

Datasheet: MCA2061PE

BATCH NUMBER 0712

Description:	MOUSE ANTI HUMAN CD284:RPE
Specificity:	CD284
Other names:	TLR4
Format:	RPE
Product Type:	Monoclonal Antibody
	,
Clone:	HTA125
Clone: Isotype:	•
	HTA125

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.biorad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	-			Neat

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	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 conjugat	ted to R. Phycoerythrin	(RPE) - lyophilized	
Reconstitution	Reconstitute with 1.0	ml distilled water		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)	
	RPE 488nm laser	496	578	

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
	5% Sucrose
Immunogen	Ba/F3 cell line expressing TLR4 (CD284).
External Database	
Links	UniProt:
	O00206 Related reagents
	Entrez Gene:
	7099 TLR4 Related reagents
RRID	AB_323899
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 10ul of the suggested working dilution to label 10 ⁶ cells or 100ul whole blood.
References	1. 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.
	2. Jiang, Q. <i>et al.</i> (2000) Lipopolysaccharide induces physical proximity between CD14
	and toll-like receptor 4 (TLR4) prior to nuclear translocation of NF-kappa B. <u>J Immunol.</u>
	<u>165 (7): 3541-4.</u>
	3. Yang, S. et al. (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.
	4. 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. <u>Infect Immun. 69</u>

(7): 4382-9.

- 5. Devaney, J.M. (2003) Neutrophil elastase up-regulates interleukin-8 via toll-like receptor
- 4. FEBS Lett. 544:129-32.
- 6. de Kleer, I. (2010) CD30 Discriminates Heat Shock Protein 60-Induced FOXP3+CD4+ T Cells with a Regulatory Phenotype. <u>J Immunol</u>. 185(4):2071-9.
- 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. 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>
- 9. Baumgarten, G. *et al.* (2001) *In vivo* expression of proinflammatory mediators in the adult heart after endotoxin administration: the role of toll-like receptor-4. <u>J Infect Dis. 183:</u> 1617-24.
- 10. 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.
- 11. 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>
- 12. 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.
- 13. 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.
- 14. Sugawara, S. *et al.* (2000) Proteolysis of human monocyte CD14 by cysteine proteinases (gingipains) from *Porphyromonas gingivalis* leading to lipopolysaccharide hyporesponsiveness. J Immunol. 165: 411-8.
- 15. 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>
- 16. Komori, H. *et al.* (2012) α (1)-Acid glycoprotein up-regulates CD163 via TLR4/CD14 protein pathway: possible protection against hemolysis-induced oxidative stress. <u>J Biol Chem.</u> 287 (36): 30688-700.
- 17. 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.
- 18. 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>
- 19. Prokhorenko, I. *et al.* (2012) Toll-like receptor 4 in phagocytosis of Escherichia coli by endotoxin-activated human neutrophils in whole blood <u>Critical Care 16: P80</u>
- 20. Mazzucchelli, I. *et al.* (2015) Expression and function of toll-like receptors in human circulating endothelial colony forming cells. <u>Immunol Lett. 168 (1): 98-104.</u>
- 21. Garbe, K. *et al.* (2012) Plasmacytoid dendritic cells and their Toll-like receptor 9 expression selectively decrease with age. Hum Immunol. 73 (5): 493-7.
- 22. Zwolak, A. *et al.* (2016) Metformin Changes the Relationship between Blood Monocyte Toll-Like Receptor 4 Levels and Nonalcoholic Fatty Liver Disease-*Ex Vivo* Studies. <u>PLoS One. 11 (3): e0150233.</u>
- 23. Zwolak, A. et al. (2015) Hyperreactivity of Blood Leukocytes in Patients with NAFLD to

ex vivo Lipopolysaccharide Treatment Is Modulated by Metformin and Phosphatidylcholine but Not by Alpha Ketoglutarate. PLoS One. 10 (12): e0143851.

- 24. Xu, H. *et al.* (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):</u> 5072-80.
- 25. Blagitz, M,G. *et al.* (2015) Expression of CD14 and toll-like receptors 2 and 4 by milk neutrophils in bovine mammary glands infected with *Corynebacterium bovis* Pesquisa Veterinária Brasileira. 35 (1): 1-5.
- 26. Huang, D. *et al.* (2016) Hyperoxia induces inflammation and regulates cytokine production in alveolar epithelium through TLR2/4-NF-κB-dependent mechanism <u>Eur Rev Med Pharmacol Sci.</u> 20: 1399-410.
- 27. Kyrova, K. *et al.* (2014) The response of porcine monocyte derived macrophages and dendritic cells to *Salmonella typhimurium* and lipopolysaccharide. <u>BMC Vet Res. 10: 244.</u>
 28. 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. Vet Res. 39 (2): 11.
- 29. 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>

 30. Finer S.G. *et al.* (2005) TI R4 mediates human retinal pigment epithelial endotoxin
- 30. 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>
- 31. Reineking, W. *et al.* (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. <u>J Immunol</u>. 203 (1): 148-57.

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.

Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #20487 available at: https://www.bio-rad-antibodies.com/SDS/MCA2061PE 20487
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG2a NEGATIVE CONTROL:RPE (MCA929PE)

Recommended Useful Reagents

<u>HUMAN SEROBLOCK (BUF070A)</u> <u>HUMAN SEROBLOCK (BUF070B)</u>

 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

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets 'M375412:210104'

Printed on 29 Apr 2024

© 2024 Bio-Rad Laboratories Inc | Legal | Imprint