abcam

Product datasheet

Anti-Vinculin antibody [SP117] - C-terminal ab111004

Recombinant RabMAb

13 Images

Overview

Product name	Anti-Vinculin antibody [SP117] - C-terminal
Description	Rabbit monoclonal [SP117] to Vinculin - C-terminal
Host species	Rabbit
Tested applications	**Suitable for:** IHC-P
Species reactivity	**Reacts with:** Rat, Human **Predicted to work with:** Mouse, Chicken, Dog, Pig
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	IHC-P: Human heart, cerebellum, skeletal muscle, prostate, colon, small intestine, stomach, bladder, breast and breast adenocarcinoma tissue, rat colon.
General notes	**This product is FOR RESEARCH USE ONLY. For commercial use, please contact partnerships@abcam.com.**

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. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.60 Preservative: 0.1% Sodium azide Constituents: PBS, 1% BSA
Purity	Protein A/G purified
Purification notes	Purified from TCS by Protein A/G.
Clonality	Monoclonal
Clone number	SP117
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab111004 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-P		1/100. Boil tissue section in citrate buffer pH 6.0 for 10 minutes followed by cooling at room temperature for 20 minutes. Incubate with primary antibody for 10 minutes at room temperature.

Target

Function Actin filament (F-actin)-binding protein involved in cell-matrix adhesion and cell-cell adhesion. Regulates cell-surface E-cadherin expression and potentiates mechanosensing by the E-cadherin complex. May also play important roles in cell morphology and locomotion.

Tissue specificity Metavinculin is muscle-specific.

Involvement in disease Defects in VCL are the cause of cardiomyopathy dilated type 1W (CMD1W) [MIM:611407]. Dilated cardiomyopathy is a disorder characterized by ventricular dilation and impaired systolic function, resulting in congestive heart failure and arrhythmia. Patients are at risk of premature death.
Defects in VCL are the cause of cardiomyopathy familial hypertrophic type 15 (CMH15) [MIM:613255]. It 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.

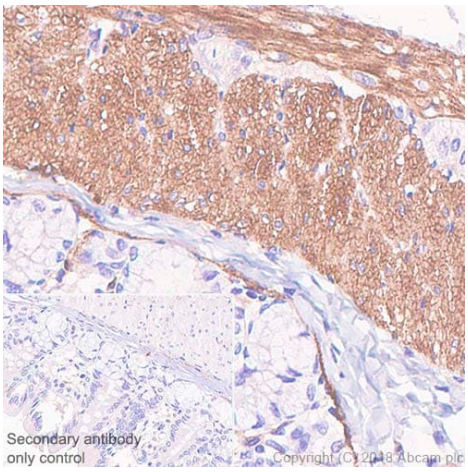
Sequence similarities Belongs to the vinculin/alpha-catenin family.

Domain Exists in at least two conformations. When in the closed, 'inactive' conformation, extensive interactions between the head and tail domains prevent detectable binding to most of its ligands. It takes on an 'active' conformation after cooperative and simultaneous binding of two different ligands. This activation involves displacement of the head-tail interactions and leads to a significant accumulation of ternary complexes. The active form then binds a number of proteins that have both signaling and structural roles that are essential for cell adhesion.
The N-terminal globular head (Vh) comprises of subdomains D1-D4. The C-terminal tail (Vt) binds F-actin and cross-links actin filaments into bundles. An intramolecular interaction between Vh and Vt masks the F-actin-binding domain located in Vt. The binding of talin and alpha-actinin to the D1 subdomain of vinculin induces a helical bundle conversion of this subdomain, leading to the disruption of the intramolecular interaction and the exposure of the cryptic F-actin-binding domain of Vt. Vt inhibits actin filament barbed end elongation without affecting the critical concentration of actin assembly.

Post-translational modifications Phosphorylated; on serines, threonines and tyrosines. Phosphorylation on Tyr-1133 in activated platelets affects head-tail interactions and cell spreading but has no effect on actin binding nor on localization to focal adhesion plaques.
Aceylated; mainly by myristic acid but also small amount of palmitic acid.

