lysate at 35 µg

Predicted band size: 20 kDa




# Western blot - Anti-Caveolin-1 antibody - Caveolae Marker (ab36152)

Caveolin-1 Western blot staining of Human Heart lysate using goat Anti-Caveolin-1 antibody

All lanes:
Western blot - Anti-Caveolin-1 antibody - Caveolae Marker (ab36152) at 0.003 µg/mL

All lanes:
Human Heart lysate at 35 µg

Predicted band size: 20 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.