

Datasheet: MCA2289B

Description:	RAT ANTI MOUSE DECTIN-1:Biotin
Specificity:	DECTIN-1
Format:	Biotin
Product Type:	Monoclonal Antibody
Clone:	2A11
Isotype:	IgG2b
Quantity:	0.1 mg

Product Details

RRID AB_321141

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 - 1/10

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.

Target Species Mouse

Product Form Purified IgG conjugated to Biotin - liquid

Preparation Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant

Buffer Solution Phosphate buffered saline

Preservative 0.09% Sodium Azide
Stabilisers 1% Bovine Serum Albumin

Approx. Protein Concentrations IgG concentration 0.1 mg/ml

Immunogen Dectin-1 transfected NIH3T3 cells and recombinant soluble Dectin-1.

External Database Links

UniProt:
[Q6QLQ4](#) [Related reagents](#)

Entrez Gene:
[56644](#) Clec7a [Related reagents](#)

Synonyms	Bgr, Clecsf12, Dectin1
Fusion Partners	Spleen cells from immunised Fischer rats were fused with cells of the rat Y3 myeloma cell line
Specificity	<p>Rat anti Mouse Dectin-1 antibody, clone 2A11 recognizes murine beta-glucan receptor, also known as Dectin-1. Dectin-1 is predominantly expressed by cells of the monocyte/macrophage and neutrophil lineages, but also at lower levels by dendritic cells and a subpopulation of T cells.</p> <p>As a major leucocyte receptor for beta-glucan this molecule may have a key role in the immunomodulatory effects of beta-glucans and in the host response to fungal pathogens. Dectin-1 may stimulate reactive oxygen production in macrophages via the protein tyrosine kinase known as Syk.</p> <p>Rat anti Mouse Dectin-1 antibody, clone 2A11 inhibits the binding of zymosan to macrophages via the beta-glucan receptor.</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 ⁶ cells in 100ul
References	<ol style="list-style-type: none"> 1. Brown, G.D. <i>et al.</i> (2002) Dectin-1 is a major beta-glucan receptor on macrophages. J Exp Med. 196 (3): 407-12. 2. Taylor, P.R. <i>et al.</i> (2002) The beta-glucan receptor, dectin-1, is predominantly expressed on the surface of cells of the monocyte/macrophage and neutrophil lineages. J Immunol. 169 (7): 3876-82. 3. Reid, D.M. <i>et al.</i> (2004) Expression of the beta-glucan receptor, Dectin-1, on murine leukocytes in situ correlates with its function in pathogen recognition and reveals potential roles in leukocyte interactions. J Leukoc Biol. 76 (1): 86-94. 4. Underhill, D.M. <i>et al.</i> (2005) Dectin-1 activates Syk tyrosine kinase in a dynamic subset of macrophages for reactive oxygen production. Blood. 106 (7): 2543-50. 5. Lefevre, L. <i>et al.</i> (2010) PPARc Ligands Switched High Fat Diet-Induced Macrophage M2b Polarization toward M2a Thereby Improving Intestinal <i>Candida</i> Elimination PLoS One. 5(9):e12828. 6. Fei, M. <i>et al.</i> (2011) TNF-alpha from inflammatory dendritic cells (DCs) regulates lung IL-17A/IL-5 levels and neutrophilia versus eosinophilia during persistent fungal infection. Proc Natl Acad Sci U S A. 108 (13): 5360-5. 7. Gazi, U. <i>et al.</i> (2011) Fungal Recognition Enhances Mannose Receptor Shedding through Dectin-1 Engagement. J Biol Chem. 286: 7822-9. 8. McDonald, J.U. <i>et al.</i> (2011) <i>In vivo</i> functional analysis and genetic modification of <i>in vitro</i>-derived mouse neutrophils. FASEB J. 25 (6): 1972-82. 9. Dewals, B.G. <i>et al.</i> (2010) IL-4Ralpha-independent expression of mannose receptor and Ym1 by macrophages depends on their IL-10 responsiveness. PLoS Negl Trop Dis. 4: e689. 10. Galès, A. <i>et al.</i> (2010) PPARgamma controls dectin-1 expression required for host antifungal defense against <i>Candida albicans</i>. PLoS Pathog. 6: e1000714. 11. Coates, P.J. <i>et al.</i> (2008) Indirect macrophage responses to ionizing radiation: implications for genotype-dependent bystander signaling. Cancer Res. 68: 450-6. 12. Dioszeghy, V. <i>et al.</i> (2008) 12/15-Lipoxygenase regulates the inflammatory response to bacterial products <i>in vivo</i>. J Immunol. 181: 6514-24. 13. Hohl, T.M. (2008) Caspofungin modulates inflammatory responses to <i>Aspergillus fumigatus</i> through stage-specific effects on fungal beta-glucan exposure. J Infect Dis. 198: 176-85. 14. Palma, A.S. <i>et al.</i> (2006) Ligands for the beta-glucan receptor, Dectin-1, assigned using "designer" microarrays of oligosaccharide probes (neoglycolipids) generated from glucan polysaccharides. J Biol Chem. 281: 5771-9. 15. Sindrilaru, A. <i>et al.</i> (2011) An unrestrained proinflammatory M1 macrophage population induced by iron impairs wound healing in humans and mice. J Clin Invest. 121: 985-97. 16. Anandasabapathy, N. <i>et al.</i> (2011) Flt3L controls the development of radiosensitive dendritic

