

Product datasheet

Anti-Caveolin-3 antibody [EPR11082] - Caveolae Marker ab173575

Recombinant RabMAb

[3 References](#) [8 Images](#)

Overview

Product name	Anti-Caveolin-3 antibody [EPR11082] - Caveolae Marker
Description	Rabbit monoclonal [EPR11082] to Caveolin-3 - Caveolae Marker
Host species	Rabbit
Tested applications	Suitable for: IHC-FoFr, WB, ICC/IF, IHC-P Unsuitable for: IP
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Synthetic peptide within Human Caveolin-3 aa 1-100 (N terminal) (Cysteine residue). The exact sequence is proprietary. Database link: P56539
Positive control	WB: Human skeletal muscle and fetal heart tissue lysates, mouse skeletal muscle tissue lysate. IHC-P: Rat, mouse and human cardiac muscle tissue. IHC-Fr: Mouse skeletal muscle ICC/IF: Differentiated C2C12 (Mouse myoblast cell line)
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information see here . Our RabMAb [®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents .

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Do Not Freeze.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 49% PBS, 50% Glycerol (glycerin, glycerine), 0.05% BSA

Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR11082
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab173575 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
IHC-FoFr		1/1000. Heat mediated antigen retrieval using sodium citrate buffer (10 mM citrate pH 6.0 + 0.05% Tween-20).
WB		1/1000 - 1/5000. Predicted molecular weight: 17 kDa.
ICC/IF		1/50.
IHC-P		1/500. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Application notes Is unsuitable for IP.

Target

Function May act as a scaffolding protein within caveolar membranes. Interacts directly with G-protein alpha subunits and can functionally regulate their activity. May also regulate voltage-gated potassium channels. Plays a role in the sarcolemma repair mechanism of both skeletal muscle and cardiomyocytes that permits rapid resealing of membranes disrupted by mechanical stress.

Tissue specificity Expressed predominantly in muscle.

Involvement in disease Defects in CAV3 are the cause of limb-girdle muscular dystrophy type 1C (LGMD1C) [MIM:607801]. LGMD1C is a myopathy characterized by calf hypertrophy and mild to moderate proximal muscle weakness. LGMD1C inheritance can be autosomal dominant or recessive. Defects in CAV3 are a cause of hyperCKmia (HYPCK) [MIM:123320]. It is a disease characterized by persistent elevated levels of serum creatine kinase without muscle weakness. Defects in CAV3 are a cause of rippling muscle disease (RMD) [MIM:606072]. RMD is a rare disorder characterized by mechanically triggered contractions of skeletal muscle. In RMD, mechanical stimulation leads to electrically silent muscle contractions that spread to neighboring fibers that cause visible ripples to move over the muscle. Defects in CAV3 are a cause of cardiomyopathy familial hypertrophic (CMH) [MIM:192600]; also designated FHC or HCM. Familial hypertrophic cardiomyopathy is a hereditary heart disorder characterized by ventricular hypertrophy, which is usually asymmetric and often involves the interventricular septum. The symptoms include dyspnea, syncope, collapse, palpitations, and chest pain. They can be readily provoked by exercise. The disorder has inter- and intrafamilial variability ranging from benign to malignant forms with high risk of cardiac failure and sudden cardiac death. Defects in CAV3 are the cause of long QT syndrome type 9 (LQT9) [MIM:611818]. Long QT

syndromes are heart disorders characterized by a prolonged QT interval on the ECG and polymorphic ventricular arrhythmias. They cause syncope and sudden death in response to exercise or emotional stress. They can present with a sentinel event of sudden cardiac death in infancy.

Defects in CAV3 can be a cause of sudden infant death syndrome (SIDS) [MIM:272120]. SIDS is the sudden death of an infant younger than 1 year that remains unexplained after a thorough case investigation, including performance of a complete autopsy, examination of the death scene, and review of clinical history. Pathophysiologic mechanisms for SIDS may include respiratory dysfunction, cardiac dysrhythmias, cardiorespiratory instability, and inborn errors of metabolism, but definitive pathogenic mechanisms precipitating an infant sudden death remain elusive. Long QT syndromes-associated mutations can be responsible for some SIDS cases.

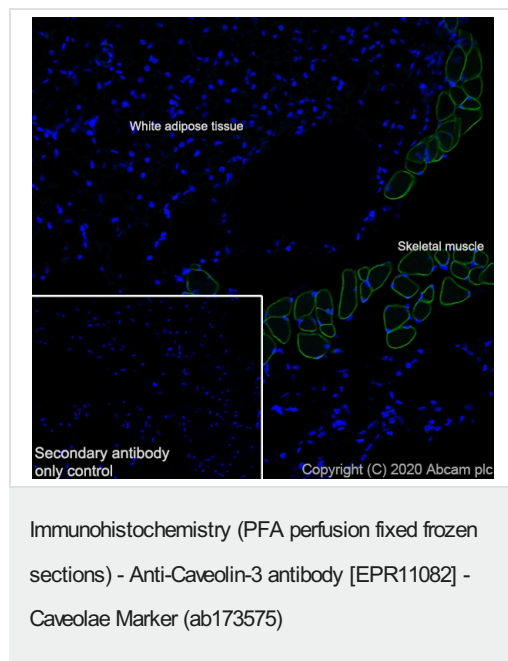
Sequence similarities

Belongs to the caveolin family.

