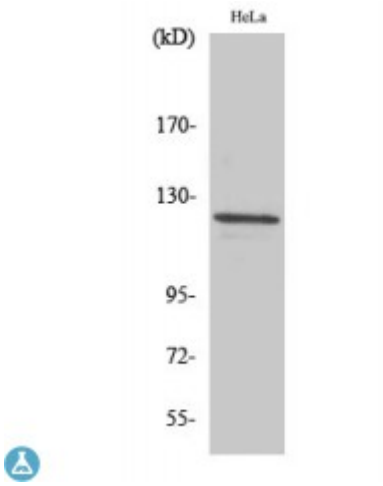
Anti-Vinculin antibody



Description	Vinculin is a protein encoded by the VCL gene which is approximately 123,7 kDa. Vinculin is localised to the cell membrane. It is involved in RET signalling, signalling by moderate kinase activity BRAF mutants and focal adhesion. It is a cytoskeletal protein associated with cell-cell and cell-matrix junctions, where it is thought to function as one of several interacting proteins involved in anchoring F-actin to the membrane. It may also play important roles in cell morphology and locomotion. Vinculin is expressed in the muscles. Mutations in the VCL gene may result in cardiomyopathy. STJ96247 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. This polyclonal antibody detects endogenous levels of Vinculin protein.

Model	STJ96247
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, IF, IHC, WB
Immunogen	Synthesized peptide derived from human Vinculin around the non-phosphorylation site of Y821.
Immunogen Region	760-840 aa
Gene ID	7414
Gene Symbol	VCL
Dilution range	WB 1:500-1:2000IHC 1:100-1:300IF 1:200-1:1000ELISA 1:10000
Specificity	Vinculin Polyclonal Antibody detects endogenous levels of Vinculin protein.
Tissue Specificity	Metavinculin is muscle-specific.

Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Vinculin Metavinculin MV
Molecular Weight	123 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:12665OMIM:193065
Alternative Names	Vinculin Metavinculin MV
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.
Sequence and Domain Family	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.
Cellular Localization	Cell membrane Cell junction, adherens junction Cell junction, focal adhesion Cytoplasm, cytoskeleton. 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.
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 . Acetylated; mainly by myristic acid but also by a small amount of palmitic acid.

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