

Datasheet: MCA2061B BATCH NUMBER 166472

Description:	MOUSE ANTI HUMAN CD284:Biotin		
Specificity:	CD284		
Other names:	TLR4		
Format:	Biotin		
Product Type:	Monoclonal Antibody		
Clone:	HTA125		
lsotype:	lgG2a		
Quantity:	0.1 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 <u>www.bio-rad-antibodies.com/protocols</u> .				
		Yes	No	Not Determined	Suggested Dilution
	Flow Cytometry	-			
	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				
Species Cross Reactivity	Reacts with: Rhesus Monkey, Guinea Pig, Pig, Dog, Bovine N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.				
Product Form	Purified IgG conjugated	to biotin - li	quid		
Preparation	Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant				
Buffer Solution	Phosphate buffered salin	ie			
Preservative	0.09% sodium azide (Na	N ₃)			

Stabilisers	1% bovine serum albumin
Approx. Protein Concentrations	IgG concentration 0.1 mg/ml
Immunogen	Ba/F3 cell line expressing TLR4 (CD284).
External Database Links	UniProt: <u>000206</u> <u>Related reagents</u> Entrez Gene:
	7099 TLR4 Related reagents
RRID	AB_324162
Fusion Partners	Spleen cells from immunised Balb/c mice were fused with cells of the mouse SP2/0 myeloma cell line.
Specificity	Mouse anti Human CD284 antibody, clone HTA125 recognizes the human Toll like receptor 4 (TLR4) cell surface antigen.
	TLR4, also known as CD284, has been demonstrated to act as a receptor for LPS on human monocytes and macrophages. TLR4 signalling of LPS stimulation requires the presence of the MD-2 molecule.
	TLR4 is weakly expressed by resting cells, but is upregulated following stimulation with LPS.
	This antibody has been demonstrated to block activation of monocytes with LPS. The use of a preservative free format of Mouse anti Human CD284 antibody, clone HTA125 (MCA2061EL) is recommended for functional assays.
Flow Cytometry	Use 10 μ I of the suggested working dilution to label 10 ⁶ cells or cells or 100 μ I whole blood
References	 Shimazu, R. <i>et al.</i> (1999) MD-2, a molecule that confers lipopolysaccharide responsiveness on Toll-like receptor 4. J Exp Med. 189 (11): 1777-82. Sugawara, S. <i>et al.</i> (2000) Proteolysis of human monocyte CD14 by cysteine proteinases (gingipains) from <i>Porphyromonas gingivalis</i> leading to lipopolysaccharide hyporesponsiveness. J Immunol. 165: 411-8. Yang, S. <i>et al.</i> (2001) Synergistic effect of muramyldipeptide with lipopolysaccharide or lipoteichoic acid to induce inflammatory cytokines in human monocytic cells in culture. Infect Immun. 69 (4): 2045-53. Kawahara T <i>et al.</i> (2001) Type I <i>Helicobacter pylori</i> lipopolysaccharide stimulates toll-like receptor 4 and activates mitogen oxidase 1 in gastric pit cells. Infect Immun. 69 (7): 4382-9. Baumgarten, G. <i>et al.</i> (2001) <i>In vivo</i> expression of proinflammatory mediators in the adult heart after endotoxin administration: the role of toll-like receptor-4. J Infect Dis. 183:

<u>1617-24.</u>

6. Medvedev, A.E. *et al.* (2001) Induction of tolerance to lipopolysaccharide and mycobacterial components in Chinese hamster ovary/CD14 cells is not affected by overexpression of Toll-like receptors 2 or 4. J Immunol. 167: 2257-67.

7. Bieback, K. *et al.* (2002) Hemagglutinin protein of wild-type measles virus activates toll-like receptor 2 signaling. <u>J Virol. 76: 8729-36.</u>

8. Karlsson, H. *et al.* (2002) Innate immune responses of human neonatal cells to bacteria from the normal gastrointestinal flora. <u>Infect Immun. 70: 6688-96.</u>

9. Devaney, J.M. (2003) Neutrophil elastase up-regulates interleukin-8 via toll-like receptor 4. <u>FEBS Lett. 544:129-32.</u>

10. Elner, S.G. *et al.* (2005) TLR4 mediates human retinal pigment epithelial endotoxin binding and cytokine expression. <u>Invest Ophthalmol Vis Sci. 46 (12): 4627-33.</u>

11. Cuschieri, J. *et al.* (2006) Endotoxin tolerance attenuates LPS-induced TLR4 mobilization to lipid rafts: a condition reversed by PKC activation. <u>J Leukoc Biol. 80:</u> 1289-97.

12. Lindsay, J.O. *et al.* (2006) Clinical, microbiological, and immunological effects of fructo-oligosaccharide in patients with Crohn's disease. <u>Gut. 55: 348-55.</u>

13. Foster, N. *et al.* (2007) Pivotal advance: vasoactive intestinal peptide inhibits up-regulation of human monocyte TLR2 and TLR4 by LPS and differentiation of monocytes to macrophages. J Leukoc Biol. 81: 893-903.

14. Pioli, P.A. *et al.* (2007) Estradiol attenuates lipopolysaccharide-induced CXC chemokine ligand 8 production by human peripheral blood monocytes. <u>J Immunol. 179:</u> 6284-90.

