

# ITGB1 Monoclonal Antibody (7F10)

Catalog NumberMA5-11429

Product data sheet

Details		Species Reactivity	
Size	500 µL	Species reactivity	Human, Rat
Host/Isotope	Mouse / IgG1	Published species	Human
Class	Monoclonal	Tested Applications	Dilution *
Type	Antibody	Immunohistochemistry (Paraffin) (IHC (P))	1:15-1:30
Clone	7F10	Western Blot (WB)	1:500
Immunogen	Recombinant protein encoding the N-terminal region of human CD29	Published Applications	
Conjugate	Unconjugated	Immunohistochemistry (IHC)	See 1 publications below
Form	Liquid	* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.	
Storage Conditions	4° C		

## Product specific information

MA5-11429 targets CD29 in IHC (P) and Western blot applications and shows reactivity with Human and Rat samples. The MA5-11429 immunogen is recombinant protein encoding the N-terminal region of human CD29. MA5-11429 has been used successfully in the western blot analysis of integrin beta 1 (CD29) using human cells lysates.

## Background/Target Information

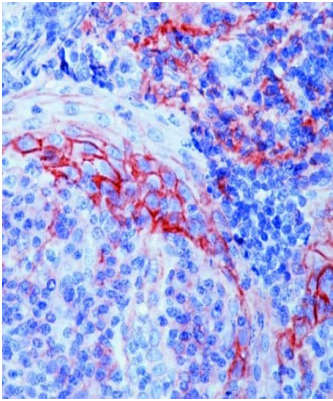
ITGB1 (Integrin Subunit Beta 1, beta1 integrin subunit, GPIIa, CD29) is a 110 kDa cell surface glycoprotein that is widely expressed by a variety of cells including all leucocytes. ITGB1 forms non-covalently linked heterodimers with at least 6 different alpha chains (alpha1-alpha6, CDa-f) determining the binding properties of beta1 (VLA) integrins. ITGB1 is a cell adhesion molecule appearing on platelets, as the common Beta subunit of the very late activation antigen (VLA), and as a component of various protein complexes binding to extracellular matrix proteins. Decreased expression of ITGB1 correlates with acquiring multidrug resistance of tumor cells in the presence of anti-tumor drug. ITGB1 is up-regulated in leukocytes during emigration and extravascular migration and appear to be critically involved in regulating the immune cell trafficking from blood to tissue. Further, ITGB1 also regulates tissue damage and disease symptoms related to inflammatory bowel disease. Through an ITGB1-dependent mechanism, fibronectin and type I collagen enhance cytokine secretion of human airway smooth muscle in response to IL-1beta. More than 8 beta subunits with numerous splice variant isoforms have been identified in mammals. There are two major forms of integrin beta1: beta1A and beta1D, which differ in 13 amino acids. The distribution pattern in adult tissues for integrin beta types are mutually exclusive. Beta1A is present in all tissues, except cardiac and skeletal muscle which express the beta1D variant.

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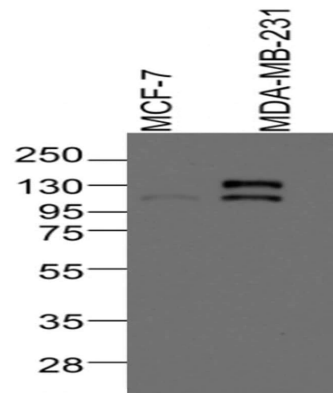
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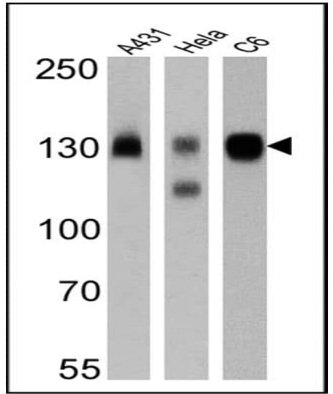
**ITGB1 Antibody (MA5-11429) in IHC**

Formalin-fixed, paraffin-embedded human tonsil stained with CD29 antibody using peroxidase-conjugate and AEC chromogen. Note membrane staining of mucosal epithelial cells.



**ITGB1 Antibody (MA5-11429) in WB**

Western blot analysis of Integrin beta-1/CD29 was performed by loading 20 µg of MCF-7 (lane 1) and MDA-MB-231 (lane 2) cell lysates in RIPA buffer (Product # 89901) and Page Ruler Plus Protein Ladder (Product # 26620) onto a 4-8% sodium dodecyl sulfate polyacrylamide gel (SDS-PAGE). Proteins were transferred to nitrocellulose membrane blocked in 5% milk /PBST for one hour at room temperature. Integrin beta-1/CD29 was detected at approximately 110, 130 kDa using a Integrin beta-1/CD29 monoclonal antibody (Product # MA5-11429) at a dilution of 1:500 5% milk /PBST overnight at at 4°C on a rocking platform, followed by a Goat anti-Mouse IgG (H + L) -HRP secondary antibody at a dilution of 1:5,000 for one hour. Chemiluminescent detection was performed using SuperSignal West Dura (Product # 34078) and Kodak M35 X-OMAT Automatic Processor. Data courtesy of Dr. Wei Xu at the University of Wisconsin, Madison, WI.



**ITGB1 Antibody (MA5-11429) in WB**

Western blot analysis of CD29 was performed by loading 25 µg of A431 (Lane 1), HeLa (Lane 2) and C6 (Lane 3) cell lysates onto an SDS polyacrylamide gel. Proteins were transferred to a PVDF membrane and blocked at 4°C overnight. The membrane was probed with a CD29 monoclonal antibody (Product # MA5-11429) at a dilution of 1:200 (A431 and HeLa) and 1:50 (C6) overnight at 4°C, washed in TBST, and probed with an HRP-conjugated secondary antibody for 1 hr at room temperature in the dark. Chemiluminescent detection was performed using Pierce ECL Plus Western Blotting Substrate (Product # 32132). Results show a band at approx. 130 kDa.

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PubMed References For ITGB1 Monoclonal Antibody (7F10)

1 Immunohistochemistry References

Species / Dilution	Summary
Human / 1:10	MA5-11429 was used in immunohistochemistry to investigate the mechanism of cancer resistance to trastuzumab
	Cancer research ( 2009; 69: 8620)
	<b>"Beta1-integrin circumvents the antiproliferative effects of trastuzumab in human epidermal growth factor receptor-2-positive breast cancer."</b> Author(s):Lesniak D,Xu Y,Deschenes J,Lai R,Thoms J,Murray D,Gosh S,Mackey JR,Sabri S,Abdulkarim B PubMed Article URL: <a href="http://dx.doi.org/10.1158/0008-5472.CAN-09-1591">http://dx.doi.org/10.1158/0008-5472.CAN-09-1591</a>

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