


Product datasheet

Anti-Integrin beta 1 antibody ab183666

★★★★☆ 2 Abreviews 15 References 8 Images

Overview

Product name	Anti-Integrin beta 1 antibody
Description	Rabbit polyclonal to Integrin beta 1
Host species	Rabbit
Tested applications	Suitable for: IP, IHC-P, WB
Species reactivity	Reacts with: Mouse, Rat, Human Predicted to work with: Pig 
Immunogen	Synthetic peptide within Human Integrin beta 1 aa 738-798. The exact sequence is proprietary. Database link: P05556
Positive control	A431, HeLa, U87-MG, SK-N-SH, IMR32, SK-N-AS, Neuro2A, GL261, C8D30, NIH-3T3, BCL-1, Raw264.7, C2C12, PC12 and Rat-2 whole cell lysates/extracts. Human reast carcinoma and hepatoma tissue.
General notes	<p>Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.</p> <p>Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.</p> <p>We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.</p> <p>In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.</p> <p>We are also updating the applications & species that this product has been “predicted to work with,” however this information is not covered by our Abpromise guarantee.</p> <p>Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.</p> <p>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, as well as customer reviews and Q&As.</p>

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: 7.00 Preservative: 0.025% Proclin 300 Constituents: 79% PBS, 20% Glycerol (glycerin, glycerine)
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab183666** 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
IP		Use at an assay dependent concentration.
IHC-P	★☆☆☆☆	1/100 - 1/1000.
WB	★★★★★	1/5000 - 1/10000. Predicted molecular weight: 88 kDa.

Target

Function

Integrins alpha-1/beta-1, alpha-2/beta-1, alpha-10/beta-1 and alpha-11/beta-1 are receptors for collagen. Integrins alpha-1/beta-1 and alpha-2/beta-2 recognize the proline-hydroxylated sequence G-F-P-G-E-R in collagen. Integrins alpha-2/beta-1, alpha-3/beta-1, alpha-4/beta-1, alpha-5/beta-1, alpha-8/beta-1, alpha-10/beta-1, alpha-11/beta-1 and alpha-V/beta-1 are receptors for fibronectin. Alpha-4/beta-1 recognizes one or more domains within the alternatively spliced CS-1 and CS-5 regions of fibronectin. Integrin alpha-5/beta-1 is a receptor for fibrinogen. Integrin alpha-1/beta-1, alpha-2/beta-1, alpha-6/beta-1 and alpha-7/beta-1 are receptors for laminin. Integrin alpha-4/beta-1 is a receptor for VCAM1. It recognizes the sequence Q-I-D-S in VCAM1. Integrin alpha-9/beta-1 is a receptor for VCAM1, cytotactin and osteopontin. It recognizes the sequence A-E-I-D-G-I-E-L in cytotactin. Integrin alpha-3/beta-1 is a receptor for epiligrin, thrombospondin and CSPG4. Alpha-3/beta-1 may mediate with LGALS3 the stimulation by CSPG4 of endothelial cells migration. Integrin alpha-V/beta-1 is a receptor for vitronectin. Beta-1 integrins recognize the sequence R-G-D in a wide array of ligands. Isoform 2 interferes with isoform 1 resulting in a dominant negative effect on cell adhesion and migration (in vitro). When associated with alpha-7/beta-1 integrin, regulates cell adhesion and laminin matrix deposition. Involved in promoting endothelial cell motility and angiogenesis. Involved in osteoblast compaction through the fibronectin fibrillogenesis cell-mediated matrix assembly process and the formation of mineralized bone nodules. May be involved in up-regulation of the activity of kinases such as PKC via binding to KRT1. Together with KRT1 and RACK1, serves as a platform for SRC activation or inactivation. Plays a mechanistic adhesive role during telophase, required for the successful completion of cytokinesis. Integrin alpha-3/beta-1 provides a docking site for FAP (seprase) at invadopodia plasma membranes in a collagen-dependent manner and hence may