15. Ibeagha-Awemu, E.M. *et al.* (2008) Bacterial lipopolysaccharide induces increased expression of toll-like receptor (TLR) 4 and downstream TLR signaling molecules in bovine mammary epithelial cells. <u>Vet Res. 39 (2): 11.</u>

16. Chochi, K. *et al.* (2008) *Helicobacter pylori* augments growth of gastric cancers via the lipopolysaccharide-toll-like receptor 4 pathway whereas its lipopolysaccharide attenuates antitumor activities of human mononuclear cells. <u>Clin Cancer Res. 14 (10): 2909-17.</u>

17. Brännström, K. *et al.* (2009) The *Schistosoma mansoni* protein Sm16/SmSLP /SmSPO-1 assembles into a nine-subunit oligomer with potential To inhibit Toll-like receptor signaling. <u>Infect Immun. 77: 1144-54.</u>

18. de Kleer, I. (2010) CD30 Discriminates Heat Shock Protein 60-Induced FOXP3+CD4+ T Cells with a Regulatory Phenotype. <u>J Immunol. 185(4):2071-9.</u>

19. Garbe, K. *et al.* (2012) Plasmacytoid dendritic cells and their Toll-like receptor 9 expression selectively decrease with age. <u>Hum Immunol. 73 (5): 493-7.</u>

20. Komori, H. *et al.* (2012) α (1)-Acid glycoprotein up-regulates CD163 via TLR4/CD14 protein pathway: possible protection against hemolysis-induced oxidative stress. J Biol Chem. 287 (36): 30688-700.

21. Prokhorenko, I. *et al.* (2012) Toll-like receptor 4 in phagocytosis of Escherichia coli by endotoxin-activated human neutrophils in whole blood <u>Crit Care 16 (Suppl 3), P80</u>

22. Sels, J.W. *et al.* (2012) Fractional flow reserve is not associated with inflammatory markers in patients with stable coronary artery disease. <u>PLoS One. 7: e46356.</u>

23. Maiolini, A. *et al.* (2012) Toll-like receptors 4 and 9 are responsible for the maintenance of the inflammatory reaction in canine steroid-responsive meningitis-arteritis, a large animal model for neutrophilic meningitis. <u>J Neuroinflammation</u>. 9: 226.

24. Kyrova, K. et al. (2014) The response of porcine monocyte derived macrophages and

	 dendritic cells to <i>Salmonella typhimurium</i> and lipopolysaccharide. <u>BMC Vet Res. 10: 244.</u> 25. Zwolak, A. <i>et al.</i> (2015) Hyperreactivity of Blood Leukocytes in Patients with NAFLD to <i>ex vivo</i> Lipopolysaccharide Treatment Is Modulated by Metformin and Phosphatidylcholine but Not by Alpha Ketoglutarate. <u>PLoS One. 10 (12): e0143851.</u> 26. Xu, H. <i>et al.</i> (2015) Type 3 innate lymphoid cell depletion is mediated by TLRs in lymphoid tissues of simian immunodeficiency virus-infected macaques. <u>FASEB J. 29 (12): 5072-80.</u> 27. Blagitz, M,G. <i>et al.</i> (2015) Expression of CD14 and toll-like receptors 2 and 4 by milk neutrophils in bovine mammary glands infected with <i>Corynebacterium bovis</i> <u>Pesquisa</u> <u>Veterinária Brasileira. 35 (1): 1-5.</u> 28. Mazzucchelli, I. <i>et al.</i> (2015) Expression and function of toll-like receptors in human circulating endothelial colony forming cells. <u>Immunol Lett. 168 (1): 98-104.</u> 29. Zwolak, A. <i>et al.</i> (2016) Metformin Changes the Relationship between Blood Monocyte Toll-Like Receptor 4 Levels and Nonalcoholic Fatty Liver Disease-<i>Ex Vivo</i> Studies. <u>PLoS One. 11 (3): e0150233.</u> 30. Huang, D. <i>et al.</i> (2016) Hyperoxia induces inflammation and regulates cytokine production in alveolar epithelium through TLR2/4-NF-kB-dependent mechanism <u>Eur Rev Med Pharmacol Sci. 20: 1399-410.</u> 31. Reineking, W. <i>et al.</i> (2018) Canine primary jejunal and colonic epithelial cells predominantly express TLR5 and TLR9 but do not change TLR expression pattern after stimulation with certain Toll-like receptor ligands. <u>Vet Immunol Immunopathol. 206: 16-24.</u>
	32. Awuah, D. et al. (2019) The Cross-Talk between miR-511-3p and C-Type Lectin
	Receptors on Dendritic Cells Affects Dendritic Cell Function. J Immunol. 203 (1): 148-57.
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.
	Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.
Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA2061B 10041
Regulatory	For research purposes only

Related Products

Recommended Useful Reagents

HUMAN SEROBLOCK (BUF070A) HUMAN SEROBLOCK (BUF070B)

North & South	Tel: +1 800 265 7376	Worldwide	Tel: +44 (0)1865 852 700	Europe	Tel: +49 (0) 89 8090 95 21
America	Fax: +1 919 878 3751		Fax: +44 (0)1865 852 739		Fax: +49 (0) 89 8090 95 50
	Email: antibody_sales_us@bio-ra	d.com	Email: antibody_sales_uk@bio-ra	d.com	Email: antibody_sales_de@bio-rad.com

Printed on 20 Mar 2024

© 2024 Bio-Rad Laboratories Inc | Legal | Imprint