

Rabbit Vinculin Polyclonal Antibody | anti-VCL antibody

Phospho-Vinculin (Tyr821) Antibody

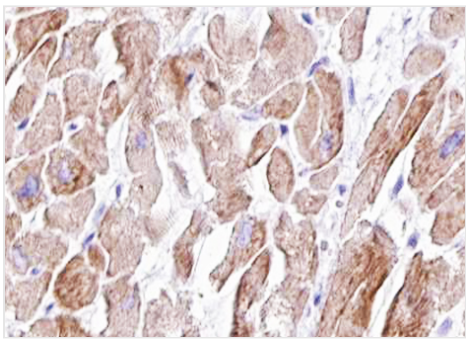
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA321550	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

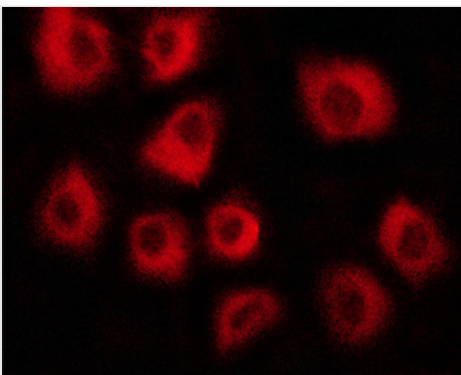
Vinculin; Polyclonal Antibody; Phospho-Vinculin (Tyr821) Antibody; CMD1W; CMH15; Epididymis luminal protein 114; HEL114; Metavinculin; MV; MVCL; OTTHUMP00000019861; OTTHUMP00000019862; VCL; VINC; VINC_HUMAN; anti-VCL antibody

PRODUCT SPECIFICATIONS

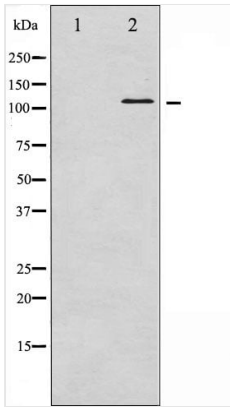
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	Phospho-Vinculin (Tyr821) antibody detects endogenous levels of Vinculin only when phosphorylated at Tyrosine 821
Purity/Purification	From purified rabbit serum by affinity purification via sequential chromatography on phospho-and non-phospho-peptide affinity columns.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	1066
Applicable Applications for anti-VCL antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human Vinculin around the phosphorylation site of Tyrosine 821
Subcellular Location	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.
Tissue Specificity	Metavinculin is muscle-specific.
Predicted Cross Reactivity	Pig, Horse, Sheep, Rabbit, Dog, Chicken
Similarity	Pig (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%), Chicken (100%)
Conjugation	Unconjugated
Epitope	Phospho Tyr821
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



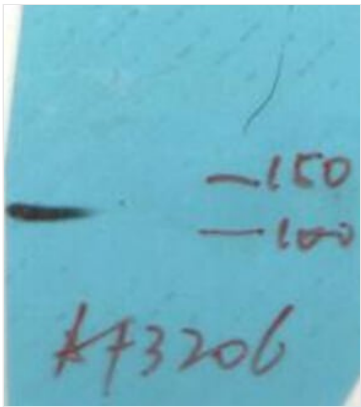
IHC (Immunohistochemistry)
AAA321550 at 1/100 staining human Heart muscle tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



IF (Immunofluorescence)
AAA321550 staining HepG2 cells by ICC/IF. Cells were fixed with PFA and permeabilized in 0.1% saponin prior to blocking in 10% serum for 45 minutes at 37 degree C. The primary antibody was diluted 1/400 and incubated with the sample for 1 hour at 37 degree C. A Alexa Fluor 594 conjugated goat polyclonal to rabbit IgG (H+L), diluted 1/600 was used as secondary antibody.



WB (Western Blot)
Western blot analysis of Vinculin phosphorylation expression in forskolin treated HeLa whole cell lysates, The lane on the left is treated with the antigen-specific peptide.



WB (Western Blot)
Western blot analysis of Phospho-Vinculin (Tyr821) Antibody expression in forskolin treated Hela cells lysates. The lane on the right is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-VCL antibody

Description: Vinculin binding sites have been identified on other cytoskeletal proteins, including Talin and alpha-actinin. In addition, vinculin, Talin and alpha-actinin each contain Actin binding sites. Expression of vinculin and Talin has been shown to be affected by the level of Actin expression.

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.

Subunit Structure: Exhibits self-association properties. Interacts with APBB1IP and NRAP (By similarity). Interacts with TLN1. Interacts with CTNNB1 and this interaction is necessary for its localization to the cell-cell junctions and for its function in regulating cell surface expression of E-cadherin (By similarity). Interacts with SYNM. Interacts with SORBS1 (By similarity). Interacts with CTNNA1 (PubMed:26691986). Binds to ACTN4; this interaction triggers conformational changes (PubMed:15988023).

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 (By similarity). Acetylated; mainly by myristic acid but also by a small amount of palmitic acid.

Similarity: 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. In isoform 2 (metavinculin) a 68 residue insertion in the tail domain promotes actin severing instead of bundling. 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. Belongs to the vinculin/alpha-catenin family.

NCBI AND UNIPROT INFORMATION

NCBI GI #	4507877
NCBI GeneID	7414
NCBI Accession #	NP_003364.1
NCBI GenBank Nucleotide #	NM_003373.3
UniProt Accession #	P18206; Q16450; Q5SWX2; Q7Z3B8; Q8IXU7
Molecular Weight	Observed: 123 kDa Predicted: 124 kDa
NCBI Official Full Name	vinculin isoform VCL
NCBI Official Synonym Full Names	vinculin
NCBI Official Symbol	VCL
NCBI Official Synonym Symbols	MV; MVCL; CMD1W; CMH15; HEL114
NCBI Protein Information	vinculin
UniProt Protein Name	Vinculin
UniProt Gene Name	VCL
UniProt Synonym Gene Names	MV

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.