Cellular localization

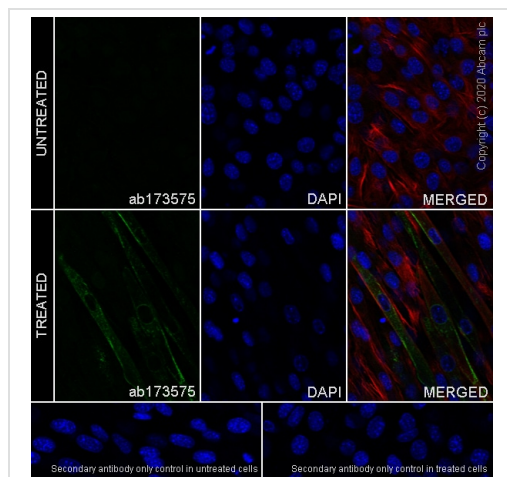
Golgi apparatus membrane. Cell membrane. Membrane > caveola. Potential hairpin-like structure in the membrane. Membrane protein of caveolae.

Images



Immunohistochemistry analysis of frozen mouse skeletal muscle tissue labeling Caveolin-3 with ab173575 at 1/1000 dilution. Sections were fixed with 4% PFA and permeabilised with 0.2% Triton X-100. [ab150077](#), AlexaFluor®488 Goat anti-Rabbit at 1/1000 (2 µg/mL) was used as the secondary antibody. DAPI (blue) was used as nuclear counterstain. Antigen retrieval was heat mediated using sodium citrate buffer (10 mM citrate pH 6.0 + 0.05% Tween-20).

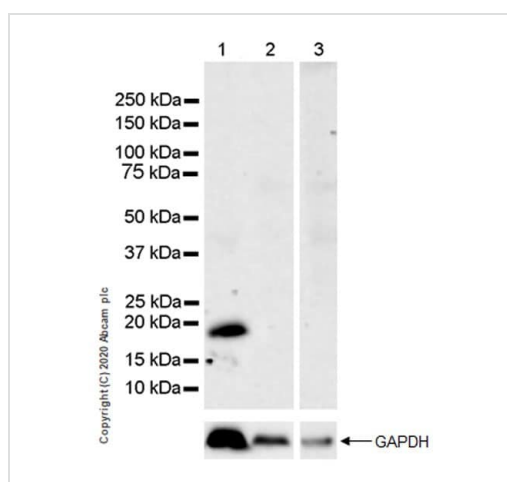
Membranous staining on mouse skeletal muscle, while negative staining on white adipose tissue.



Immunocytochemistry/ Immunofluorescence - Anti-Caveolin-3 antibody [EPR11082] - Caveolae Marker (ab173575)

Immunocytochemistry/Immunofluorescence analysis of C2C12 (mouse myoblast cell line) cells labelling Caveolin-3 with purified ab173575 at 1/50. Cells were fixed with 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. [ab150077](#), an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody. The cells were co-stained with [ab195889](#), an Alexa Fluor® 594-conjugated mouse anti-alpha tubulin antibody (1/200). Nuclei counterstained with DAPI (blue).

Confocal image showing cytoplasmic and membranous staining in differentiated C2C12 cells. No staining detected in undifferentiated C2C12 cells.



Western blot - Anti-Caveolin-3 antibody [EPR11082] - Caveolae Marker (ab173575)

All lanes : Anti-Caveolin-3 antibody [EPR11082] - Caveolae Marker (ab173575) at 1/1000 dilution

Lane 1 : Mouse skeletal muscle tissue lysate at 20 µg

Lane 2 : Mouse white adipose tissue lysate at 40 µg

Lane 3 : Mouse brown adipose tissue lysate at 40 µg

Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/100000 dilution

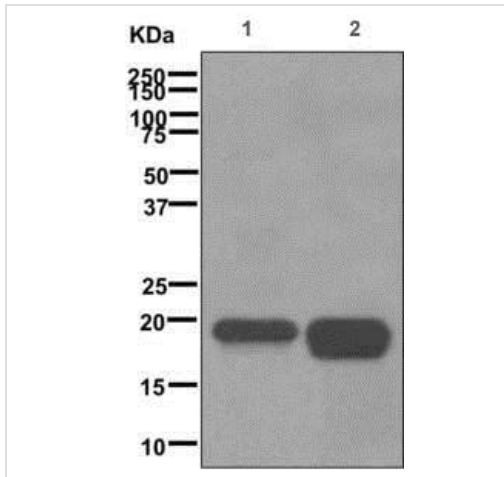
Predicted band size: 17 kDa

Observed band size: 17 kDa

Exposure time: 3 minutes

Blocking/Diluting buffer and concentration: 5% NFDm/TBST.

