

## Datasheet: MCA2028

<b>Description:</b>	MOUSE ANTI HUMAN CD29
<b>Specificity:</b>	CD29
<b>Other names:</b>	INTEGRIN BETA 1 CHAIN
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	12G10
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	0.2 mg

## Product Details

### Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit [www.bio-rad-antibodies.com/protocols](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			1/25 - 1/50
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA	▪			10ug/ml
Immunoprecipitation	▪			
Western Blotting	▪			
Immunofluorescence	▪			

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

<b>Target Species</b>	Human
<b>Species Cross Reactivity</b>	Reacts with: Mink Does not react with: Rat, Mouse <b>N.B.</b> Antibody reactivity and working conditions may vary between species.
<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	0.09% Sodium Azide
<b>Carrier Free</b>	Yes

<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
<b>Immunogen</b>	Purified human beta1 integrin preparation from HT1080 fibrosarcoma cell extract
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P05556</a>   <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">3688</a> ITGB1   <a href="#">Related reagents</a></p>
<b>Synonyms</b>	FNRB, MDF2, MSK12
<b>Fusion Partners</b>	Spleen cells from an immunised BALB/c mice were fused with cells of the X63/Ag8.653 mouse myeloma cell line
<b>Specificity</b>	<p><b>Mouse anti Human CD29 monoclonal antibody, clone 12G10</b> recognizes human CD29 also known as beta1 integrin or VLA-4 subunit alpha. CD29 is a ~130 kDa under reducing, ~115 kDa under non-reducing conditions single pass type I transmembrane glycoprotein. CD29 acts as the common beta subunit of the heterodimeric very late antigens 1-6, complexing with CD49a-f respectively where it forms part of the receptors for laminin , collagen and fibronectin. the VLA heterodimers mediate cell-cell and cell-matrix interactions.</p> <p>Mouse anti Human CD29, clone 12G10 binding to cells adhering via VLA-4 results in actin cytoskeletal disruption and subsequent inhibition of attachment and spreading whilst 12G10 binding to cells adhering via VLA-5 results in enhancement of both these processes (<a href="#">Humphries <i>et al.</i> 2005</a>). Clone 12G10 enhances alpha 5 beta 1-fibronectin interactions and binds to a region of CD25 containing the binding epitopes of several other anti CD29 antibody clones. However, unlike these, binding of 12G10 is enhanced in the presence of ligands such as fibronectin fragments (<a href="#">Mould <i>et al.</i> 1995</a>). Binding of antibody clone 12G10 to the integrin <math>\beta</math>1 subunit is affected by divalent cations and the binding epitope appears to be located around residues 207-218 in the b1 subunit putative A-domain (<a href="#">Mould <i>et al.</i> 1998</a>).</p>
<b>References</b>	<ol style="list-style-type: none"> <li>Sodek, K.L. <i>et al.</i> (2009) Compact spheroid formation by ovarian cancer cells is associated with contractile behavior and an invasive phenotype. <a href="#">Int J Cancer. 124: 2060-70.</a></li> <li>Mould, A.P. <i>et al.</i> (1995) Regulation of integrin alpha 5 beta 1 function by anti-integrin antibodies and divalent cations. <a href="#">Biochem Soc Trans. 23 (3): 395S.</a></li> <li>Mould, A.P. <i>et al.</i> (1995) Identification of a novel anti-integrin monoclonal antibody that recognises a ligand-induced binding site epitope on the beta 1 subunit. <a href="#">FEBS Lett. 363 (1-2): 118-22.</a></li> <li>Matthews,B.D. <i>et al.</i> (2010) Ultra-rapid activation of TRPV4 ion channels by mechanical forces applied to cell surface [beta]1 integrins. <a href="#">Integr Biol (Camb). 2: 435-42.</a></li> <li>Aasted, B. <i>et al.</i> (2007) Reactivity of monoclonal antibodies to human CD antigens with cells from mink. <a href="#">Vet Immunol Immunopathol. 119: 27-37.</a></li> <li>Kawaguchi, N. <i>et al.</i> (2003) ADAM12 induces actin cytoskeleton and extracellular matrix reorganization during early adipocyte differentiation by regulating beta1 integrin function. <a href="#">J Cell Sci. 116: 3893-904.</a></li> <li>Loughran, G. <i>et al.</i> (2005) Mystique is a new insulin-like growth factor-I-regulated PDZ-LIM domain protein that promotes cell attachment and migration and suppresses Anchorage-independent growth. <a href="#">Mol Biol Cell. 2005 Apr;16(4):1811-22.</a></li> <li>Werner, J. <i>et al.</i> (2012) Expression of integrins and Toll-like receptors in cervical cancer: Effect of infectious agents. <a href="#">Innate Immun. 18: 55-69.</a></li> </ol>

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**Storage**

Store at +4°C or at -20°C if preferred.

This product should be stored undiluted.

Storage in frost-free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

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**Shelf Life**

18 months from date of despatch.

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**Health And Safety Information**

Material Safety Datasheet documentation #10040 available at:  
10040: <https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf>

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**Regulatory**

For research purposes only

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## Related Products

### Recommended Secondary Antibodies

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| Goat Anti Mouse IgG (STAR76...)         | <a href="#">RPE</a>                              |
| Goat Anti Mouse IgG IgA IgM (STAR87...) | <a href="#">Alk. Phos.</a> , <a href="#">HRP</a> |
| Rabbit Anti Mouse IgG (STAR9...)        | <a href="#">FITC</a>                             |
| Goat Anti Mouse IgG (STAR77...)         | <a href="#">HRP</a>                              |
| Rabbit Anti Mouse IgG (STAR12...)       | <a href="#">RPE</a>                              |
| Goat Anti Mouse IgG (Fc) (STAR120...)   | <a href="#">FITC</a> , <a href="#">HRP</a>       |

Rabbit Anti Mouse IgG (STAR8...) [DyLight®800](#)  
Goat Anti Mouse IgG (STAR70...) [FITC](#)  
Rabbit Anti Mouse IgG (STAR13...) [HRP](#)  
Human Anti Mouse IgG1 (HCA036...) [HRP](#)  
Goat Anti Mouse IgG (H/L) (STAR117...) [Alk. Phos.](#), [DyLight®488](#), [DyLight®549](#),  
[DyLight®649](#), [DyLight®680](#), [DyLight®800](#),  
[FITC](#), [HRP](#)

## Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA928\)](#)

<b>North &amp; South America</b>	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: <a href="mailto:antibody_sales_us@bio-rad.com">antibody_sales_us@bio-rad.com</a>	<b>Worldwide</b>	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: <a href="mailto:antibody_sales_uk@bio-rad.com">antibody_sales_uk@bio-rad.com</a>	<b>Europe</b>	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: <a href="mailto:antibody_sales_de@bio-rad.com">antibody_sales_de@bio-rad.com</a>
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