

# Product Datasheet

## Integrin beta 1/CD29 Antibody (P4C10) - BSA Free NBP2-36561

Unit Size: 0.1 ml

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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**Publications: 13**

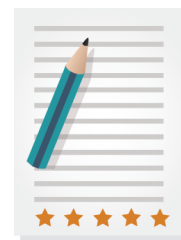
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Updated 10/23/2024 v.20.1

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**NBP2-36561**

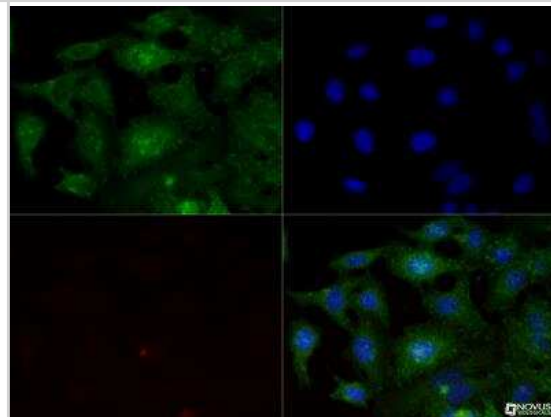
Integrin beta 1/CD29 Antibody (P4C10) - BSA Free

<b>Product Information</b>	
<b>Unit Size</b>	0.1 ml
<b>Concentration</b>	1.0 mg/ml
<b>Storage</b>	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
<b>Clonality</b>	Monoclonal
<b>Clone</b>	P4C10
<b>Preservative</b>	0.02% Sodium Azide
<b>Isotype</b>	IgG1
<b>Purity</b>	Protein G purified
<b>Buffer</b>	PBS
<b>Target Molecular Weight</b>	88 kDa
<b>Product Description</b>	
<b>Host</b>	Mouse
<b>Gene ID</b>	3688
<b>Gene Symbol</b>	ITGB1
<b>Species</b>	Human, Mouse
<b>Reactivity Notes</b>	Mouse reactivity reported in scientific literature (PMID:32803867). Mouse reactivity reported in scientific literature (PMID: 27550917). .
<b>Specificity/Sensitivity</b>	Epitope is not trypsin sensitive.
<b>Immunogen</b>	HT1080 cells human fibrosarcoma
<b>Product Application Details</b>	
<b>Applications</b>	Western Blot, ELISA, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunoprecipitation, Block/Neutralize
<b>Recommended Dilutions</b>	Western Blot reported in scientific literature (PMID 27550917), Flow Cytometry 1:10, ELISA, Immunohistochemistry, Immunocytochemistry/ Immunofluorescence 1:10-1:100, Immunoprecipitation, Immunohistochemistry-Frozen 1:10-1:100, Block/Neutralize
<b>Application Notes</b>	For ICC/IF ,methanol fixation is recommended. The P4C10 antibody inhibits endodermal cell and keratinocyte attachment to collagen type 1, fibronectin and laminin; also inhibits cell-cell adhesion. This product does contain sodium azide, so we highly recommend performing a buffer exchange or dialyzation prior to incubating with live cells.

