

Datasheet: MCA2061GA

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 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	<p>Reacts with: Rhesus Monkey, Guinea Pig, Pig, Dog, Bovine</p> <p>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.</p>
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 (NaN₃)

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 10µl of the suggested working dilution to label 10⁶ cells or 100µl 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. 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.](#)
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. 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.](#)
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. [J Virol. 76: 8729-36.](#)
8. Karlsson, H. *et al.* (2002) Innate immune responses of human neonatal cells to bacteria from the normal gastrointestinal flora. [Infect Immun. 70: 6688-96.](#)
9. Devaney, J.M. (2003) Neutrophil elastase up-regulates interleukin-8 via toll-like receptor 4. [FEBS Lett. 544:129-32.](#)
10. Elnor, S.G. *et al.* (2005) TLR4 mediates human retinal pigment epithelial endotoxin binding and cytokine expression. [Invest Ophthalmol Vis Sci. 46 \(12\): 4627-33.](#)
11. 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.](#)
12. Lindsay, J.O. *et al.* (2006) Clinical, microbiological, and immunological effects of fructo-oligosaccharide in patients with Crohn's disease. [Gut. 55: 348-55.](#)
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. [J Immunol. 179: 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. [Vet Res. 39 \(2\): 11.](#)
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. [Clin Cancer Res. 14 \(10\): 2909-17.](#)
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. [Infect Immun. 77: 1144-54.](#)
18. 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.](#)
19. 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.](#)
20. 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.](#)
21. Prokhorenko, I. *et al.* (2012) Toll-like receptor 4 in phagocytosis of *Escherichia coli* by endotoxin-activated human neutrophils in whole blood [Crit Care 16 \(Suppl 3\), P80](#)

22. 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.](#)
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. [J Neuroinflammation. 9: 226.](#)
24. 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.](#)
25. 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.](#)
26. 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.](#)
27. 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.](#)
28. 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.](#)
29. 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.](#)
30. Huang, D. *et al.* (2016) Hyperoxia induces inflammation and regulates cytokine production in alveolar epithelium through TLR2/4-NF- κ B-dependent mechanism [Eur Rev Med Pharmacol Sci. 20: 1399-410.](#)
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

Goat Anti Mouse IgG (STAR77...)	HRP
Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG (STAR70...)	FITC
Goat Anti Mouse IgG IgA IgM (STAR87...)	Alk. Phos. , HRP
Goat Anti Mouse IgG (STAR76...)	RPE
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 (STAR13...)	HRP
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC , HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC

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	Worldwide	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com	Europe	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com
----------------------------------	---	------------------	---	---------------	---

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

'M412679:221115'

Printed on 19 Jun 2024