abcam

Product datasheet

Anti-Integrin beta 1 antibody [EP1041Y] - BSA and Azide free ab192456

KO 評価済 リコンビナント RabMAb

画像数 8

製品の概要

製品名	Anti-Integrin beta 1 antibody [EP1041Y] - BSA and Azide free
製品の詳細	Rabbit monoclonal [EP1041Y] to Integrin beta 1 - BSA and Azide free
由来種	Rabbit
アプリケーション	**適用あり:** IHC-P, WB **適用なし:** Flow Cyt or ICC/IF
種交差性	**交差種:** Human
免疫原	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
ポジティブ・コントロール	This antibody gave a positive signal in the following whole cell lysates: HeLa; HT1080; U2OS U937 cell membrane lysate Human breast carcinoma
特記事項	ab192456 is the carrier-free version of **ab52971**. 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. This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc. This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit

monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

製品の特性

製品の状態	Liquid
保存方法	Shipped at 4°C. Store at +4°C. Do Not Freeze.
バッファー	pH: 7.20 Constituent: PBS
キャリア・フリー	はい
精製度	Protein A purified
ポリ/モノ	モノクローナル
クローン名	EP1041Y
アイソタイプ	IgG

アプリケーション

The Abpromise guarantee **Abpromise保証は、次のテスト済みアプリケーションにおけるab192456の使用に適用されます**

アプリケーションノートには、推奨の開始希釈率がありますが、適切な希釈率につきましてはご検討ください。

アプリケーション	Abreviews	特記事項
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. See **IHC antigen retrieval protocols**.
WB		Use at an assay dependent concentration. Detects a band of approximately 140-150 kDa (predicted molecular weight: 88 kDa).

追加情報 Is unsuitable for Flow Cyt or ICC/IF.

ターゲット情報

機能 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 lamimin. 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).

組織特異性

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).

配列類似性

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

翻訳後修飾

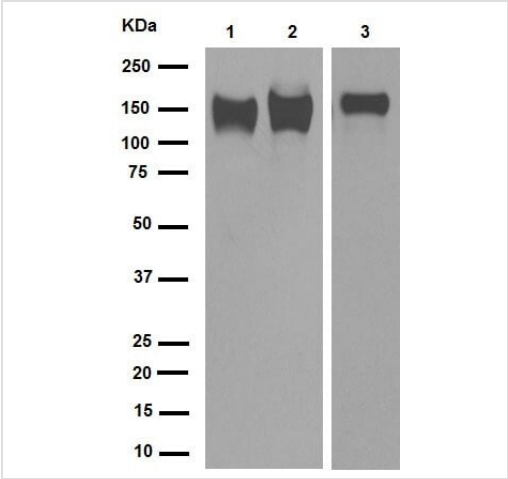
The cysteine residues are involved in intrachain disulfide bonds.

細胞内局在

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.

画像



Western blot - Anti-Integrin beta 1 antibody [EP1041Y] - BSA and Azide free (ab192456)

All lanes : Anti-Integrin beta 1 antibody [EP1041Y] (**ab52971**) at 1/10000 dilution (purified)

Lane 1 : U87-MG cell lysate
Lane 2 : HT-1080 cell lysate
Lane 3 : U937 cell lysate

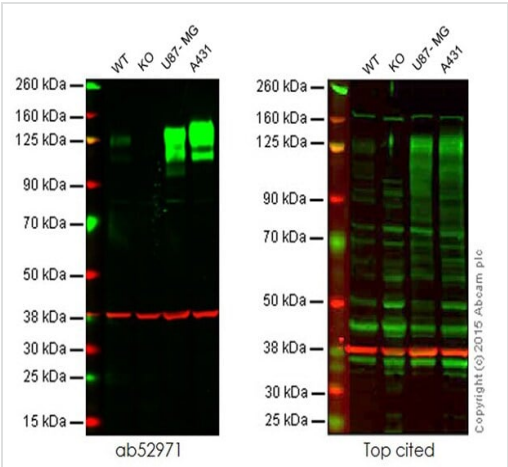
Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Secondary: HRP goat anti-rabbit (H+L) at 1/1000 dilution

Predicted band size: 88 kDa

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab52971**).

