abcam

Product datasheet

Anti-Vinculin antibody [VCL/2575] - BSA and Azide free ab269690

3 Images

Overview

Product name	Anti-Vinculin antibody [VCL/2575] - BSA and Azide free
Description	Mouse monoclonal [VCL/2575] to Vinculin - BSA and Azide free
Host species	Mouse
Tested applications	**Suitable for:** WB, IHC-P, Protein Array
Species reactivity	**Reacts with:** Mouse, Human
Immunogen	Recombinant fragment within Human Vinculin aa 150-350. The exact immunogen sequence used to generate this antibody is proprietary information. If additional detail on the immunogen is needed to determine the suitability of the antibody for your needs, please **contact** our Scientific Support team to discuss your requirements. Database link: **P18206-1**
Positive control	WB: A431, K562 and NIH/3T3 cell lysate. IHC-P: Human testicular carcinoma tissue.
General notes	ab269690 is the carrier-free version of **ab269680**. Our **carrier-free** antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications. Use our **conjugation kits** for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Purity	Protein A/G purified
Purification notes	Purified from bioreactor concentrate.
Clonality	Monoclonal
Clone number	VCL/2575
Isotype	IgG2b
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab269690 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

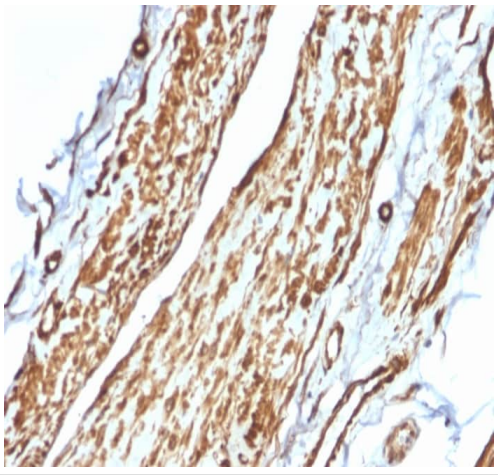
Application	Abreviews	Notes
WB		Use a concentration of 1 - 2 µg/ml. Predicted molecular weight: 124 kDa.
IHC-P		Use a concentration of 1 - 2 µg/ml. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
Protein Array		Use at an assay dependent concentration.

Target

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.
Tissue specificity	Metavinculin is muscle-specific.
Involvement in disease	Defects in VCL are the cause of cardiomyopathy dilated type 1W (CMD1W) [MIM:611407]. Dilated cardiomyopathy is a disorder characterized by ventricular dilation and impaired systolic function, resulting in congestive heart failure and arrhythmia. Patients are at risk of premature death. Defects in VCL are the cause of cardiomyopathy familial hypertrophic type 15 (CMH15) [MIM:613255]. It is a hereditary heart disorder characterized by ventricular hypertrophy, which is usually asymmetric and often involves the interventricular septum. The symptoms include dyspnea, syncope, collapse, palpitations, and chest pain. They can be readily provoked by exercise. The disorder has inter- and intrafamilial variability ranging from benign to malignant forms with high risk of cardiac failure and sudden cardiac death.

Sequence similarities	Belongs to the vinculin/alpha-catenin family.
Domain	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. 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.
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. Aceylated; mainly by myristic acid but also small amount of palmitic acid.
Cellular localization	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.

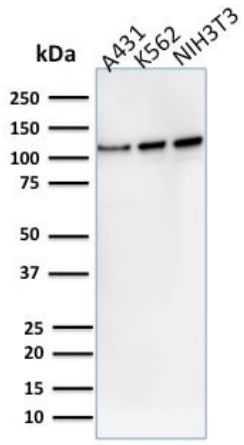
Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vinculin antibody [VCL/2575] - BSA and Azide free (ab269690)

Formalin/PFA-fixed paraffin-embedded human testicular carcinoma tissue stained for Vinculin using **ab269680** at 2 µg/ml in immunohistochemistry.

This image was produced using the same antibody clone but in a different formulation containing PBS, BSA and Sodium Azide (**ab269680**).



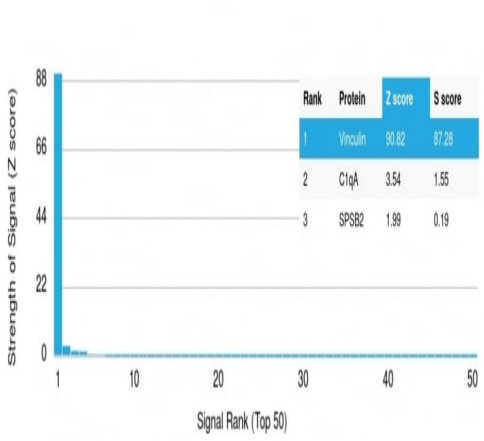
Western blot - Anti-Vinculin antibody [VCL/2575] - BSA and Azide free (ab269690)

All lanes : Anti-Vinculin antibody [VCL/2575] (**ab269680**) at 2 µg/ml

Lane 1 : A431 (Human epidermoid carcinoma cell line) cell lysate
Lane 2 : K562 (Human chronic myelogenous leukemia cell line from bone marrow) cell lysate
Lane 3 : NIH/3T3 (Mouse embryo fibroblast cell line) cell lysate

Predicted band size: 124 kDa

This image was produced using the same antibody clone but in a different formulation containing PBS, BSA and Sodium Azide (**ab269680**).



Protein Array - Anti-Vinculin antibody [VCL/2575] - BSA and Azide free (ab269690)

Analysis of Protein Array containing more than 19,000 full-length human proteins using ab269680.
- and S- Score: The Z-score represents the strength of a signal that a monoclonal antibody (MAb) (in combination with a fluorescently-tagged anti-IgG secondary antibody) produces when binding to a particular protein on the HuProtTM array. Z-scores are described in units of standard deviations (SD's) above the mean value of all signals generated on that array. If targets on HuProtTM are arranged in descending order of the Z-score, the S-score is the difference (also in units of SD's) between the Z-score. S-score therefore represents the relative target specificity of a MAb to its intended target. A MAb is considered to specific to its intended target, if the MAb has an S-score of at least 2.5. For example, if a MAb binds to protein X with a Z-score of 43 and to protein Y with a Z-score of 14, then the S-score for the binding of that MAb to protein X is equal to 29.

This image was produced using the same antibody clone but in a different formulation containing PBS, BSA and Sodium Azide (**ab269680**).

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