

Datasheet: MCA2061PE

BATCH NUMBER 157598

Description:	MOUSE ANTI HUMAN CD284:RPE
Specificity:	CD284
Other names:	TLR4
Format:	RPE
Product Type:	Monoclonal Antibody
Clone:	HTA125
Isotype:	IgG2a
Quantity:	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.

	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 conjugated 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 A 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. *et al.* (1999) MD-2, a molecule that confers lipopolysaccharide responsiveness on Toll-like receptor 4. [J Exp Med. 189 \(11\): 1777-82.](#)
2. Jiang, Q. *et al.* (2000) Lipopolysaccharide induces physical proximity between CD14 and toll-like receptor 4 (TLR4) prior to nuclear translocation of NF-kappa B. [J Immunol. 165 \(7\): 3541-4.](#)
3. Yang, S. *et al.* (2001) Synergistic effect of muramyl dipeptide with lipopolysaccharide or lipoteichoic acid to induce inflammatory cytokines in human monocytic cells in culture. [Infect Immun. 69 \(4\): 2045-53.](#)
4. Kawahara T *et al.* (2001) Type I *Helicobacter pylori* lipopolysaccharide stimulates toll-like receptor 4 and activates mitogen oxidase 1 in gastric pit cells. [Infect Immun. 69](#)

[\(7\): 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. [J Immunol. 185\(4\):2071-9.](#)
7. Bieback, K. *et al.* (2002) Hemagglutinin protein of wild-type measles virus activates toll-like receptor 2 signaling. [J Virol. 76: 8729-36.](#)
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. [Infect Immun. 77: 1144-54.](#)
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. [J Infect Dis. 183: 1617-24.](#)
10. Cuschieri, J. *et al.* (2006) Endotoxin tolerance attenuates LPS-induced TLR4 mobilization to lipid rafts: a condition reversed by PKC activation. [J Leukoc Biol. 80: 1289-97.](#)
11. Karlsson, H. *et al.* (2002) Innate immune responses of human neonatal cells to bacteria from the normal gastrointestinal flora. [Infect Immun. 70: 6688-96.](#)
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. [J Immunol. 179: 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. [Gut. 55: 348-55.](#)
16. Komori, H. *et al.* (2012) $\alpha(1)$ -Acid glycoprotein up-regulates CD163 via TLR4/CD14 protein pathway: possible protection against hemolysis-induced oxidative stress. [J Biol Chem. 287 \(36\): 30688-700.](#)
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. [J Neuroinflammation. 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. [PLoS One. 7: e46356.](#)
19. Prokhorenko, I. *et al.* (2012) Toll-like receptor 4 in phagocytosis of Escherichia coli by endotoxin-activated human neutrophils in whole blood [Critical Care 16: P80](#)
20. Mazzucchelli, I. *et al.* (2015) Expression and function of toll-like receptors in human circulating endothelial colony forming cells. [Immunol Lett. 168 \(1\): 98-104.](#)
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. [PLoS One. 11 \(3\): e0150233.](#)
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. [FASEB J. 29 \(12\): 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 [Eur Rev Med Pharmacol Sci. 20: 1399-410.](#)

27. Kyrova, K. *et al.* (2014) The response of porcine monocyte derived macrophages and dendritic cells to *Salmonella typhimurium* and lipopolysaccharide. [BMC Vet Res. 10: 244.](#)

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. [Clin Cancer Res. 14 \(10\): 2909-17.](#)

30. Elner, S.G. *et al.* (2005) TLR4 mediates human retinal pigment epithelial endotoxin binding and cytokine expression. [Invest Ophthalmol Vis Sci. 46 \(12\): 4627-33.](#)

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. [Vet Immunol Immunopathol. 206: 16-24.](#)

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

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

[HUMAN SEROBLOCK \(BUF070A\)](#)

[HUMAN SEROBLOCK \(BUF070B\)](#)

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