

Purified anti-mouse TLR4 (CD284)/MD2 Complex Antibody

Catalog# / Size	117601 / 50 µg 117602 / 200 µg
Clone	MTS510
Regulatory Status	RUO
Other Names	Toll-like Receptor 4/MD2 complex, TLR4-MD2-complex, TLR4/MD2, CD284/MD2
Isotype	Rat IgG2a, κ
Description	Toll-like receptors are highly conserved from Drosophila to humans and share structural and functional similarities. They are type I transmembrane signaling receptors which activate the innate immune system in response to pathogen invasion. So far, at least 13 TLR members have been identified. The secretory protein, MD2, associates with cell-surface bound TLR4 (CD284) on monocytes, B cells and T cells. TLR4 has been recognized as critical for host recognition of bacterial LPS in conjunction with MD2.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Ba/F3 cell line transfected with mouse TLR4 /MD2 complex
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography.
Concentration	0.5 mg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C.
Application	FC - Quality tested IHC-P, WB - Verified ICFC, IP - Reported in the literature, not verified in house
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis . For flow cytometric staining, the suggested use of this reagent is ≤ 1.0 µg per million cells in 100 µL volume. For Western blotting, the suggested use of this reagent is 1.0 - 5.0 µg per mL. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	Anti-mouse TLR4 clones SA15-21 and MTS510 recognize distinct epitopes and don't cross block each other. ⁸ Clone MTS510 binds to an epitope of TLR4/MD-2 that is lost after LPS stimulation. ⁸ In addition to flow cytometric uses, the MTS510 antibody has also been used for immunoprecipitation, immunofluorescence, and blocking of LPS-induced stimulation. The LEAF™ purified antibody (Endotoxin <0.1 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 117607). For highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 117612) with a lower endotoxin limit than standard LEAF™ purified antibodies (Endotoxin <0.01 EU/µg).
Application References	<ol style="list-style-type: none"> 1. Akashi S, <i>et al.</i> 2000. <i>J. Immunol.</i> 164:3471. (FC, ICFC, IP, Block) 2. Kawasaki K, <i>et al.</i> 2003. <i>J. Immunol.</i> 170:413. (FC) 3. Nalbandian G, <i>et al.</i> 2005. <i>J. Immunol.</i> 175:2666. (FC) PubMed 4. Kanada S, <i>et al.</i> 2011. <i>Blood</i> 117:2211. PubMed 5. Laplate P, <i>et al.</i> 2011. <i>J. Biol Chem.</i> 286:42494. PubMed 6. Khan MA, <i>et al.</i> 2006. <i>Infect. Immun.</i> 74:2522. (IF) 7. Tanigawa T, <i>et al.</i> 2013. <i>Innate Immun.</i> 19:115. PubMed 8. Akashi S, <i>et al.</i> 2003. <i>J. Exp. Med.</i> 198:1035.
Product Citations	<ol style="list-style-type: none"> 1. Ricci-Azevedo R, <i>et al.</i> 2021. <i>Front Immunol.</i> 12:655371. PubMed

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13. Sheng K, *et al.* 2008. J Immunol. 181:2455. [PubMed](#)

RRID AB_313788 (BioLegend Cat. No. 117601)
 AB_313789 (BioLegend Cat. No. 117602)

Antigen Details

Structure	Type I transmembrane protein complex
Distribution	Monocytes, B cells and T cells
Function	Activates the innate immune system against Gram-negative bacterial pathogens by recognition of LPS
Ligand/Receptor	Bacterial LPS
Cell Type	B cells, Dendritic cells, Monocytes, T cells, Tregs
Biology Area	Immunology, Innate Immunity
Molecular Family	CD Molecules, Toll Like Receptors
Antigen References	1. Frleta D, <i>et al.</i> 2003. <i>J. Leukocyte Biol.</i> 74:1064.
Gene ID	21898

Related Protocols

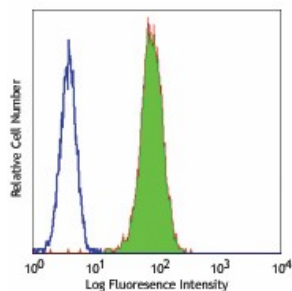
[Cell Surface Flow Cytometry Staining Protocol](#)