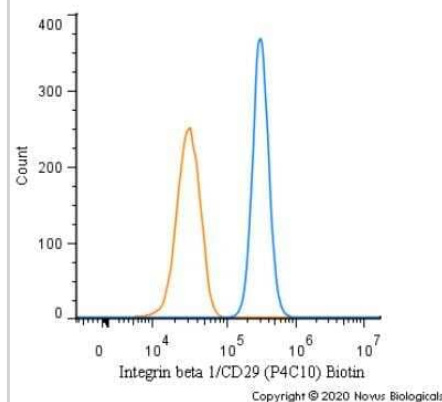


## Images

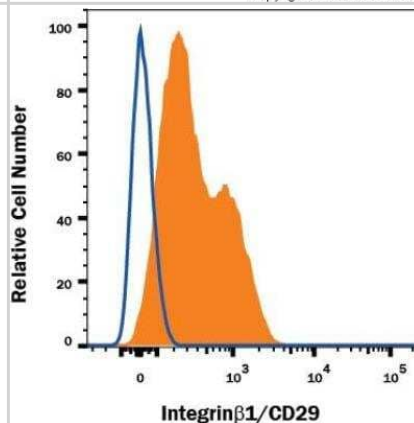
**Immunocytochemistry/Immunofluorescence: Integrin beta 1/CD29 Antibody (P4C10) [NBP2-36561]** - Integrin beta 1 (P4C10) antibody was tested in -20 degree MeOH fixed HeLa cells at a 1:200 dilution against DyLight 488 (green). Actin and nuclei were counterstained against Phalloidin 568 (red) and DAPI (blue), respectively.



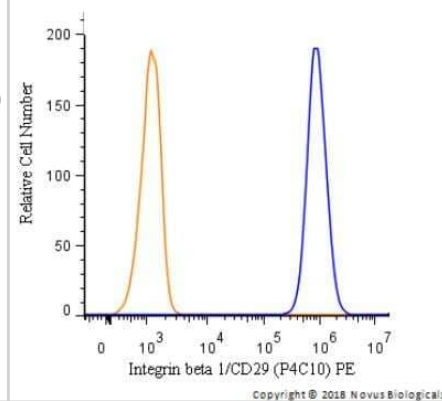
**Flow Cytometry: Integrin beta 1/CD29 Antibody (P4C10) [NBP2-36561]** - An intracellular stain was performed on A431 cells with Integrin beta 1/CD29 [P4C10] Antibody NBP2-36561B (blue) and a matched isotype control (orange). Both antibodies were conjugated to Biotin. Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 2.5 ug/mL for 30 minutes at room temperature, followed by Streptavidin - R-Phycoerythrin Protein (2012-1000, Novus Biologicals).



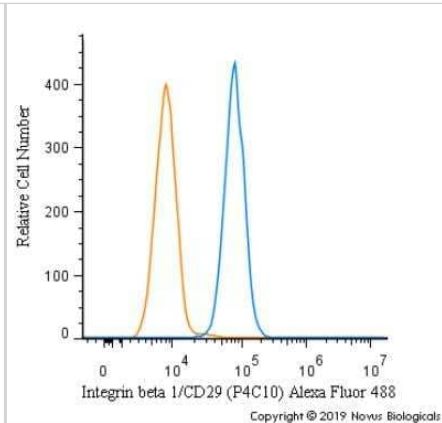
**Flow Cytometry: Integrin beta 1/CD29 Antibody (P4C10) [NBP2-36561]**



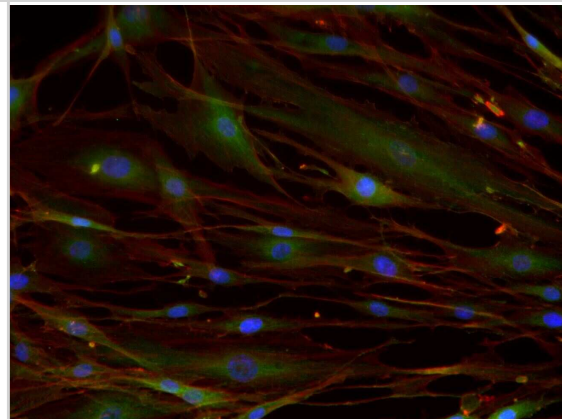
**Flow Cytometry: Integrin beta 1/CD29 Antibody (P4C10) [NBP2-36561]** - A surface stain was performed on HeLa cells with Integrin beta 1/CD29 [P4C10] Antibody NBP2-36561PE (blue) and a matched isotype control (orange). Cells were incubated in an antibody dilution of 2.5 ug/mL for 20 minutes at room temperature. Both antibodies were conjugated to Phycoerythrin.



Flow Cytometry: Integrin beta 1/CD29 Antibody (P4C10) [NBP2-36561] - A surface stain was performed on HeLa cells with Integrin beta 1/CD29 [P4C10] Antibody NBP2-36561AF488 (blue) and a matched isotype control (orange). Cells were incubated in an antibody dilution of 5 ug/mL for 20 minutes at room temperature. Both antibodies were conjugated to Alexa Fluor 488.