participate in the adhesion, formation of invadopodia and matrix degradation processes, promoting cell invasion. ITGA4:ITGB1 binds to fractalkine (CX3CL1) and may act as its coreceptor in CX3CR1-dependent fractalkine signaling (PubMed:23125415, PubMed:24789099). ITGA4:ITGB1 and ITGA5:ITGB1 bind to PLA2G2A via a site (site 2) which is distinct from the classical ligand-binding site (site 1) and this induces integrin conformational changes and enhanced ligand binding to site 1 (PubMed:18635536, PubMed:25398877). ITGA5:ITGB1 acts as a receptor for fibrillin-1 (FBN1) and mediates R-G-D-dependent cell adhesion to FBN1 (PubMed:12807887, PubMed:17158881). Isoform 5: Isoform 5 displaces isoform 1 in striated muscles. (Microbial infection) Integrin ITGA2:ITGB1 acts as a receptor for human echoviruses 1 and 8 (PubMed:8411387). Acts as a receptor for cytomegalovirus/HHV-5 (PubMed:20660204). Acts as a receptor for Epstein-Barr virus/HHV-4 (PubMed:17945327). Integrin ITGA5:ITGB1 acts as a receptor for human parvovirus B19 (PubMed:12907437). Integrin ITGA2:ITGB1 acts as a receptor for human rotavirus (PubMed:12941907). Acts as a receptor for mammalian reovirus (PubMed:16501085). In case of HIV-1 infection, integrin ITGA5:ITGB1 binding to extracellular viral Tat protein seems to enhance angiogenesis in Kaposi's sarcoma lesions (PubMed:10397733).

Tissue specificity

Isoform 1 is widely expressed, other isoforms are generally coexpressed with a more restricted distribution. Isoform 2 is expressed in skin, liver, skeletal muscle, cardiac muscle, placenta, umbilical vein endothelial cells, neuroblastoma cells, lymphoma cells, hepatoma cells and astrocytoma cells. Isoform 3 and isoform 4 are expressed in muscle, kidney, liver, placenta, cervical epithelium, umbilical vein endothelial cells, fibroblast cells, embryonal kidney cells, platelets and several blood cell lines. Isoform 4, rather than isoform 3, is selectively expressed in peripheral T-cells. Isoform 3 is expressed in non-proliferating and differentiated prostate gland epithelial cells and in platelets, on the surface of erythroleukemia cells and in various hematopoietic cell lines. Isoform 5 is expressed specifically in striated muscle (skeletal and cardiac muscle).

Sequence similarities

Belongs to the integrin beta chain family.
Contains 1 VWFA domain.

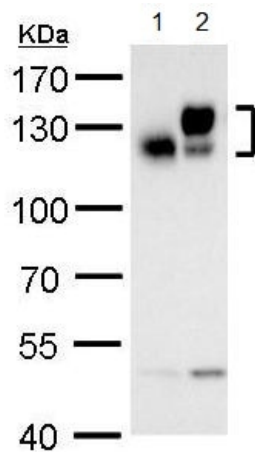
Post-translational modifications

The cysteine residues are involved in intrachain disulfide bonds.

Cellular localization

Cell membrane, sarcolemma. Cell junction. In cardiac muscle, isoform 5 is found in costameres and intercalated disks and Cell membrane. Cell projection, invadopodium membrane. Cell projection, ruffle membrane. Recycling endosome. Melanosome. Cleavage furrow. Cell projection, lamellipodium. Cell projection, ruffle. Cell junction, focal adhesion. Cell surface. Isoform 2 does not localize to focal adhesions. Highly enriched in stage I melanosomes. Located on plasma membrane of neuroblastoma NMB7 cells. In a lung cancer cell line, in prometaphase and metaphase, localizes diffusely at the membrane and in a few intracellular vesicles. In early telophase, detected mainly on the matrix-facing side of the cells. By mid-telophase, concentrated to the ingressing cleavage furrow, mainly to the basal side of the furrow. In late telophase, concentrated to the extending protrusions formed at the opposite ends of the spreading daughter cells, in vesicles at the base of the lamellipodia formed by the separating daughter cells. Colocalizes with ITGB1BP1 and metastatic suppressor protein NME2 at the edge or peripheral ruffles and lamellipodia during the early stages of cell spreading on fibronectin or collagen. Translocates from peripheral focal adhesions sites to fibrillar adhesions in a ITGB1BP1-dependent manner. Enriched preferentially at invadopodia, cell membrane protrusions that correspond to sites of cell invasion, in a collagen-dependent manner. Localized at plasma and ruffle membranes in a collagen-independent manner.