[Western Blotting Protocol](#)

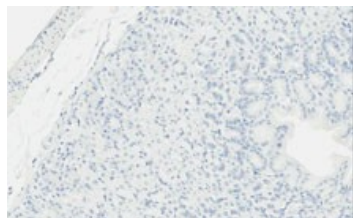
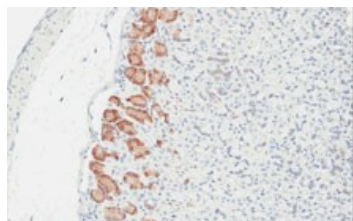
Other Formats

Purified anti-mouse TLR4 (CD284)/MD2 Complex, Biotin anti-mouse TLR4 (CD284)/MD2 Complex, PE anti-mouse TLR4 (CD284)/MD2 Complex, PE/Cyanine7 anti-mouse TLR4 (CD284)/MD2 Complex, Ultra-LEAF™ Purified anti-mouse TLR4 (CD284)/MD2 Complex, TotalSeq™-A0875 anti-mouse TLR4 (CD284)/MD2 Complex

Product Data

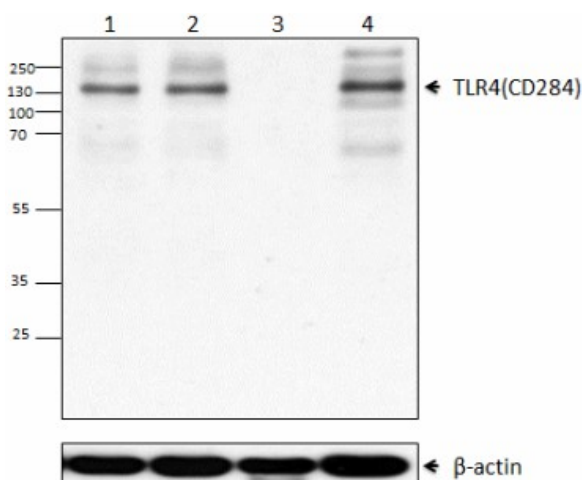


Mouse TLR4/MD2 transfected cells were stained with purified CD284 (clone MTS510) (filled histogram), or purified rat IgG2a, κ (open histogram), followed by anti-rat IgG FITC.



FFPE mouse gut was stained with Purified Anti-Mouse TLR4/MD2 Complex (Cat# 117602) or Purified Rat IgG2a, κ at 1:50 (10 $\mu\text{g}/\text{mL}$) using 10 mM Sodium Citrate Buffer pH 6.0 for antigen retrieval and ABC detection method. Cellular localization: Cell Membrane.
Top: Positive Ctrl: FFPE Mouse Gut, 20X Magnification; **Bottom:** Negative Ctrl: FFPE Mouse Gut, 20X Magnification

FFPE mouse gut was stained with Purified Anti-Mouse TLR4/MD2 Complex (Cat# 117602) or Purified Rat IgG2a, κ at 1:50 (10 $\mu\text{g}/\text{mL}$) using 10 mM Sodium Citrate Buffer pH 6.0 for antigen retrieval and ABC detection method. Cellular localization: Cell Membrane.
Top: Positive Ctrl: FFPE Mouse Gut, 20X Magnification; **Bottom:** Negative Ctrl: FFPE Mouse Gut, 20X Magnification



Western blot analysis of Raw264.7 untreated (lane 1), Raw264.7 starved overnight and treated with 1 $\mu\text{g}/\text{mL}$ lipopolysaccharide (LPS) for one day (lane 2), peripheral blood mononuclear cells (PBMCs) untreated (lane 3), and PBMCs activated with CD3E (clone OKT3) (10 $\mu\text{g}/\text{mL}$ coated on plate)/CD28 (clone CD28.2) (2 $\mu\text{g}/\text{mL}$) antibody for two days using anti-mouse TLR4 (CD284)/MD2 Complex (clone MTS510) antibody followed by HRP goat anti-rat IgG antibody. Purified anti- β -actin (clone Poly6221) antibody was used as loading control.

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