

## Product datasheet

# Anti-Integrin beta 1 antibody [B-D15] (FITC) ab46920

2 References [画像数 2](#)

### 製品の概要

|          |  |
|----------|--|
| 製品名      | Anti-Integrin beta 1 antibody [B-D15] (FITC)       |
| 製品の詳細    | Mouse monoclonal [B-D15] to Integrin beta 1 (FITC) |
| 由来種      | Mouse  |
| 標識       | FITC. Ex: 493nm, Em: 528nm                         |
| 特異性      | This antibody is specific for Integrin beta 1.     |
| アプリケーション | <b>適用あり:</b> Flow Cyt                              |
| 種交差性     | <b>交差種:</b> Human                                  |
| 免疫原      | U937 cell line                                     |

### 製品の特性

|        |  |
|--------|--|
| 製品の状態  | Liquid   |
| 保存方法   | Shipped at 4°C. Store at +4°C.                               |
| バッファー  | Preservative: 0.1% Sodium Azide<br>Constituents: 1% BSA, PBS |
| 精製度    | Ion Exchange Chromatography                                  |
| ポリ/モノ  | モノクローナル  |
| クローン名  | B-D15  |
| ミエローマ  | x63-Ag8.653  |
| アイソタイプ | IgG2a  |

### アプリケーション

Our [Abpromise guarantee](#) covers the use of **ab46920** in the following tested applications.

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

| アプリケーション | Abreviews | 特記事項 |
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| アプリケーション | Abreviews | 特記事項  |
|----------|-----------|---|
| Flow Cyt |           | Use 10µl for 10 <sup>6</sup> cells.<br>(or 100µl of whole blood). |

[ab91362](#) - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

## 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 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).

#### 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.

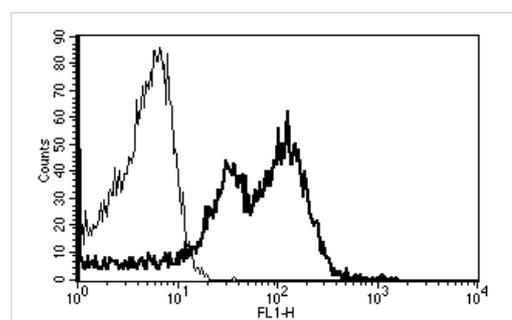
#### 翻訳後修飾

The cysteine residues are involved in intrachain disulfide bonds.

#### 細胞内局在

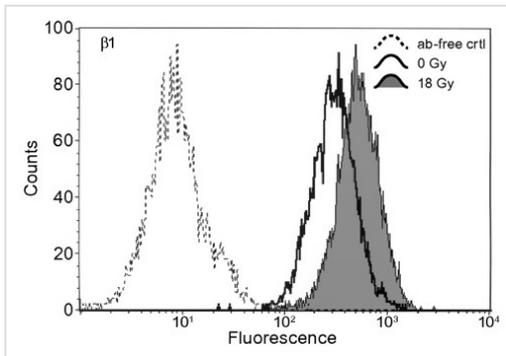
Cell membrane, sarcolemma. Cell junction. In cardiac muscle, isoform 5 is found in costameres and intercalated disks and Cell membrane. Cell projection, invadopodium membrane. Cell projection, ruffle membrane. Recycling endosome. Melanosome. Cleavage furrow. Cell projection, lamellipodium. Cell projection, 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



Ab46920, at a dilution of 10 $\mu$ l for 10<sup>6</sup> cells or 100  $\mu$ l of whole blood, staining Integrin beta 1 by Flow Cytometry.

Flow Cytometry - Anti-Integrin beta 1 antibody [B-D15] (FITC) (ab46920)



Flow Cytometry - Anti-Integrin beta 1 antibody [B-D15] (FITC) (ab46920)

Image from Hellevik T et al., *Radiat Oncol.* 2012 Apr 13;7(1):59. doi: 10.1186/1748-717X-7-59.; Fig 6.; 13 April 2012, *Radiation Oncology* 2012, 7:59

Flow cytometry analysis of Human cancer-associated fibroblasts, staining Integrin beta 1 with ab46920.

Cells were either untreated (0 Gy) or radiated (18 Gy) before fixing in 2% paraformaldehyde. Cells were blocked with a blocking solution before incubating with primary antibody conjugated to FITC for 1 hour at 22°C.

**Gating strategy :** Intact cells

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