Product Datasheet

Caveolin-1 Antibody (7C8) - BSA Free
NB100-615

Unit Size: 0.1 ml

Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.

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Reviews: 3 Publications: 39

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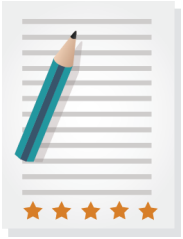
Updated 2/21/2025 v.20.1



NB100-615

Caveolin-1 Antibody (7C8) - BSA Free

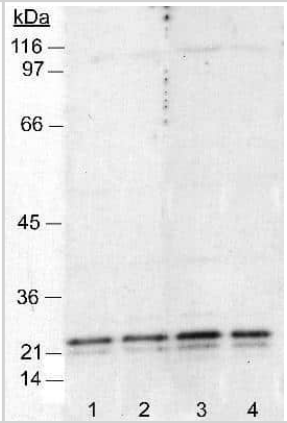
Product Information	
Unit Size	0.1 ml
Concentration	1.0 mg/ml
Storage	Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	7C8
Preservative	0.05% Sodium Azide
Isotype	IgG2b
Purity	Protein A purified
Buffer	Tris-Glycine, 0.15 M NaCl
Target Molecular Weight	23 kDa

Product Description	
Host	Mouse
Gene ID	857
Gene Symbol	CAV1
Species	Human, Mouse, Rat, Sheep
Marker	Caveolae Marker, Endosome Marker
Specificity/Sensitivity	This is specific for caveolin alpha and beta proteins.
Immunogen	Intracellular membrane protein-containing vesicles (containing GLUT4) from rat adipocytes

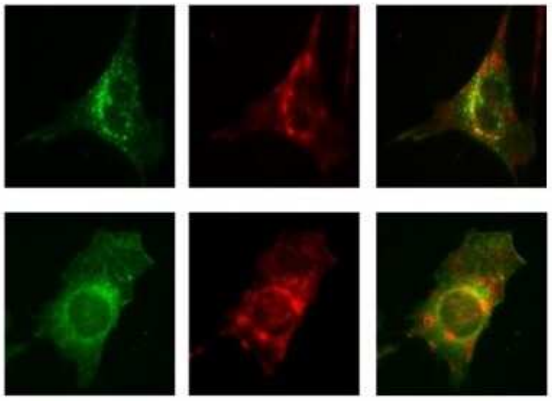
Product Application Details	
Applications	Western Blot, Flow Cytometry, Immunoblotting, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin, Immunoprecipitation
Recommended Dilutions	Western Blot 1:1000-1:4000, Flow Cytometry 1 ug per million cells, Immunohistochemistry 1:100-1:300, Immunocytochemistry/ Immunofluorescence 1:200, Immunoprecipitation 1-2 ug / 500 ug of protein, Immunohistochemistry-Paraffin 1:100-1:300, Immunohistochemistry-Frozen reported in scientific literature (PMID 24758774), Immunoblotting reported in scientific literature (PMID 31759628)
Application Notes	In Western blot, a band is observed ~23 kDa, representing the Caveolin 1 protein. A band at ~21 kDa may also be observed depending on the lysates used.

Images

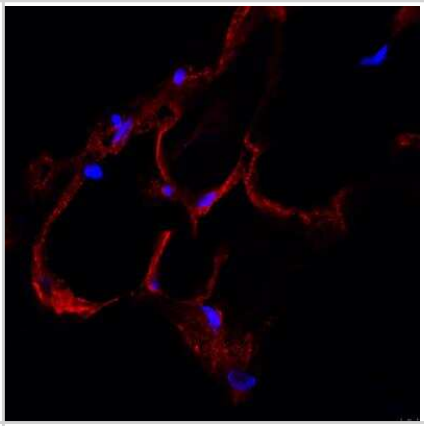
Western Blot: Caveolin-1 Antibody (7C8) [NB100-615] - Detection of caveolin in 3T3 cell lysates (50 ug). Lanes 1 and 2: 1:4000. Lanes 3 and 4: 1:1000. Detection by ECL: 5 minute exposure.