Negative control: Mouse adipose tissue (PMID: 8663016).



Western blot - Anti-Caveolin-3 antibody [EPR11082]
- Caveolae Marker (ab173575)

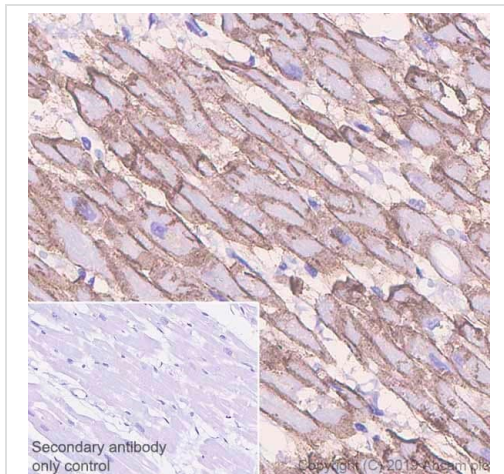
All lanes : Anti-Caveolin-3 antibody [EPR11082] - Caveolae
Marker (ab173575) at 1/1000 dilution

Lane 1 : Human Skeletal Muscle Lysate

Lane 2 : Fetal Heart Lysate

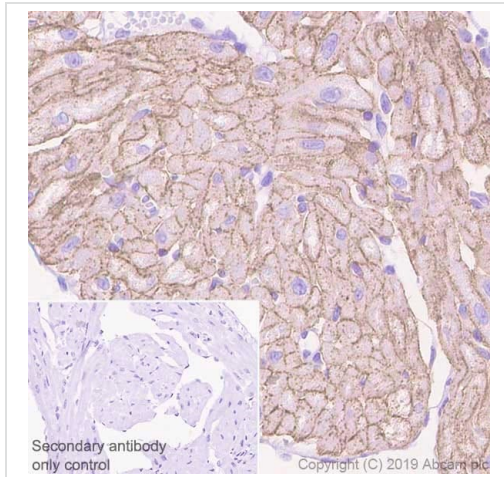
Lysates/proteins at 10 µg per lane.

Predicted band size: 17 kDa



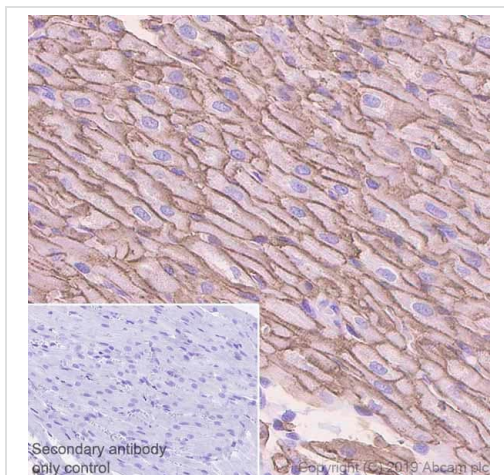
Immunohistochemistry (Formalin/PFA-fixed paraffin-
embedded sections) - Anti-Caveolin-3 antibody
[EPR11082] - Caveolae Marker (ab173575)

Immunohistochemical analysis of paraffin-embedded Human cardiac muscle tissue labeling Caveolin-3 with ab173575 at 1/500 dilution (0.122 µg/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB ([ab209101](#)). Membranous and weak cytoplasmic staining on human cardiac muscle (PMID: 28356340) The section was incubated with ab173575 for 30 mins at RT. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB ([ab209101](#)).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Caveolin-3 antibody [EPR11082] - Caveolae Marker (ab173575)

Immunohistochemical analysis of paraffin-embedded Mouse cardiac muscle tissue labeling Caveolin-3 with ab173575 at 1/500 dilution (0.122 µg/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB ([ab209101](#)). Membranous and weak cytoplasmic staining on mouse cardiac muscle (PMID: 28356340) The section was incubated with ab173575 for 30 mins at RT. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB ([ab209101](#)).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Caveolin-3 antibody [EPR11082] - Caveolae Marker (ab173575)

Immunohistochemical analysis of paraffin-embedded Rat cardiac muscle tissue labeling Caveolin-3 with ab173575 at 1/500 dilution (0.122 µg/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB ([ab209101](#)). Membranous and weak cytoplasmic staining on rat cardiac muscle (PMID: 28356340) The section was incubated with ab173575 for 30 mins at RT. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB ([ab209101](#)).

Why choose a recombinant antibody?



Research with confidence
Consistent and reproducible results



Long-term and scalable supply
Recombinant technology



Success from the first experiment
Confirmed specificity



Ethical standards compliant
Animal-free production

Anti-Caveolin-3 antibody [EPR11082] - Caveolae Marker (ab173575)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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