- cells in the meninges and choroid plexus of the steady-state mouse brain. [J Exp Med. 208 \(8\): 1695-705.](#)
17. Takahara, K. *et al.* (2012) Efficient capture of *Candida albicans* and zymosan by SIGNR1 augments TLR2-dependent TNF- α production. [Int Immunol. 24 \(2\): 89-96.](#)
18. Fransen F *et al.* (2015) BALB/c and C57BL/6 Mice Differ in Polyreactive IgA Abundance, which Impacts the Generation of Antigen-Specific IgA and Microbiota Diversity. [Immunity. 43 \(3\): 527-40.](#)
19. Urso, K. *et al.* (2016) Anion Exchanger 2 Regulates Dectin-1-Dependent Phagocytosis and Killing of *Candida albicans*. [PLoS One. 11 \(7\): e0158893.](#)
20. Zhou, J. *et al.* (2016) Therapeutic targeting of myeloid-derived suppressor cells involves a novel mechanism mediated by clusterin. [Sci Rep. 6: 29521.](#)
21. Pinke, K.H. *et al.* (2016) Mast cells phagocyte *Candida albicans* and produce nitric oxide by mechanisms involving TLR2 and Dectin-1. [Immunobiology. 221 \(2\): 220-7.](#)
22. Berven, L. *et al.* (2015) Particulate yeast β -glucan is internalized by RAW 264.7 macrophages and reduces the activity of the tumor-associated protease legumain [Bioactive Carbohydrates and Dietary Fibre. 6 \(1\): 15-23.](#)
23. Walachowski, S. *et al.* (2016) Triggering Dectin-1-Pathway Alone Is Not Sufficient to Induce Cytokine Production by Murine Macrophages. [PLoS One. 11 \(2\): e0148464.](#)
24. Ferguson, B.J. *et al.* (2015) The *Schistosoma mansoni* T2 ribonuclease omega-1 modulates inflammasome-dependent IL-1 β secretion in macrophages. [Int J Parasitol. 45 \(13\): 809-13.](#)
25. Masuda, Y. *et al.* (2015) Soluble β -glucan from *Grifola frondosa* induces tumor regression in synergy with TLR9 agonist via dendritic cell-mediated immunity. [J Leukoc Biol. 98 \(6\): 1015-25.](#)
26. Baldwin, K.T. *et al.* (2015) Neuroinflammation triggered by β -glucan/dectin-1 signaling enables CNS axon regeneration. [Proc Natl Acad Sci U S A. 112 \(8\): 2581-6.](#)
27. Quayle K *et al.* (2015) The TLR2 agonist in polysaccharide-K is a structurally distinct lipid which acts synergistically with the protein-bound β -glucan. [J Nat Med. 69 \(2\): 198-208.](#)
28. Chang, T.H. *et al.* (2017) Dectin-2 is a primary receptor for NLRP3 inflammasome activation in dendritic cell response to *Histoplasma capsulatum*. [PLoS Pathog. 13 \(7\): e1006485.](#)
29. Seo, B.S. *et al.* (2016) Dectin-1 agonist selectively induces IgG1 class switching by LPS-activated mouse B cells. [Immunol Lett. 178: 114-21.](#)

Storage	<p>Store at +4°C or at -20°C if preferred.</p> <p>This product should be stored undiluted.</p> <p>Storage in frost-free freezers is not recommended. This product is photosensitive and should be protected from light.</p> <p>Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.</p>
Guarantee	18 months from date of despatch.
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: 10041: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf
Regulatory	For research purposes only

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