

## Datasheet: MCA2289PE BATCH NUMBER 158951

Description:	RAT ANTI MOUSE DECTIN-1:RPE
Specificity:	DECTIN-1
Format:	RPE
Product Type:	Monoclonal Antibody
Clone:	2A11
Isotype:	lgG2b
Quantity:	100 TESTS

## **Product Details**

Applications	This product has been r derived from testing with communications from the information. For genera rad-antibodies.com/prot	hin our labo ne originato l protocol re	ratories, rs. Please	peer-reviewed publicate refer to references in	tions or personal dicated for further
		Yes	No	Not Determined	Suggested Dilution
	Flow Cytometry				Neat - 1/10
	Where this antibody has				
	necessarily exclude its a guide only. It is recom system using appropriat	mended that	at the use	er titrates the antibody	• •
Target Species	Mouse				
Product Form	Purified IgG conjugated	to R. Phyc	oerythrin	(RPE) - lyophilized	
Reconstitution	Reconstitute with 1 ml c	listilled wate	ər		
Max Ex/Em	Fluorophore I RPE 488nm laser	Excitation N 496	lax (nm)	Emission Max (nm) 578	
Preparation	Purified IgG prepared b supernatant	y affinity ch	romatogr	aphy on Protein G fror	n tissue culture
Buffer Solution	Phosphate buffered sali	ne			
Preservative Stabilisers	0.09% Sodium Azide 1% Bovine Serum A 5% Sucrose	lbumin			

Immunogen	Dectin-1 transfected NIH3T3 cells and recombinant soluble Dectin-1.
External Database Links	UniProt: <u>Q6QLQ4</u> <u>Related reagents</u> Entrez Gene: <u>56644</u> Clec7a <u>Related reagents</u>
Synonyms	Bgr, Clecsf12, Dectin1
RRID	AB_566383
Fusion Partners	Spleen cells from immunised Fischer rats were fused with cells of the rat Y3 myeloma cell line
Specificity	<ul> <li>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.</li> <li>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 macropahges via the protein tyrosine kinase known as Syk.</li> <li>Rat anti Mouse Dectin-1 antibody, clone 2A11 inhibits the binding of zymosan to macrophages via the beta-glucan receptor.</li> </ul>
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 <sup>6</sup> cells in 100ul
References	<ol> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>Lefevre, L. <i>et al.</i> (2010) PPARc Ligands Switched High Fat Diet-Induced Macrophage M2b Polarization toward M2a Thereby Improving Intestinal Candida Elimination PLoS One. 5(9):e12828.</li> <li>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.</li> <li>Gazi, U. <i>et al.</i> (2011) Fungal Recognition Enhances Mannose Receptor Shedding</li> </ol>

through Dectin-1 Engagement. J Biol Chem. 286: 7822-9.

8. McDonald, J.U. *et al.* (2011) *In vivo* functional analysis and genetic modification of *in vitro*-derived mouse neutrophils. <u>FASEB J. 25 (6): 1972-82.</u>

9. Dewals, B.G. *et al.* (2010) IL-4Ralpha-independent expression of mannose receptor and Ym1 by macrophages depends on their IL-10 responsiveness. <u>PLoS Negl Trop Dis. 4:</u> <u>e689.</u>

10. Galès, A. *et al.* (2010) PPARgamma controls dectin-1 expression required for host antifungal defense against *Candida albicans*. <u>PLoS Pathog. 6: e1000714.</u>

11. Coates, P.J. *et al.* (2008) Indirect macrophage responses to ionizing radiation: implications for genotype-dependent bystander signaling. <u>Cancer Res. 68: 450-6.</u>

12. Dioszeghy, V. *et al.* (2008) 12/15-Lipoxygenase regulates the inflammatory response to bacterial products *in vivo*. <u>J Immunol. 181: 6514-24.</u>

13. Hohl, T.M. (2008) Caspofungin modulates inflammatory responses to *Aspergillus fumigatus* through stage-specific effects on fungal beta-glucan exposure. <u>J Infect Dis. 198:</u> <u>176-85.</u>

14. Palma, A.S. *et al.* (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. *et al.* (2011) An unrestrained proinflammatory M1 macrophage population induced by iron impairs wound healing in humans and mice. <u>J Clin Invest. 121:</u> <u>985-97.</u>