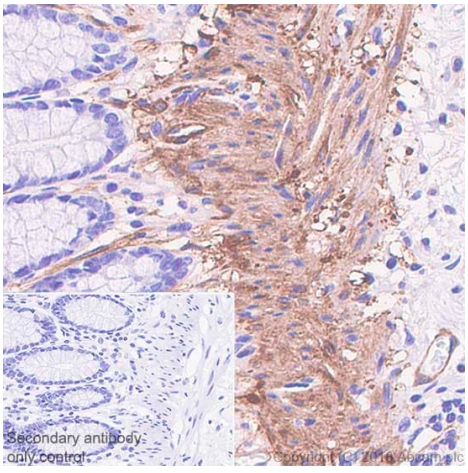
Cellular localization Cytoplasm > cytoskeleton. Cell junction > adherens junction. Cell membrane. Cytoplasmic face of adhesion plaques. Recruitment to cell-cell junctions occurs in a myosin II-dependent manner. Interaction with CTNNB1 is necessary for its localization to the cell-cell junctions.

Images



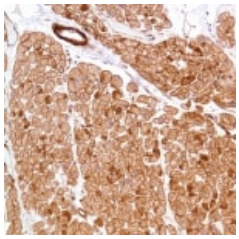
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vinculin antibody [SP117] - C-terminal (ab111004)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Rat colon tissue sections labeling Vinculin with ab111004 at 1/100 dilution (1.84 µg/ml). Heat mediated antigen retrieval with sodium citrate buffer (pH 6.0, epitope retrieval solution 1) for 10mins. Goat Anti-Rabbit & Mouse IgG (HRP) was used as the secondary antibody. Hematoxylin was used as a counterstain. Positive staining on the smooth muscle in rat colon, performed on a Leica Biosystems BOND™ RX instrument.
The section was incubated with ab111004 for 10 mins at room temperature.



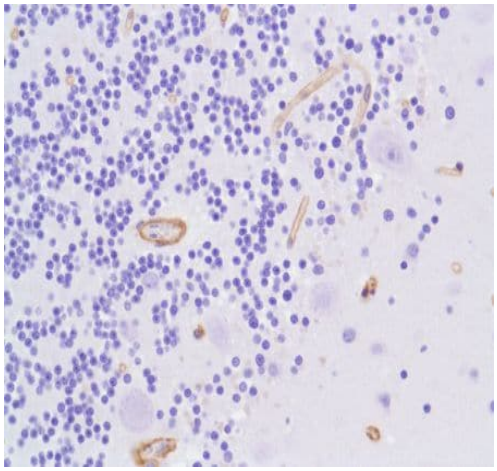
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vinculin antibody [SP117] - C-terminal (ab111004)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human colon tissue sections labeling Vinculin with ab111004 at 1/100 dilution (1.84 µg/ml). Heat mediated antigen retrieval with sodium citrate buffer (pH 6.0, epitope retrieval solution 1) for 10mins. Goat Anti-Rabbit & Mouse IgG (HRP) was used as the secondary antibody. Hematoxylin was used as a counterstain. Positive staining on the smooth muscle in human colon, performed on a Leica Biosystems BOND™ RX instrument.
The section was incubated with ab111004 for 10 mins at room temperature.



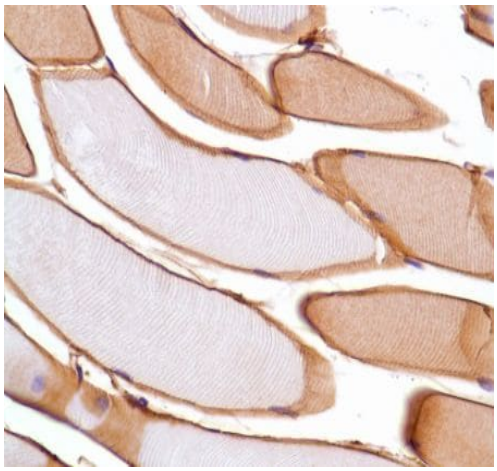
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vinculin antibody [SP117] - C-terminal (ab111004)

Formalin-fixed, paraffin-embedded human heart tissue stained for Vinculin using ab111004 at 1/100 dilution in immunohistochemical analysis.



