

Rabbit VCL Polyclonal Antibody | anti-VCL antibody

VCL Antibody

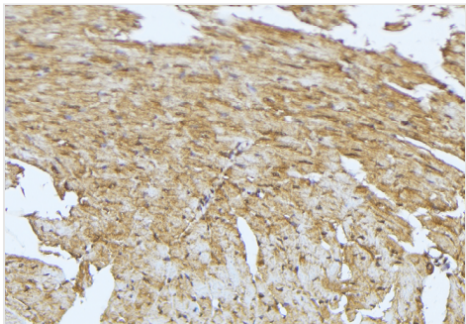
CATALOG # AAA326361	HOST Rabbit	REACTIVITY Human, Mouse, Rat	APPLICATIONS ELISA, Immunohistochemistry, Western Blot
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PRODUCT SYNONYMS

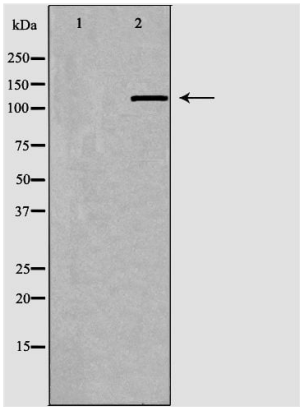
VCL; Polyclonal Antibody; VCL Antibody; CMD1W; CMH15; Epididymis luminal protein 114; HEL114; Metavinculin; MV; MVCL; OTTHUMP00000019861; OTTHUMP00000019862; VINC; VINC_HUMAN; Vinculin; anti-VCL antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	VCL antibody detects endogenous levels of total VCL
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
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, IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human VCL
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.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



IHC (Immunohistochemistry)
AAA326361 at 1/100 staining Mouse muscle tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample 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.



WB (Western Blot)
Western blot analysis of Hela whole cell lysates, using VCL Antibody. The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-VCL antibody

Description: Vinculin is a cytoskeletal protein that plays an important role in the regulation of focal adhesions and embryonic development (1-4). Three structural vinculin domains include an amino-terminal head, a short, flexible proline-rich region and a carboxy-terminal tail (1). In the inactive state, the head and tail domains of vinculin interact to form a closed confirmation. The open and active form of vinculin translocates to focal adhesions where it is thought to be involved in anchoring F-actin to the membrane and regulation of cell migration (2). Phospholipid binding to the tail domain and subsequent phosphorylation of vinculin at Ser1033 and Ser1045 by PKC-alpha and Tyr100 and Tyr1065 by Src kinases weakens the head-tail interaction (5, 6). This change in vinculin allows the binding of a number of other proteins, including talin, alpha-actinin and paxillin, which disrupts the head-tail interaction and initiates the conformational change from the inactive to active state (2, 4). Vinculin deficiencies are associated with a decrease in cell adhesion and an increase in cell motility, suggesting a possible role in metastatic growth (7, 8). This is supported by a recently demonstrated relationship between decreased vinculin expression and increased carcinogenesis and metastasis in colorectal carcinoma (9).

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: 124 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.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/vcl-antibody-immunohistochemistry-western-blot-elisa/326361>