Immunocytochemistry/Immunofluorescence: Integrin beta 1/CD29 Antibody (P4C10) [NBP2-36561] - Overnight incubation with 1:50 Integrin beta 1/CD29 primary antibody in PBS/BSA 1%, at 4°C. Green: Integrin beta 1/CD29 Antibody (P4C10), Red: Phalloidin, Blue: DAPI. Image from verified customer review.



## Publications

- Sun D, Mou S, Chen L et al. High yield engineered nanovesicles from ADSC with enriched miR-21-5p promote angiogenesis in adipose tissue regeneration *Biomaterials research* 2022-12-17 [PMID: 36528594] (WB, Human)
- Xing Y, Li XK, Lu SD, Ma J Regulation of opticin on bioactivity of retinal vascular endothelial cells cultured in collagen Int *J Ophthalmol* 2020-08-18 [PMID: 32821673] (WB, Human)
- Zhang Z, Hu P, Wang Z et al. BDNF promoted osteoblast migration and fracture healing by up-regulating integrin beta 1 via TrkB-mediated ERK1/2 and AKT signalling *J. Cell. Mol. Med.* 2020-08-16 [PMID: 32803867] (IF/IHC, Mouse)
- Shen L, Ke Q, Chai J et al. PAG1 promotes the inherent radioresistance of laryngeal cancer cells via activation of STAT3 *Exp. Cell Res.* 2018-06-18 [PMID: 29913153] (B/N, Human)
- Li S, Xiong N, Peng Y et al. Acidic pHe regulates cytoskeletal dynamics through conformational integrin b1 activation and promotes membrane protrusion. *Biochim. Biophys. Acta* 2018-04-23 [PMID: 29698684] (B/N)
- Pinnington SJL, Marshall JF, Wheeler AP. Correlative 3D Structured Illumination Microscopy and Single-Molecule Localization Microscopy for Imaging Cancer Invasion. *Methods Mol. Biol.* 2018-04-02 [PMID: 29605919] (Human)
- Fan D, Takawale A, Shen M et al. A Disintegrin and Metalloprotease-17 Regulates Pressure Overload-Induced Myocardial Hypertrophy and Dysfunction Through Proteolytic Processing of Integrin beta1. *Hypertension.* 2016-08-22 [PMID: 27550917] (WB, Mouse)
- Li E, Brown SL, Stupack DG et al. Integrin alpha(v)beta1 is an adenovirus coreceptor. *J Virol.* 2001-06-01 [PMID: 11333925] (FLOW, IP, Human)
- Kovach NL, Carlos TM, Yee E, Harlan JM. A monoclonal antibody to beta 1 integrin (CD29) stimulates VLA-dependent adherence of leukocytes to human umbilical vein endothelial cells and matrix components. *J Cell Biol.* 1992-01-01 [PMID: 1370496] (FLOW, IP, Human)
- Mitjans F, Sander D, Adan J et al. An anti-alpha v-integrin antibody that blocks integrin function inhibits the development of a human melanoma in nude mice. *J Cell Sci.* 1995-08-01 [PMID: 7593323] (FLOW, ELISA, IP, Human)
- Takada Y, Puzon W. Identification of a regulatory region of integrin beta 1 subunit using activating and inhibiting antibodies. *J Biol Chem.* 1993-08-15 [PMID: 7688727] (FLOW, B/N, Human)
- Beausejour M, Noel D, Thibodeau S et al. Integrin/Fak/Src-mediated regulation of cell survival and anoikis in human intestinal epithelial crypt cells: selective engagement and roles of PI3-K isoform complexes. *Apoptosis.* 2012-06-01 [PMID: 22402981] (B/N, Human)
- More publications at <http://www.novusbio.com/NBP2-36561>