5% NFDM/TBST dilution buffer



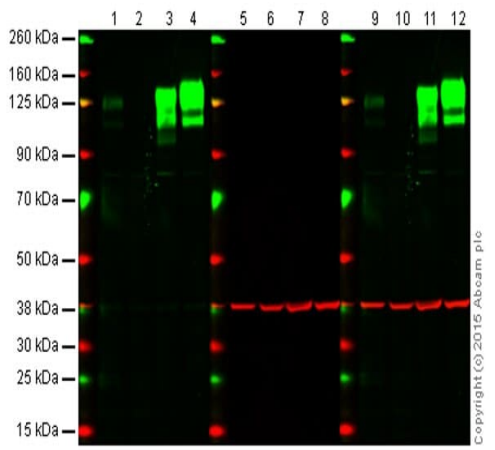
Western blot - Anti-Integrin beta 1 antibody [EP1041Y] - BSA and Azide free (ab192456)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab52971**).

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: Integrin beta 1 knockout HAP1 cell lysate (20 µg)
Lane 3: U87-MG cell lysate (20 µg)
Lane 4: A431 cell lysate (20 µg)

Lanes 1 - 4: Merged signal (red and green). Green - **ab52971** observed at 140 kDa. Red signal from loading control – **ab8245** observed at 37 kDa.

This western blot image is a comparison between **ab52971** and a competitor's top cited rabbit polyclonal antibody.

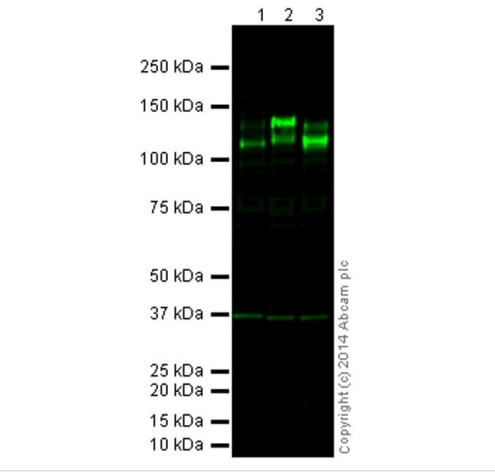


Western blot - Anti-Integrin beta 1 antibody [EP1041Y] - BSA and Azide free (ab192456)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab52971**).

Lanes 1, 5 and 9: Wild-type HAP1 cell lysate (20 µg)
Lanes 2, 6 and 10: Integrin beta 1 knockout HAP1 cell lysate (20 µg)
Lanes 3, 7 and 11: U87-MG cell lysate (20 µg)
Lanes 4, 8 and 12: A431 cell lysate (20 µg)
Lanes 1, 2, 3 and 4: Green signal from target – **ab52971** observed at 140 kDa
Lanes 5, 6, 7 and 8: Red signal from loading control – **ab8245** observed at 37 kDa
Lanes 9, 10, 11 and 12: Merged (red and green) signal

ab52971 was shown to specifically react with Integrin beta 1 in wild-type HAP1 cells. No band was observed when Integrin beta 1 knockout samples were examined. Wild-type and Integrin beta 1 knockout samples were subjected to SDS-PAGE. **ab52971** and **ab8245** (loading control to GAPDH) were diluted 1/10,000 and 1/2000 respectively and incubated overnight at 4ºC. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (**ab216776**) secondary antibodies at 1/10,000 dilution for 1 hour at room temperature before imaging.



Western blot - Anti-Integrin beta 1 antibody [EP1041Y] - BSA and Azide free (ab192456)

All lanes : Anti-Integrin beta 1 antibody [EP1041Y] (**ab52971**) at 20 µg (unpurified)

Lane 1 : HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate
Lane 2 : HT 1080 (Human fibrosarcoma) Whole Cell Lysate
Lane 3 : U2OS (Human osteosarcoma cell line) Whole Cell Lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (Alexa Fluor® 790) (**ab175781**) at 1/10000 dilution

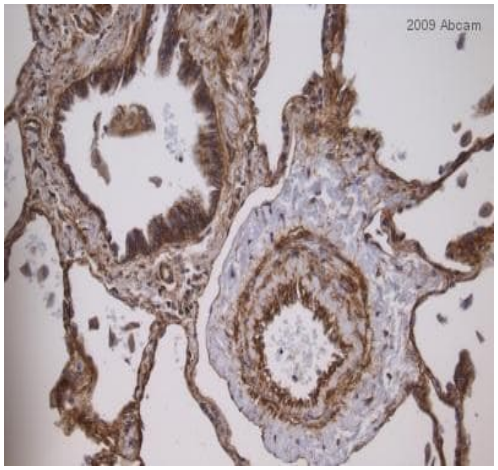
Predicted band size: 88 kDa
Observed band size: 120,140 kDa

This data was developed using the same antibody clone in a

different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab52971**).