16. Anandasabapathy, N. *et al.* (2011) Flt3L controls the development of radiosensitive dendritic cells in the meninges and choroid plexus of the steady-state mouse brain. <u>J Exp</u> <u>Med. 208 (8): 1695-705.</u>

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*. <u>PLoS One. 11 (7): e0158893.</u>

20. Zhou, J. *et al.* (2016) Therapeutic targeting of myeloid-derived suppressor cells involves a novel mechanism mediated by clusterin. <u>Sci Rep. 6: 29521.</u>

21. Pinke, K.H. *et al.* (2016) Mast cells phagocyte *Candida albicans* and produce nitric oxide by mechanisms involving TLR2 and Dectin-1. <u>Immunobiology. 221 (2): 220-7.</u>

22. Berven, L. *et al.* (2015) Particulate yeast  $\beta$ -glucan is internalized by RAW 264.7 macrophages and reduces the activity of the tumor-associated protease legumain <u>Bioactive Carbohydrates and Dietary Fibre. 6 (1): 15-23.</u>

23. Walachowski, S. *et al.* (2016) Triggering Dectin-1-Pathway Alone Is Not Sufficient to Induce Cytokine Production by Murine Macrophages. <u>PLoS One. 11 (2): e0148464.</u>
24. Ferguson, B.J. *et al.* (2015) The *Schistosoma mansoni* T2 ribonuclease omega-1

modulates inflammasome-dependent IL-1 $\beta$  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. <u>J Leukoc Biol. 98 (6): 1015-25.</u>

26. Baldwin, K.T. et al. (2015) Neuroinflammation triggered by  $\beta$ -glucan/dectin-1 signaling

nerica	-						
orth & South	Fax: +1 919 87	78 3751 Fax: +44 (0)1865 852 739 Fax: +49 (0) 89 8090 95 50					
Regulato							
	ory	For research purposes only					
Information		Material Safety Datasheet documentation #20487 available at: https://www.bio-rad-antibodies.com/SDS/MCA2289PE 20487					
Guarante	ee	12 months from date of despatch					
		This product should be stored undiluted. This product is photosensitive and should be protected from light. Should this product contain a precipitate we recommend microcentrifugation before use.					
		DO NOT FREEZE					
Storage		Store at +4°C.					
		<ul> <li>27. Quayle K <i>et al.</i> (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.</li> <li>28. Chang, T.H. <i>et al.</i> (2017) Dectin-2 is a primary receptor for NLRP3 inflammasome activation in dendritic cell response to <i>Histoplasma capsulatum</i>. PLoS Pathog. 13 (7): e1006485.</li> <li>29. Seo, B.S. <i>et al.</i> (2016) Dectin-1 agonist selectively induces IgG1 class switching by LPS-activated mouse B cells. Immunol Lett. 178: 114-21.</li> <li>30. Thompson, A. <i>et al.</i> (2019) The protective effect of inflammatory monocytes during systemic <i>C. albicans.</i> infection is dependent on collaboration between C-type lectin-like receptors. PLoS Pathog. 15 (6): e1007850.</li> <li>31. Uno, A. <i>et al.</i> (2021) A novel β-glucan-oligonucleotide complex selectively delivers siRNA to APCs via Dectin-1. J Control Release. 338: 792-803.</li> <li>32. Deerhake, M.E. <i>et al.</i> (2021) Dectin-1 limits autoimmune neuroinflammation and promotes myeloid cell-astrocyte crosstalk via Card9-independent expression of Oncosta M. Immunity. 54 (3): 484-498.e8.</li> <li>33. Niekamp, P. <i>et al.</i> (2021) Sphingomyelin Biosynthesis Is Essential for Phagocytic Signaling during <i>Mycobacterium tuberculosis.</i> Host Cell Entry. mBio. 12 (1): e03141-20.</li> <li>34. Oh, S. <i>et al.</i> (2022) Pathogen size alters C-type lectin receptor signaling in dendritic cells to influence CD4 Th9 cell differentiation. Cell Rep. 38 (13): 110567.</li> </ul>					

© 2024 Bio-Rad Laboratories Inc | Legal | Imprint