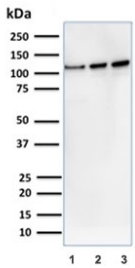
Vinculin Antibody / Focal Adhesion Protein Antibody [clone VCL/2575] (V3953)

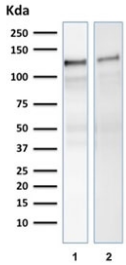
Catalog No.	Formulation	Size
V3953-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3953-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3953SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

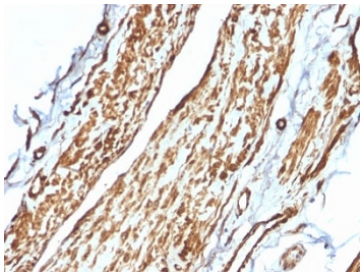
Species Reactivity	Human, Mouse
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	VCL/2575
Purity	Protein G affinity chromatography
UniProt	P18206
RRID	AB_3753018
Localization	Cytoplasmic
Applications	Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This Vinculin Antibody / Focal Adhesion Protein Antibody is available for research use only.



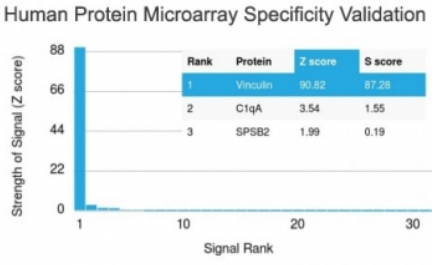
Vinculin Antibody Human and Mouse WB. Western blot analysis demonstrates detection of Vinculin in human and mouse cell lysates. Lane 1: human A431 cells, Lane 2: human K562 cells, Lane 3: mouse NIH 3T3 cells. A strong band is observed at approximately 124 kDa, consistent with the predicted molecular weight of Vinculin. This Vinculin Antibody / Focal Adhesion Protein Antibody, clone VCL/2575, is suitable for investigating focal adhesion assembly, cytoskeletal organization, cell adhesion, and mechanotransduction signaling.



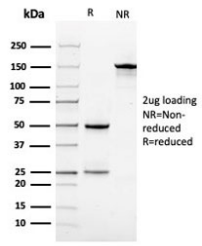
Vinculin Antibody Human Cell WB. Western blot analysis demonstrates detection of Vinculin in human cell lysates. Lane 1: human U-87 MG cells, Lane 2: human THP-1 cells. A distinct band is observed at approximately 124 kDa, consistent with the predicted molecular weight of Vinculin. This Vinculin Antibody / Focal Adhesion Protein Antibody, clone VCL/2575, is suitable for investigating focal adhesion assembly, cytoskeletal organization, cell adhesion, and mechanotransduction signaling.



Vinculin Antibody Human Testis IHC. Immunohistochemical analysis of FFPE human testis tissue demonstrates strong Vinculin expression with prominent membranous and cytoplasmic staining in testicular cells. Heat-induced epitope retrieval was performed in pH9 EDTA buffer before staining with Vinculin Antibody / Focal Adhesion Protein Antibody, clone VCL/2575, followed by HRP detection and DAB visualization. The staining pattern is consistent with the localization of Vinculin at adhesion complexes and sites of cytoskeletal attachment. This Vinculin Antibody is suitable for studies of cell adhesion, focal adhesion biology, and mechanotransduction in normal and diseased tissues.



Vinculin Antibody HuProt Protein Microarray Validation. Protein microarray analysis using a HuProt(TM) array containing more than 19,000 full-length human proteins demonstrates the exceptional specificity of Vinculin Antibody / Focal Adhesion Protein Antibody, clone VCL/2575. Vinculin was identified as the top-ranked target with a Z-score of 90.82 and an S-score of 87.28, while all other proteins showed substantially lower signals. These findings confirm highly selective recognition of Vinculin with minimal off-target binding, supporting the use of this clone for studies of focal adhesion biology, cytoskeletal organization, and cell adhesion signaling.



SDS-PAGE analysis of purified, BSA-free Vinculin antibody (clone VCL/2575) as confirmation of integrity and purity.

Description

Vinculin Antibody recognizes vinculin (VCL), a highly conserved cytoskeletal protein that plays a central role in focal adhesion formation, cell-cell adhesion, and mechanotransduction. Vinculin functions as a molecular scaffold that connects integrins and cadherins to the actin cytoskeleton, enabling cells to sense and respond to mechanical forces while maintaining tissue integrity. Through interactions with talin, alpha-actinin, paxillin, alpha-catenin, and numerous other adhesion proteins, vinculin helps regulate cell shape, migration, proliferation, and survival. Because of its essential role in force transmission and adhesion complex stability, Vinculin Antibody is widely used in studies of cytoskeletal organization, mechanobiology, and cell signaling.

Vinculin is expressed in most adherent cell types and localizes primarily to focal adhesions and adherens junctions. The protein exists in an autoinhibited conformation that becomes activated following binding to phospholipids or focal adhesion partners, exposing interaction domains that recruit additional structural and signaling proteins. This regulated activation allows vinculin to strengthen the linkage between extracellular matrix receptors and filamentous actin during cell spreading and migration. A muscle-specific splice variant, metavinculin, is expressed in cardiac and smooth muscle where it contributes to specialized contractile structures. Mutations or altered expression of VCL have been associated with cardiomyopathies, impaired wound healing, and changes in cancer cell invasion and metastatic potential.

Beyond its structural role, vinculin serves as an important signaling hub that coordinates responses to extracellular mechanical cues. It influences signaling pathways controlling cell proliferation, differentiation, apoptosis, and stem cell fate by regulating focal adhesion dynamics and cytoskeletal tension. Vinculin has become a widely studied biomarker in mechanotransduction research, tissue engineering, developmental biology, and cancer biology because changes in its localization or expression frequently accompany alterations in cell adhesion and motility. Its broad expression pattern and highly conserved structure have also made it one of the most frequently investigated proteins in studies of epithelial biology, fibroblast migration, and extracellular matrix remodeling.

This mouse monoclonal clone VCL/2575 has been validated by Protein Microarray analysis, demonstrating excellent target specificity with favorable HuProt Z-score and S-score performance. In addition, the antibody has been cited in two peer-reviewed publications, providing further support for its utility in biomedical research. An Vinculin Antibody is an essential reagent for detecting endogenous vinculin expression and investigating focal adhesion assembly, cytoskeletal organization, cell adhesion, mechanotransduction, and VCL signaling pathways.

Explore our Cancer Marker Antibodies page to discover additional antibodies for investigating tumor cell adhesion, cancer cell migration, mechanotransduction, and metastatic progression.

Application Notes

Optimal dilution of the Vinculin Antibody / Focal Adhesion Protein Antibody should be determined by the researcher.

Immunogen

A portion of amino acids 174-322 from the human protein was used as the immunogen for this Vinculin antibody.

Storage

Store the Vinculin antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

Vinculin antibody, VCL antibody, Focal adhesion protein antibody

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