This blot was produced using a 4-12% Bis-tris gel under the MOPS buffer system. The gel was run at 200V for 50 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using Licor blocking buffer before being incubated with **ab52971** overnight at 4°C. Antibody binding was detected using **ab175781** at a 1:10,000 dilution for 1hr at room temperature and then imaged using the Licor Odyssey CLx.

Secondary antibody - **anti-rabbit Alexa Fluor 790**



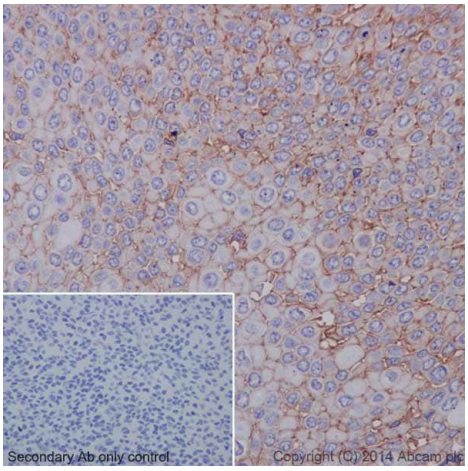
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Integrin beta 1 antibody [EP1041Y] - BSA and Azide free (ab192456)

This image is courtesy of an Abreview submitted by Mark Southwood.

Formaldehyde-fixed, paraffin-embedded human lung tissue stained for Integrin beta 1 using **ab52971** at 1/100 dilution in immunohistochemical analysis.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab52971**).

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



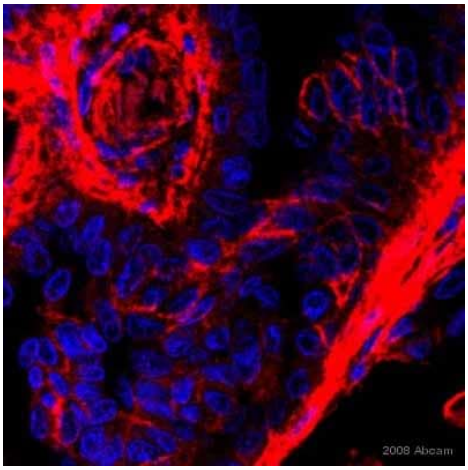
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Integrin beta 1 antibody [EP1041Y] - BSA and Azide free (ab192456)

ab52971 at 1/500 staining Integrin beta 1 antibody in human transitional cell carcinoma of bladder by immunohistochemistry (FFPE).

Immunohistochemical analysis of paraffin-embedded human transitional cell carcinoma of bladder tissue labeling Integrin beta 1 with **ab52971** at 1/500 dilution followed by goat anti-rabbit IgG H&L (HRP) (**ab97051**, 1/500). Counter stained with hematoxylin.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab52971**).

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

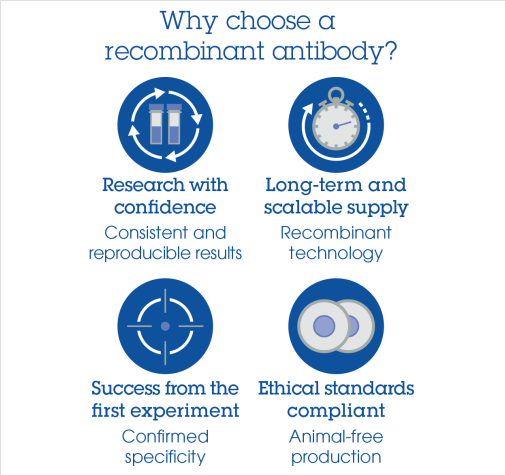


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Integrin beta 1 antibody [EP1041Y] - BSA and Azide free (ab192456)

This image is courtesy of an anonymous Abreview.

Unpurified **ab52971** staining human breast cancer metastasis tissue sections by IHC-P. Sections were formaldehyde fixed and subjected to heat mediated antigen retrieval in citrate buffer (pH 6) prior to blocking with a commercial blocking reagent and incubation with the antibody (diluted 1/100) for 18 hours at 4°C. A HRP-conjugated goat anti-rabbit was used as the secondary antibody. This image shows a cancer metastasis at 40x with beta1 staining (in red) in both blood vessels and tumour cells. Blue is Hoechst for nuclei. The antibody detection was enhanced using a commercial Cy3 tyramide signal amplification kit.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab52971**).



Anti-Integrin beta 1 antibody [EP1041Y] - BSA and Azide free (ab192456)

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