

Datasheet: MCA2061A647T

**BATCH NUMBER 151524**

<b>Description:</b>	MOUSE ANTI HUMAN CD284:Alexa Fluor® 647
<b>Specificity:</b>	CD284
<b>Other names:</b>	TLR4
<b>Format:</b>	ALEXA FLUOR® 647
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	HTA125
<b>Isotype:</b>	IgG2a
<b>Quantity:</b>	25 TESTS/0.25ml

## 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](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			Neat - 1/5

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 <b>N.B.</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	Ig Fraction conjugated to Alexa Fluor® 647 - liquid								
Max Ex/Em	<table><tr><th>Fluorophore</th><th>Excitation Max (nm)</th><th>Emission Max (nm)</th></tr><tr><td>Alexa Fluor®647</td><td>650</td><td>665</td></tr></table>	Fluorophore	Excitation Max (nm)	Emission Max (nm)	Alexa Fluor®647	650	665		
Fluorophore	Excitation Max (nm)	Emission Max (nm)							
Alexa Fluor®647	650	665							
Preparation	Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant								

<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	0.09% Sodium Azide 1% Bovine Serum Albumin
<b>Approx. Protein Concentrations</b>	IgG concentration 0.05 mg/ml
<b>Immunogen</b>	Ba/F3 cell line expressing TLR4 (CD284).
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">O00206</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">7099</a>    TLR4    <a href="#">Related reagents</a></p>
<b>RRID</b>	AB_1101750
<b>Fusion Partners</b>	Spleen cells from immunised Balb/c mice were fused with cells of the mouse SP2/0 myeloma cell line.
<b>Specificity</b>	<p><b>Mouse anti Human CD284 antibody, clone HTA125</b> recognizes the human Toll like receptor 4 (TLR4) cell surface antigen.</p> <p>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.</p> <p>TLR4 is weakly expressed by resting cells, but is upregulated following stimulation with LPS.</p> <p>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 (<a href="#">MCA2061EL</a> ) is recommended for functional assays.</p>
<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label 10 <sup>6</sup> cells or 100ul whole blood.
<b>References</b>	<ol style="list-style-type: none"> <li>1. Shimazu, R. <i>et al.</i> (1999) MD-2, a molecule that confers lipopolysaccharide responsiveness on Toll-like receptor 4. <a href="#">J Exp Med. 189 (11): 1777-82.</a></li> <li>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. <a href="#">J Immunol. 165 (7): 3541-4.</a></li> <li>3. Yang, S. <i>et al.</i> (2001) Synergistic effect of muramyl dipeptide with lipopolysaccharide or lipoteichoic acid to induce inflammatory cytokines in human monocytic cells in culture. <a href="#">Infect Immun. 69 (4): 2045-53.</a></li> <li>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. <a href="#">Infect Immun. 69</a></li> </ol>

[\(7\): 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.](#)

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**Storage**

Store at +4°C or at -20°C if preferred.

This product should be stored undiluted.

Storage in frost free freezers is not recommended. This product is photosensitive and should be protected from light.

Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

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**Guarantee**

12 months from date of despatch

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**Acknowledgements**

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**Health And Safety Information**

Material Safety Datasheet documentation #10041 available at: <https://www.bio-rad-antibodies.com/SDS/MCA2061A647T>  
10041

## Related Products

### Recommended Negative Controls

[MOUSE IgG2a NEGATIVE CONTROL:Alexa Fluor® 647 \(MCA929A647\)](#)

### Recommended Useful Reagents

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

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

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