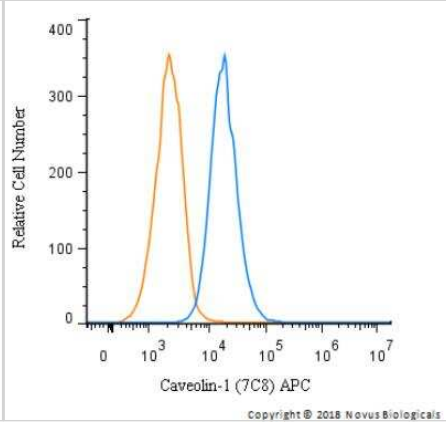
Immunocytochemistry/Immunofluorescence: Caveolin-1 Antibody (7C8) [NB100-615] - Subcellular localization of mPARM-1 and hPARM-1 (full-length and mutant proteins). NIH/3T3 cells transiently expressing hPARM-1-GFP or deltaCT-GFP were fixed, immunostained for caveolin-1 (1:100, Novus Biologicals), and examined by confocal fluorescence microscopy. For hPARM-1-GFP-caveolin-1 co-localization, cells that demonstrated cell membrane PARM-1 localization were chosen. All co-localizations were observed following merging images of GFP-tagged proteins with those of Golgi, endosomes, plasma membrane, alpha-tubulin or caveolin-1 labeling. Image collected and cropped by CiteAb from the following publication (https://molecular-cancer.biomedcentral.com/articles/10.1186/1476-4598-12-84), licensed under a CC-BY license.

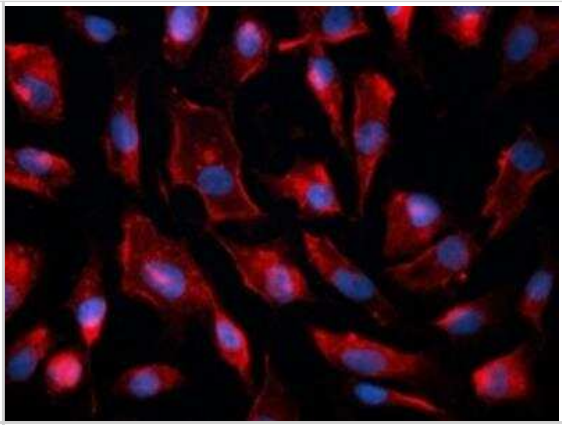
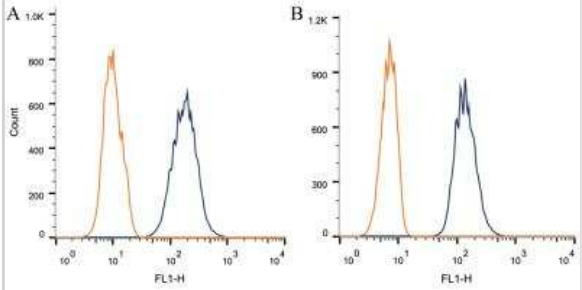
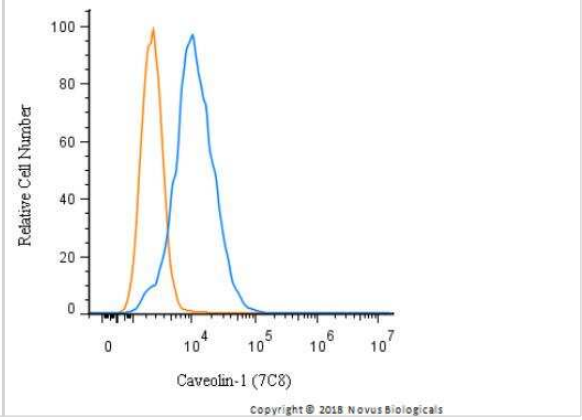


Immunohistochemistry-Frozen: Caveolin-1 Antibody (7C8) [NB100-615] - Immunofluorescence of human adipose tissue. Primary antibody at 1:250. IHC-Fr image submitted by a verified customer review.