Images



Western blot - Anti-Integrin beta 1 antibody (ab183666)

All lanes : Anti-Integrin beta 1 antibody (ab183666) at 1/10000 dilution

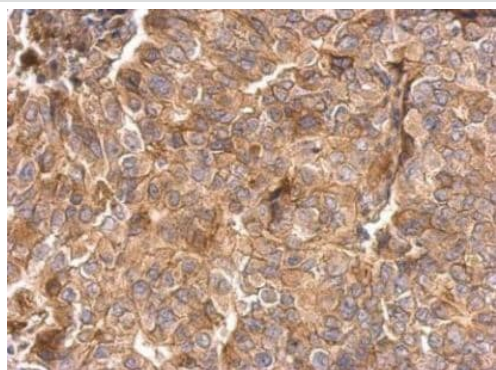
Lane 1 : A431 whole cell lysate/extract

Lane 2 : HeLa whole cell lysate/extract

Lysates/proteins at 30 µg per lane.

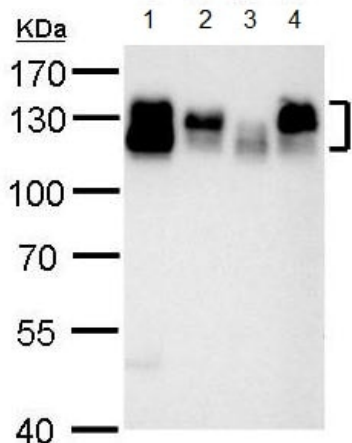
Predicted band size: 88 kDa

7.5 % SDS-PAGE



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Integrin beta 1 antibody (ab183666)

Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue labeling Integrin beta 1 with ab183666 at 1/500 dilution.



Western blot - Anti-Integrin beta 1 antibody (ab183666)

All lanes : Anti-Integrin beta 1 antibody (ab183666) at 1/10000 dilution

Lane 1 : U87-MG whole cell lysate/extract

Lane 2 : SK-N-SH whole cell lysate/extract

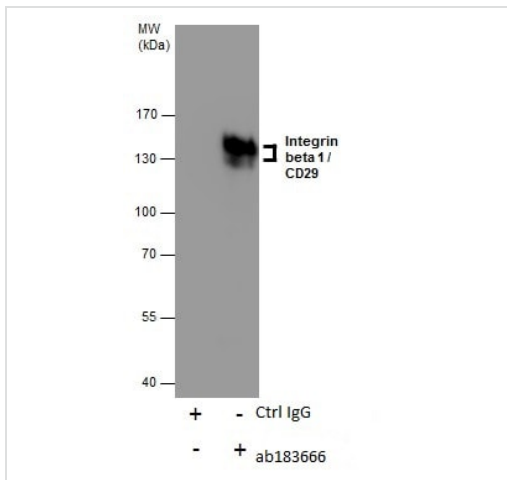
Lane 3 : IMR32 whole cell lysate/extract

Lane 4 : SK-N-AS whole cell lysate/extract

Lysates/proteins at 30 µg per lane.

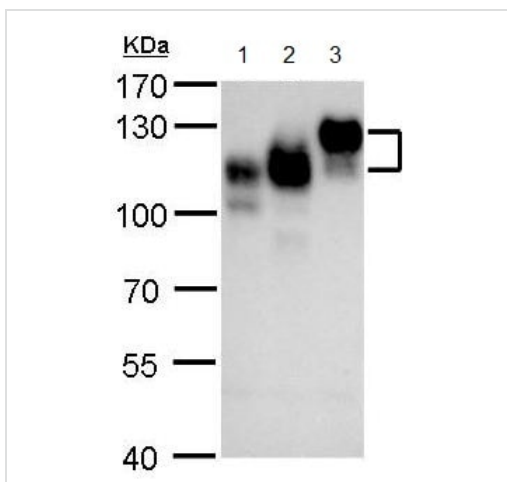
Predicted band size: 88 kDa

7.5 % SDS-PAGE



Immunoprecipitation - Anti-Integrin beta 1 antibody (ab183666)

ab183666 at 5µg immunoprecipitating Integrin beta 1 in HeLa whole cell extracts.



