Technical Data Sheet

# Purified Mouse Anti-Caveolin 1

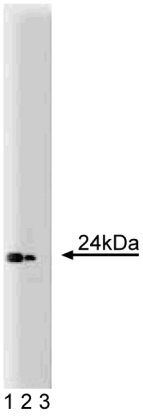
## Product Information

| | |
|---|---|
| **Material Number:** | **610406** |
| **Size:** | 50 µg |
| **Concentration:** | 250 µg/ml |
| **Clone:** | 2297/Caveolin 1 |
| **Immunogen:** | RSV-CEF Caveolin aa. 1-178 |
| **Isotype:** | Mouse IgG1 |
| **Reactivity:** | QC Testing: Human<br>Tested in Development: Chicken, Dog, Mouse, Rat |
| **Target MW:** | 21-24 kDa |
| **Storage Buffer:** | Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide. |

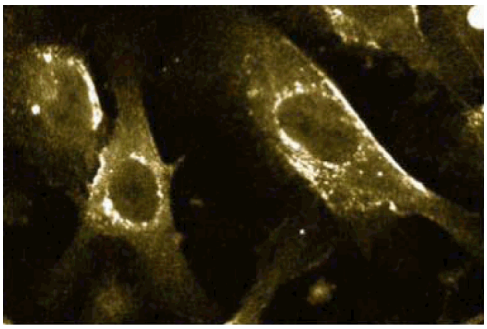
## Description

Identified as a tyrosine phosphorylated protein in Rous sarcoma virus-transformed chick embryo fibroblasts (CEF), caveolin is now known to be ubiquitously expressed. Caveolin (also known as VIP21) localizes to non-clathrin membrane invaginations (caveolae) on the inner surface of the plasma membrane. This transmembrane protein plays a structural role in these specializations. Caveolin is also present at the trans-Golgi network (TGN) and similar quantities are found in apically and basolaterally destined transport vesicles. Caveolin is part of a complex containing glycosylphosphatidylinositol (GPI)-linked molecules and cytoplasmic signaling proteins. Caveolin is a transmembrane adaptor molecule that can simultaneously recognize GPI-linked proteins and interact with downstream cytoplasmic signaling molecules, such as c-yes, Annexin II, and hetero-trimeric G proteins. Caveolin-1 can generate two forms, α and β, due to alternate splicing of the mRNA. The α isoform has been reported to be observed at 24 kD and the β isoform at 21 kD. Caveolin-1 forms large lipid-binding homo-oligomers which are believed to play a role in caveolae formation. It may also function as a scaffolding protein which concentrates andorganizes signaling molecules, a role supported by the fact that caveolin-1 interacts directly with inactive Ras and G-protein α subunits.

This antibody is routinely tested by western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.




***Western blot analysis of Caveolin 1 on a human endothelial cell lysate.*** *Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1:4000 dilution of the mouse anti- caveolin 1 antibody.*



***Immunofluorescence with the mouse anti- caveolin 1 antibody on human endothelial cells.***

## Preparation and Storage

Store undiluted at -20° C.
The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

BD Biosciences
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## Application Notes

**Application**

| | |
|---|---|
| Western blot | Routinely Tested |
| Immunofluorescence | Tested During Development |
| Immunohistochemistry | Tested During Development |
| Immunoprecipitation | Tested During Development |

## Suggested Companion Products

| Catalog Number | Name | Size | Clone |
|---|---|---|---|
| 611450 | Human Endothelial Cell Lysate | 500 µg | (none) |
| 554002 | HRP Goat Anti-Mouse Igs | 1.0 ml | (none) |
| 554001 | FITC Goat Anti-Mouse Igs | 0.5 mg | Polyclonal |

## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

## References


Breton S, Lisanti MP, Tyszkowski R, McLaughlin M, Brown D. Basolateral distribution of caveolin-1 in the kidney. Absence from H+-atpase-coated endocytic vesicles in intercalated cells. *J Histochem Cytochem.* 1998; 46(2):205-214.(Clone-specific: Immunohistochemistry, Western blot)

Conrad PA, Smart EJ, Ying YS, Anderson RG, Bloom GS. Caveolin cycles between plasma membrane caveolae and the Golgi complex by microtubule-dependent and microtubule-independent steps. *J Cell Biol.* 1995; 131(1):1421-1433.(Biology)

Galbiati F, Volonte D, Brown AM, et al. Caveolin-1 expression inhibits Wnt/beta-catenin/Lef-1 signaling by recruiting beta-catenin to caveolae membrane domains. *J Biol Chem.* 2000; 275(30):23368-23377.(Clone-specific: Western blot)

Ushio-Fukai M, Hilenski L, Santanam N, et al. Cholesterol depletion inhibits epidermal growth factor receptor transactivation by angiotensin II in vascular smooth muscle cells: role of cholesterol-rich microdomains and focal adhesions in angiotensin II signaling. *J Biol Chem.* 2001; 276(51):48269-48275.(Clone-specific: Immunoprecipitation, Western blot)

Woodman SE, Park DS, Cohen AW, et al. Caveolin-3 knock-out mice develop a progressive cardiomyopathy and show hyperactivation of the p42/44 MAPK cascade. *J Biol Chem.* 2002; 277(41):38988-38997.(Clone-specific: Immunofluorescence, Western blot)