Flow Cytometry: Caveolin-1 Antibody (7C8) [NB100-615] - An intracellular stain was performed on HeLa cells with Caveolin-1 Antibody (7C8) NB100-615APC (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 1 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to allophycocyanin.



Immunocytochemistry/Immunofluorescence: Caveolin-1 Antibody (7C8) [NB100-615] - Antibody at 1:200 dilution (ON incubation) on EaHy926 endothelial cell line showing a clear localization in lipid raft/membrane. Photo courtesy of Alberto Davalos, Yale School of Medicine.	
Immunocytochemistry/Immunofluorescence: Caveolin-1 Antibody (7C8) [NB100-615] - HeLa cells were fixed for 10 minutes using 10% formalin and then permeabilized for 5 minutes using 1X PBS + 0.05% Triton X-100. The cells were incubated with anti-Caveolin-1 [7C8] conjugated to Alexa Fluor 488 (NB100-615AF488) at 20 ug/mL for 1 hour at room temperature. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 40X objective.	
Flow Cytometry: Caveolin-1 Antibody (7C8) [NB100-615] - Intracellular flow cytometric staining of 1 x 10^6 CHO (A) and HEK-293 (B) cells using Caveolin 1 antibody (dark blue). Isotype control shown in orange. An antibody concentration of 1 ug/1x10^6 cells was used.	
Flow Cytometry: Caveolin-1 Antibody (7C8) [NB100-615] - An intracellular stain was performed on HeLa cells with Caveolin-1 Antibody (7C8) NB100-615 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeablized with 0.1% saponin. Cells were incubated in an antibody dilution of 5 ug/mL for 30 minutes at room temperature, followed by mouse F(ab)2 IgG (H+L) APC-conjugated secondary antibody (F0101B, R&D Systems).	

Publications

Lee, D;Benvie, AM;Steiner, BM;Kolba, NJ;Ford, JG;McCabe, SM;Jiang, Y;Berry, DC; Smooth muscle cell-derived Cxcl12 directs macrophage accrual and sympathetic innervation to control thermogenic adipose tissue Cell reports 2024-04-27 [PMID: 38678562]

Díaz-Ruiz A, Rabanal-Ruiz Y, Trávez A et Al. The long coiled-coil protein NECC2 is associated to caveolae and modulates NGF/TrkA signaling in PC12 cells [corrected] PLoS One 2013-09-06 [PMID: 24040018]

Dalton CM, Schlegel C, Hunter CJ Caveolin-1: A Review of Intracellular Functions, Tissue-Specific Roles, and Epithelial Tight Junction Regulation Biology 2023-11-05 [PMID: 37998001] (IHC)

Margaret JV Deciphering the Role of Caveolae in Human Meniscus Fibrochondrocytes Thesis 2022-01-01 (ICC/IF, Human)

Wang S, Ichinomiya T, Savchenko P Et al. Subpial delivery of adeno-associated virus 9-synapsin-caveolin-1 (AAV9-SynCav1) preserves motor neuron and neuromuscular junction morphology, motor function, delays disease onset, and extends survival in hSOD1(G93A) mice Theranostics 2022-08-01 [PMID: 35910808] (IF/IHC, Mouse)

Details:
Citation using the Alexa Fluor 594 version of this antibody.

Zhu A, Lin Y, Hu X et al. Treadmill exercise decreases cerebral edema in rats with local cerebral infarction by modulating AQP4 polar expression through the caveolin-1/TRPV4 signaling pathway Brain research bulletin 2022-10-01 [PMID: 35961528] (IHC-Fr, Rat)

Wang J, Xu J, Zang G et al. trans-2-Enoyl-CoA Reductase Tecr-Driven Lipid Metabolism in Endothelial Cells Protects against Transcytosis to Maintain Blood-Brain Barrier Homeostasis Research (Washington, D.C.) 2022-04-04 [PMID: 35465346] (WB, Human)