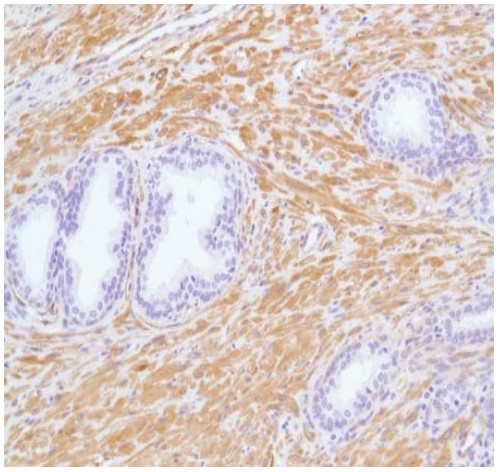
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vinculin antibody [SP117] - C-terminal (ab111004)

Formalin-fixed, paraffin-embedded human cerebellum tissue stained for Vinculin using ab111004 at 1/100 dilution in immunohistochemical analysis.



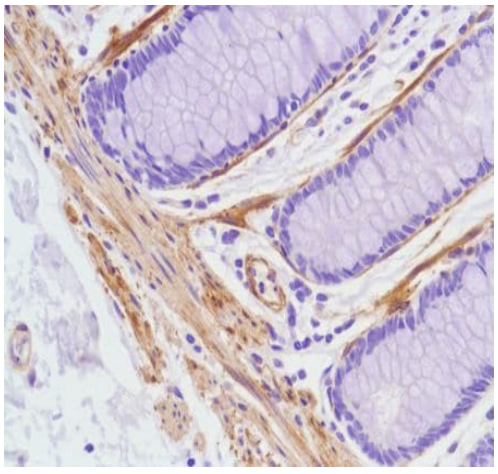
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vinculin antibody [SP117] - C-terminal (ab111004)

Formalin-fixed, paraffin-embedded human skeletal muscle tissue stained for Vinculin using ab111004 at 1/100 dilution in immunohistochemical analysis.



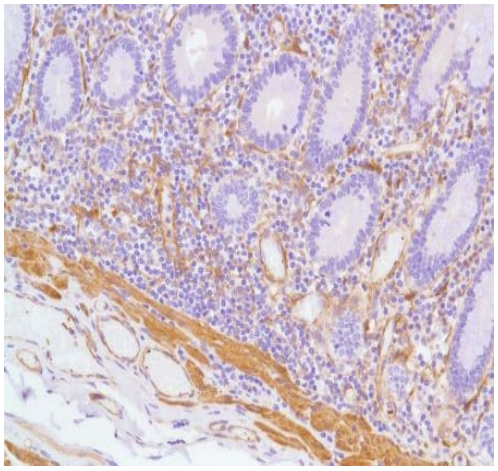
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vinculin antibody [SP117] - C-terminal (ab111004)

Formalin-fixed, paraffin-embedded human prostate tissue stained for Vinculin using ab111004 at 1/100 dilution in immunohistochemical analysis.