Western blot - Anti-Integrin beta 1 antibody (ab183666)

All lanes : Anti-Integrin beta 1 antibody (ab183666) at 1/5000 dilution

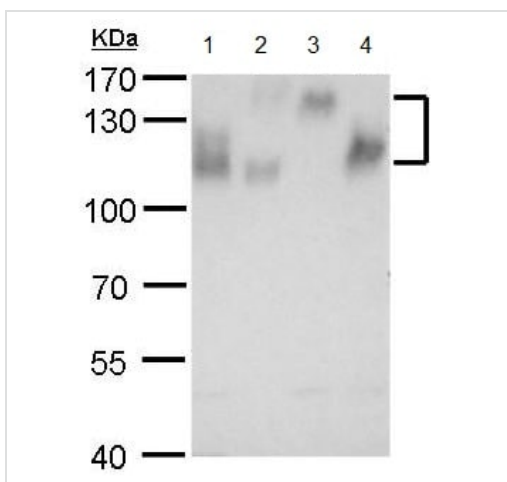
Lane 1 : Neuro2A whole cell lysate/extract

Lane 2 : GL261 whole cell lysate/extract

Lane 3 : C8D30 whole cell lysate/extract

Lysates/proteins at 30 µg per lane.

Predicted band size: 88 kDa



Western blot - Anti-Integrin beta 1 antibody (ab183666)

7.5 % SDS-PAGE

All lanes : Anti-Integrin beta 1 antibody (ab183666) at 1/5000 dilution

Lane 1 : NIH-3T3 whole cell lysate/extract

Lane 2 : BCL-1 whole cell lysate/extract

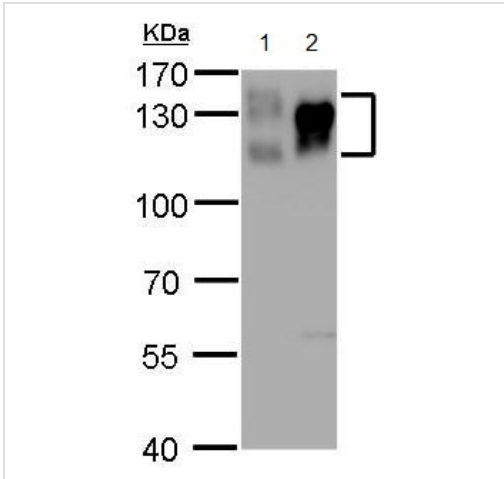
Lane 3 : Raw264.7 whole cell lysate/extract

Lane 4 : C2C12 whole cell lysate/extract

Lysates/proteins at 30 µg per lane.

Predicted band size: 88 kDa

7.5 % SDS-PAGE



Western blot - Anti-Integrin beta 1 antibody (ab183666)

All lanes : Anti-Integrin beta 1 antibody (ab183666) at 1/5000 dilution

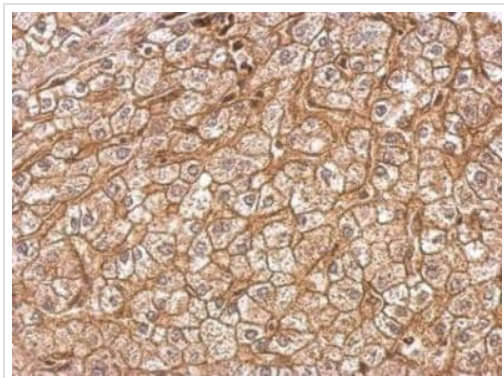
Lane 1 : PC-12 whole cell lysate/extract

Lane 2 : Rat-2 whole cell lysate/extract

Lysates/proteins at 30 µg per lane.

Predicted band size: 88 kDa

7.5 % SDS-PAGE



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Integrin beta 1 antibody (ab183666)

Immunohistochemical analysis of paraffin-embedded human Hepatoma tissue labeling Integrin beta 1 with ab183666 at 1/500 dilution.

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