## Procedures

### Flow (Cell Surface) Protocol for Integrin beta 1/CD29 Antibody (NBP2-36561)

#### Protocol for Flow Cytometry Cell Surface Staining

##### Sample Preparation.

1. Grow cells to 60-85% confluency. Flow cytometry requires between  $2 \times 10^5$  and  $1 \times 10^6$  cells for optimal performance.
2. If cells are adherent, harvest gently by washing once with staining buffer and then scraping. Avoid using trypsin as this can disrupt certain epitopes of interest. If enzymatic harvest is required, use Accutase, Collagenase, or TrypLE Express for a less damaging option.
3. Reserve 100  $\mu$ L for counting, then transfer cell volume into a 15 mL conical tube and centrifuge for 4 minutes at 400 RCF.
  - a. Count cells using a hemocytometer and a 1:1 trypan blue exclusion stain to determine cell viability before starting the flow protocol. If cells appear blue, do not proceed.
4. Re-suspend cells to a concentration of  $1 \times 10^6$  cells/mL in staining buffer (NBP2-26247).
5. Aliquot out 100  $\mu$ L samples in accordance with your experimental samples.

Tip: When cell surface and intracellular staining are required in the same sample, it is advisable that the cell surface staining be performed first since the fixation and permeabilization steps might reduce the availability of surface antigens.

##### Cell surface staining

1. Recommended: Block non-specific interactions using 0.5-1  $\mu$ g of a species specific Fc-blocking reagent such as an anti-mouse CD16/CD32 antibody (NBP1-27946).
2. Add appropriate amount of each antibody (eg. 1 test or 1  $\mu$ g per sample, as experimentally determined) to 100  $\mu$ L of staining buffer (NBP2-26247) per sample (eg. use 1 mL of staining buffer for 10 samples).
3. Mix well and incubate at room temperature in dark for 20 minutes.
4. Add 1-2 mL of staining buffer and centrifuge at 400 RCF for 1 minute and discard supernatant.
5. Wash twice by re-suspending cells in staining buffer (2 mL for tubes or 200  $\mu$ L for wells) and centrifuging at 400 RCF for 5 minutes. Discard supernatant.
6. Add appropriate amount of secondary antibody (as experimentally determined) to each sample.
7. Incubate at room temperature in dark for 20 minutes.
8. Add 1-2 mL of staining buffer and centrifuge at 400 RCF for 1 minute and discard supernatant.
9. Wash twice by re-suspending cells in staining buffer (2 mL for tubes or 200  $\mu$ L for wells) and centrifuging at 400 RCF for 5 minutes. Discard supernatant.
10. Resuspend in an appropriate volume of staining buffer (usually 500  $\mu$ L per sample) and proceed with analysis on your flow cytometer.

### Immunocytochemistry/ Immunofluorescence Protocol for Integrin beta 1/CD29 Antibody (NBP2-36561)

#### Immunocytochemistry Protocol

Culture cells to appropriate density in 35 mm culture dishes or 6-well plates.

1. Remove culture medium and wash the cells briefly in PBS. Add 10% formalin to the dish and fix at room temperature for 10 minutes.
2. Remove the formalin and wash the cells in PBS.
3. Permeabilize the cells with 0.1% Triton X100 or other suitable detergent for 10 min.
4. Remove the permeabilization buffer and wash three times for 10 minutes each in PBS. Be sure to not let the specimen dry out.
5. To block nonspecific antibody binding, incubate in 10% normal goat serum from 1 hour to overnight at room temperature.
6. Add primary antibody at appropriate dilution and incubate overnight at 4C.
7. Remove primary antibody and replace with PBS. Wash three times for 10 minutes each.
8. Add secondary antibody at appropriate dilution. Incubate for 1 hour at room temperature.
9. Remove secondary antibody and replace with PBS. Wash three times for 10 minutes each.
10. Counter stain DNA with DAPI if required.



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### **Products Related to NBP2-36561**

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HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP1-97005-0.5mg	Mouse IgG1 Isotype Control (MG1)
NBP2-36561AF488	Integrin beta 1/CD29 Antibody (P4C10) [Alexa Fluor® 488]

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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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