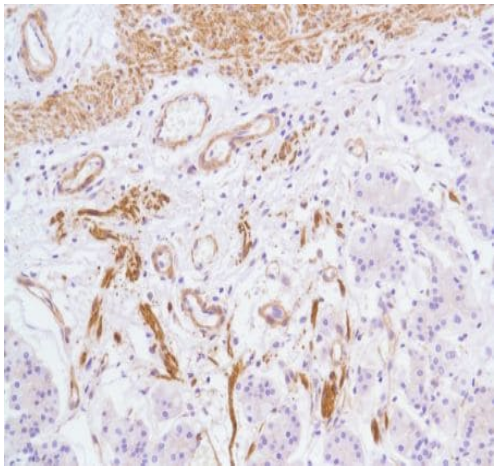
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vinculin antibody [SP117] - C-terminal (ab111004)

Formalin-fixed, paraffin-embedded human colon tissue stained for Vinculin using ab111004 at 1/100 dilution in immunohistochemical analysis.



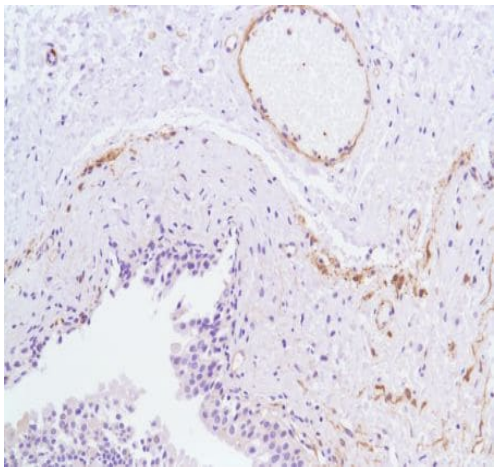
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vinculin antibody [SP117] - C-terminal (ab111004)

Formalin-fixed, paraffin-embedded human small intestine tissue stained for Vinculin using ab111004 at 1/100 dilution in immunohistochemical analysis.



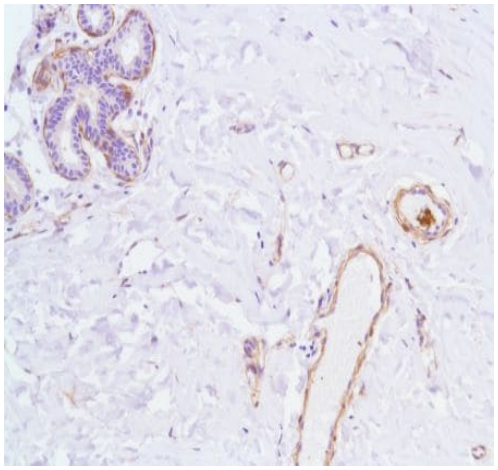
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vinculin antibody [SP117] - C-terminal (ab111004)

Formalin-fixed, paraffin-embedded human stomach tissue stained for Vinculin using ab111004 at 1/100 dilution in immunohistochemical analysis.



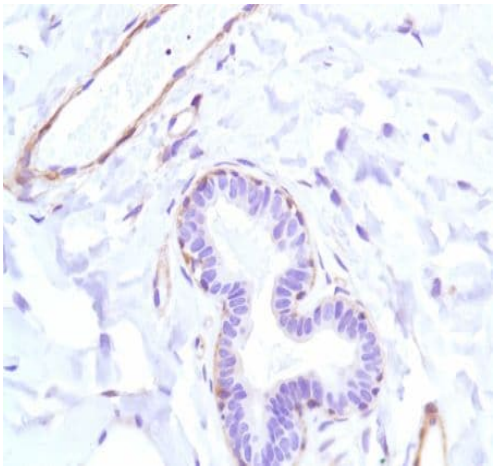
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vinculin antibody [SP117] - C-terminal (ab111004)

Formalin-fixed, paraffin-embedded human bladder tissue stained for Vinculin using ab111004 at 1/100 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vinculin antibody [SP117] - C-terminal (ab111004)

Formalin-fixed, paraffin-embedded human breast tissue stained for Vinculin using ab111004 at 1/100 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vinculin antibody [SP117] - C-terminal (ab111004)

Formalin-fixed, paraffin-embedded human breast adenocarcinoma tissue stained for Vinculin using ab111004 at 1/100 dilution in immunohistochemical analysis.

Anti-Vinculin antibody [SP117] - C-terminal (ab111004)

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