Collins DP, Osborn MJ, Steer CJ. et al. Differentiation of immortalized human multi-lineage progenitor to alveolar type 2-like cells: angiotensin-converting enzyme 2 expression and binding of severe acute respiratory syndrome coronavirus 2 spike and spike 1 proteins Cytotherapy 2021-08-01 [PMID: 34551876] (ICC/IF, Human)

Savio, L E B, de Andrade Mello, P Et al. P2X7 receptor activation increases expression of caveolin-1 and formation of macrophage lipid rafts, thereby boosting CD39 activity. J Cell Sci 2020-03-06 [PMID: 32005701] (IF/IHC, Drosophila melanogaster)

Sanchez-Solana B, Wang D, Qian X Et al. The tumor suppressor activity of DLC1 requires the interaction of its START domain with Phosphatidylserine, PLCD1, and Caveolin-1 Molecular cancer 2021-11-02 [PMID: 34727930]

Kurebayashi Y, Bajimaya S, Watanabe M et al. Human parainfluenza virus type 1 regulates cholesterol biosynthesis and establishes quiescent infection in human airway cells PLOS Pathogens 2021-09-16 [PMID: 34529742] (WB, Human)

Daneva Z, Ottolini M, Chen YL et al. Endothelial pannexin 1-TRPV4 channel signaling lowers pulmonary arterial pressure in mice eLife 2021-09-07 [PMID: 34490843]

More publications at http://www.novusbio.com/NB100-615

Procedures

Protocol specific for Caveolin 1 Antibody (NB100-615)

Western Blot Protocol

1. Perform SDS-PAGE (4-12%) on samples to be analyzed, loading 50ug of total protein per lane.

2. Transfer proteins to Nitrocellulose according to the instructions provided by the manufacturer of the transfer apparatus.

3. Stain the blot using ponceau S for 1-2 minutes to access the transfer of proteins onto the nitrocellulose membrane. Rinse the blot in water to remove excess stain and mark the lane locations and locations of molecular weight markers using a pencil.

4. Rinse the blot in TBS for approximately 5 minutes.

5. Block the membrane using 5% non-fat dry milk in TBS for 1 hour.

6. Dilute the mouse anti-Caveolin primary antibody (NB 100-615) in blocking buffer and incubate 3 hours at room temperature.

7. Wash the membrane in water for 5 minutes and apply the diluted mouse-IgG HRP-conjugated secondary antibody in blocking buffer (as per manufacturer's instructions) and incubate 1 hour at room temperature.

8. Wash the blot in TBS containing 0.05-0.1% Tween-20 for 10-20 minutes.

9. Wash the blot in type I water for an additional 10-20 minutes (this step can be repeated as required to reduce background).

10. Apply the detection reagent of choice in accordance with the manufacturer's instructions (Amersham's ECL is the standard reagent used at Novus Biologicals).

Note: Tween-20 can be added to the blocking buffer at a final concentration of 0.05-0.2%, provided it does not interfere with antibody-antigen binding.

Novus Biologicals USA
10730 E. Briarwood Avenue
Centennial, CO 80112
USA
Phone: 303.730.1950
Toll Free: 1.888.506.6887
Fax: 303.730.1966
nb-customerservice@bio-techne.com

Bio-Techne Canada
21 Canmotor Ave
Toronto, ON M8Z 4E6
Canada
Phone: 905.827.6400
Toll Free: 855.668.8722
Fax: 905.827.6402
canada.inquires@bio-techne.com

Bio-Techne Ltd
19 Barton Lane
Abingdon Science Park
Abingdon, OX14 3NB, United Kingdom
Phone: (44) (0) 1235 529449
Free Phone: 0800 37 34 15
Fax: (44) (0) 1235 533420
info.EMEA@bio-techne.com

General Contact Information
www.novusbio.com
Technical Support: nb-technical@bio-techne.com
Orders: nb-customerservice@bio-techne.com
General: novus@novusbio.com

Products Related to NB100-615

NB800-PC8	NIH 3T3 Whole Cell Lysate
HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP2-27231	Mouse IgG2b Isotype Control (MPC-11)

Limitations

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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