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Vinculin Antibody

Catalog # ASC12055

Product Information

Application	WB, IHC-P, IF, E
Primary Accession	P18206
Other Accession	4507877, NP_003364, 7414
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	123799
Application Notes	Vinculin antibody can be used for detection of Vinculin by Western blot at 0.5 - 1 g/ml. Antibody can also be used for immunocytochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	7414
Other Names	CMD1W, CMH15, Metavinculin, MVCL
Precautions	Vinculin Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	VCL
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.
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:P12003}; Peripheral membrane protein {ECO:0000250|UniProtKB:P12003}; Cytoplasmic side {ECO:0000250|UniProtKB:P12003}. Cell junction, adherens junction {ECO:0000250|UniProtKB:P12003}. Cell junction, focal adhesion {ECO:0000250|UniProtKB:P12003}. Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:P85972}. Cell membrane, sarcolemma {ECO:0000250|UniProtKB:Q64727}; Peripheral membrane protein {ECO:0000250|UniProtKB:Q64727}; Cytoplasmic side {ECO:0000250|UniProtKB:Q64727}. Cell projection, podosome {ECO:0000250|UniProtKB:Q64727}. Note=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 {ECO:0000250|UniProtKB:P12003}

Tissue Location	Metavinculin is muscle-specific.

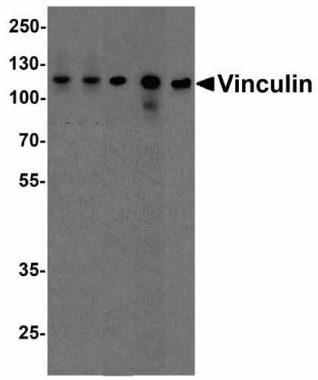
Background

Vinculin is a cytoskeletal protein that plays an important role in the regulation of focal adhesions and embryonic development (1). Three structural vinculin domains include an amino-terminal head, a short flexible proline-rich region and a carboxy-terminal tail (2). Expression of vinculin were shown to be affected by the level of actin [removed]2,3). Vinculin deficiencies are associated with a decrease in cell adhesion and an increase in cell motility, suggesting a possible role in metastatic growth (4). Defects in VCL are the cause of cardiomyopathy dilated type 1W (CMD1W) (5).

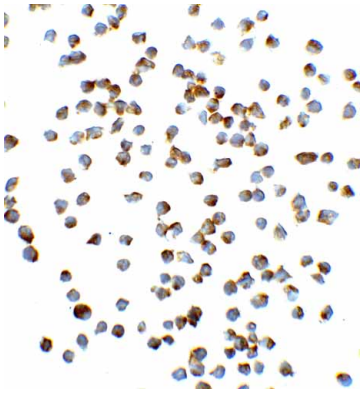
References

Burridge K, Fath K, Kelly T, et al. Focal adhesions: transmembrane junctions between the extracellular matrix and the cytoskeleton. Annu. Rev. Cell Biol.1988; 4:487-525.;Gilmore AP, Jackson P, Waites GT, et al. Further characterization of the talin-binding site in the cytoskeletal protein vinculin. J. Cell Sci. 1992; 103:719-31.;Deakin NO, Ballestrem C, and Turner CE. Paxillin and Hic-5 interaction with vinculin is differentially regulated by Rac1 and RhoA. PLoS One 2012; 7:e37990.;Goldmann WH, Auernheimer V, Thievessen I, et al. Vinculin, cell mechanics and tumour cell invasion. Cell Biol. Int. 2013; Feb 1.

Images

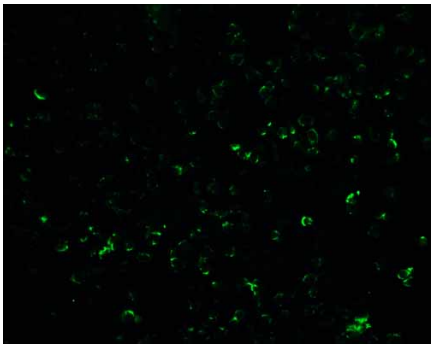


Western blot analysis of Vinculin in A431, Daudi, Jurkat, Raji, and THP-1 cell lysate with Vinculin antibody at 1 µg/ml.



Immunocytochemistry of Vinculin in Jurkat cells with Vinculin antibody at 5 µg/ml.

Immunofluorescence of Vinculin in Jurkat cells with Vinculin antibody at 20 µg/ml.



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