Technical Data Sheet

Purified Mouse Anti-Caveolin 1

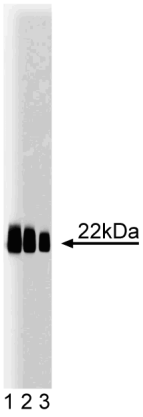
Product Information

Material Number:	**610494**
Size:	150 µg
Concentration:	250 µg/ml
Clone:	2234/Caveolin 1
Immunogen:	RSV-CEF Caveolin aa. 1-178
Isotype:	Mouse IgG2a
Reactivity:	QC Testing: Chicken Tested in Development: Human
Target MW:	22 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

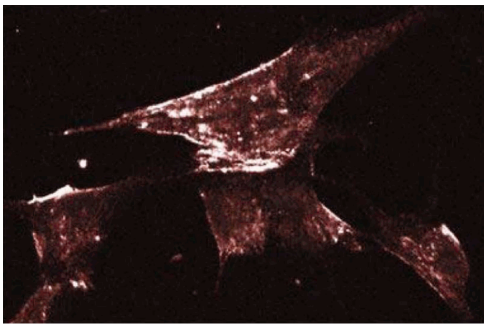
Description

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. 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 and organizes 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 SL-29 lysate.
Lane 1: 1:5000, lane 2: 1:10000, lane 3: 1:20000 dilution of anti-Caveolin 1.



Immunofluroescent staining of Human Fibroblasts with anti-Caveolin 1.

Preparation and Storage

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

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development
Immunoprecipitation	Tested During Development
Immunohistochemistry	Not Recommended

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Igs (Multiple Adsorption)	0.5 mg	Polyclonal
611478	SL-29 Cell Lysate	500 µg	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. 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.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

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.(Clone-specific: Electron microscopy, Immunofluorescence)

Oh P, Schnitzer JE. Segregation of heterotrimeric G proteins in cell surface microdomains. G(q) binds caveolin to concentrate in caveolae, whereas G(i) and G(s) target lipid rafts by default. *Mol Biol Cell.* 2001; 12(3):685-698.(Clone-specific: Immunofluorescence, Immunoprecipitation, Western blot)

Razani B, Zhang XL, Bitzer M, von Gersdorff G, Bottinger EP, Lisanti MP. Caveolin-1 regulates transforming growth factor (TGF)-beta/SMAD signaling through an interaction with the TGF-beta type I receptor. *J Biol Chem.* 2001; 276(9):6727-6738.(Clone-specific: Immunohistochemistry, Western blot)

Scherer PE, Tang Z, Chun M, Sargiacomo M, Lodish HF, Lisanti MP. Caveolin isoforms differ in their N-terminal protein sequence and subcellular distribution. Identification and epitope mapping of an isoform-specific monoclonal antibody probe. *J Biol Chem.* 1995; 270(27):16395-16401.(Clone-specific: Immunofluorescence, Western blot)

Schlegel A, Arvan P, Lisanti MP. Caveolin-1 binding to endoplasmic reticulum membranes and entry into the regulated secretory pathway are regulated by serine phosphorylation. Protein sorting at the level of the endoplasmic reticulum. *J Biol Chem.* 2001; 276(6):4398-4408.(Clone-specific: Immunoprecipitation, Western blot)

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