

## Datasheet: MCA2289PE

**BATCH NUMBER INN1701**

<b>Description:</b>	RAT ANTI MOUSE DECTIN-1:RPE
<b>Specificity:</b>	DECTIN-1
<b>Format:</b>	RPE
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	2A11
<b>Isotype:</b>	IgG2b
<b>Quantity:</b>	100 TESTS

### 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	▪			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.

<b>Target Species</b>	Mouse						
<b>Product Form</b>	Purified IgG conjugated to R. Phycoerythrin (RPE) - lyophilized						
<b>Reconstitution</b>	Reconstitute with 1 ml distilled water						
<b>Max Ex/Em</b>	<table border="1"> <thead> <tr> <th>Fluorophore</th> <th>Excitation Max (nm)</th> <th>Emission Max (nm)</th> </tr> </thead> <tbody> <tr> <td>RPE 488nm laser</td> <td>496</td> <td>578</td> </tr> </tbody> </table>	Fluorophore	Excitation Max (nm)	Emission Max (nm)	RPE 488nm laser	496	578
Fluorophore	Excitation Max (nm)	Emission Max (nm)					
RPE 488nm laser	496	578					
<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 1% Bovine Serum Albumin 5% Sucrose						

<b>Immunogen</b>	Dectin-1 transfected NIH3T3 cells and recombinant soluble Dectin-1.
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">Q6QLQ4</a>   <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">56644</a>   Clec7a   <a href="#">Related reagents</a></p>
<b>Synonyms</b>	Bgr, Clecsf12, Dectin1
<b>RRID</b>	AB_566383
<b>Fusion Partners</b>	Spleen cells from immunised Fischer rats were fused with cells of the rat Y3 myeloma cell line
<b>Specificity</b>	<p><b>Rat anti Mouse Dectin-1 antibody, clone 2A11</b> 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>
<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label 10 <sup>6</sup> cells in 100ul
<b>References</b>	<ol style="list-style-type: none"> <li>1. Brown, G.D. <i>et al.</i> (2002) Dectin-1 is a major beta-glucan receptor on macrophages. <a href="#">J Exp Med. 196 (3): 407-12.</a></li> <li>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. <a href="#">J Immunol. 169 (7): 3876-82.</a></li> <li>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. <a href="#">J Leukoc Biol. 76 (1): 86-94.</a></li> <li>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. <a href="#">Blood. 106 (7): 2543-50.</a></li> <li>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 <a href="#">PLoS One. 5(9):e12828.</a></li> <li>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. <a href="#">Proc Natl Acad Sci U S A. 108 (13): 5360-5.</a></li> <li>7. 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. [FASEB J. 25 \(6\): 1972-82.](#)
  9. Dewals, B.G. *et al.* (2010) IL-4 $\alpha$ -independent expression of mannose receptor and Ym1 by macrophages depends on their IL-10 responsiveness. [PLoS Negl Trop Dis. 4: e689.](#)
  10. Galès, A. *et al.* (2010) PPAR $\gamma$  controls dectin-1 expression required for host antifungal defense against *Candida albicans*. [PLoS Pathog. 6: e1000714.](#)
  11. Coates, P.J. *et al.* (2008) Indirect macrophage responses to ionizing radiation: implications for genotype-dependent bystander signaling. [Cancer Res. 68: 450-6.](#)
  12. Dioszeghy, V. *et al.* (2008) 12/15-Lipoxygenase regulates the inflammatory response to bacterial products *in vivo*. [J Immunol. 181: 6514-24.](#)
  13. Hohl, T.M. (2008) Caspofungin modulates inflammatory responses to *Aspergillus fumigatus* through stage-specific effects on fungal beta-glucan exposure. [J Infect Dis. 198: 176-85.](#)
  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. [J Clin Invest. 121: 985-97.](#)
  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. [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- $\alpha$  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  $\beta$ -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 $\beta$  secretion in macrophages. [Int J Parasitol. 45 \(13\): 809-13.](#)
  25. Masuda, Y. *et al.* (2015) Soluble  $\beta$ -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  $\beta$ -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  $\beta$ -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.](#)

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**Storage**

Store at +4°C.

DO NOT FREEZE

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.

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**Guarantee**

12 months from date of despatch

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**Health And Safety Information**

Material Safety Datasheet documentation #20487 available at: <https://www.bio-rad-antibodies.com/SDS/MCA2289PE>  
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**Regulatory**

For research purposes only

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