

Datasheet: MCA1949A647

Description:	MOUSE ANTI HUMAN CD29:Alexa Fluor® 647
Specificity:	CD29
Other names:	INTEGRIN BETA 1 CHAIN
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	4B7R
Isotype:	IgG1
Quantity:	100 TESTS/1ml

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.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			Neat

Where this product 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 product for use in their own system using appropriate negative/positive controls.

Target Species	Human		
Product Form	Purified IgG - conjugated to Alexa Fluor® 647 - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	Alexa Fluor®647	650	665
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant		
Buffer Solution	Phosphate buffered saline		
Preservative Stabilisers	0.09% sodium azide (NaN ₃)		
	1% bovine serum albumin		
Approx. Protein Concentrations	IgG concentration 0.05 mg/ml		

Immunogen	Occular melanoma cell line V+B2.
External Database Links	<p>UniProt: P05556 Related reagents</p> <p>Entrez Gene: 3688 ITGB1 Related reagents</p>
Synonyms	FNRB, MDF2, MSK12
RRID	AB_322449
Specificity	<p>Mouse anti Human CD29 monoclonal antibody, clone 4B7R recognizes the human integrin beta 1 subunit, also known as CD29, a ~130 kDa (red) 115 kDa (non-red) single pass type I transmembrane glycoprotein expressed by most leucocytes and mesenchymal stem cells.</p> <p>Integrin receptors are involved in the regulation of a variety of important biological functions, including embryonic development, wound repair, hemostasis and prevention of programmed cell death. They are also implicated in abnormal pathological states such as tumor directed angiogenesis, tumor cell growth, and metastasis. Surface expression of CD29 on human natural killer cells can be reduced by pretreatment with the glutathione-S-transferase inhibitor diethyl maleate (Horvath-Arcidiacono et al. 2003)</p>
Flow Cytometry	Use 10µl of the suggested working dilution to label 10 ⁶ cells in 100µl
References	<ol style="list-style-type: none"> 1. Marshall, J.F. <i>et al.</i> (1998) Comparative analysis of integrins <i>in vitro</i> and <i>in vivo</i> in uveal and cutaneous melanomas. Br J Cancer. 77 (4): 522-9. 2. Horvath-Arcidiacono, J.A. <i>et al.</i> (2003) Human natural killer cell activity against porcine targets: modulation by control of the oxidation-reduction environment and role of adhesion molecule interactions. Cell Immunol. 222: 35-44. 3. Pillay, J. <i>et al.</i> (2010) Functional heterogeneity and differential priming of circulating neutrophils in human experimental endotoxemia. J Leukoc Biol. 88: 211-20. 4. Meng, J. <i>et al.</i> (2011) Contribution of human muscle-derived cells to skeletal muscle regeneration in dystrophic host mice. PLoS One. 6(3):e17454. 5. Kim, B.S. <i>et al.</i> (2011) Effects of the dichloromethane fraction of dipsaci radix on the osteoblastic differentiation of human alveolar bone marrow-derived mesenchymal stem cells. Biosci Biotechnol Biochem. 75:13-9. 6. Kato, H. <i>et al.</i> (2012) The primacy of β1 integrin activation in the metastatic cascade. PLoS One. 7 (10): e46576. 7. Tan, D.W. <i>et al.</i> (2013) Single-cell gene expression profiling reveals functional heterogeneity of undifferentiated human epidermal cells. Development. 140 (7): 1433-44. 8. Yi, T. <i>et al.</i> (2015) Manufacture of Clinical-Grade Human Clonal Mesenchymal Stem Cell Products from Single Colony Forming Unit-Derived Colonies Based on the Subfractionation Culturing Method. Tissue Eng Part C Methods. 21 (12): 1251-62. 9. Chen, Y. <i>et al.</i> (2015) Effect of human umbilical cord mesenchymal stem cells transplantation on nerve fibers of a rat model of endometriosis. Int J Fertil Steril. 9 (1):

[71-80.](#)

10. Gu, Q. *et al.* (2015) *Ginkgo biloba* extract promotes osteogenic differentiation of human bone marrow mesenchymal stem cells in a pathway involving Wnt/ β -catenin signaling. [Pharmacol Res. 97: 70-8.](#)

11. Yang, J. *et al.* (2015) Cordycepin protected against the TNF- α -induced inhibition of osteogenic differentiation of human adipose-derived mesenchymal stem cells. [Int J Immunopathol Pharmacol. 28 \(3\): 296-307.](#)

12. Sun, Y. *et al.* (2017) Antinociceptive Effect of Intrathecal Injection of Genetically Engineered Human Bone Marrow Stem Cells Expressing the Human Proenkephalin Gene in a Rat Model of Bone Cancer Pain. [Pain Res Manag. 2017: 7346103.](#)

13. Lee, H.J. *et al.* (2017) ICOSL expression in human bone marrow-derived mesenchymal stem cells promotes induction of regulatory T cells. [Sci Rep. 7: 44486.](#)

14. Kim, S.H. *et al.* (2019) Forkhead box O1 (FOXO1) controls the migratory response of Toll-like receptor (TLR3)-stimulated human mesenchymal stromal cells. [J Biol Chem. 294 \(21\): 8424-37.](#)

Storage	This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.
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Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended. This product is photosensitive and should be protected from light.

Guarantee	12 months from date of despatch
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Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA1949A647 10041
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Regulatory	For research purposes only
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Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:Alexa Fluor® 647 \(MCA928A647\)](#)

Recommended Useful Reagents

[HUMAN SEROBLOCK \(BUF070A\)](#)

[HUMAN SEROBLOCK \(BUF070B\)](#)

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