Datasheet: MCA2061GA

BATCH NUMBER 161565

Description:	MOUSE ANTI HUMAN CD284
Specificity:	CD284
Other names:	TLR4
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	HTA125
Isotype:	IgG2a
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 www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			1/10 - 1/50
Immunohistology - Frozen			▪	
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting			▪	
Immunofluorescence			▪	

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 - liquid

Preparation	Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	0.09% Sodium Azide
Carrier Free	Yes
Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
Immunogen	Ba/F3 cell line expressing TLR4 (CD284).
External Database Links	**UniProt:** O00206 Related reagents **Entrez Gene:** 7099 TLR4 Related reagents
RRID	AB_323818
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 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 *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) 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.
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	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 #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA2061GA 10040
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG IgA IgM (STAR87...)	HRP
Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG (STAR70...)	FITC
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos., DyLight®488, DyLight®550, DyLight®650, DyLight®680, DyLight®800, FITC, HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC, HRP
Rabbit Anti Mouse IgG (STAR13...)	HRP

Recommended Negative Controls

MOUSE IgG2a NEGATIVE CONTROL (MCA929)

North & South America Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com

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Europe Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com

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