TLR4/MD-2 Complex Monoclonal Antibody (MTS510), eBioscience™

Product Details	
Size	100 µg
Species Reactivity	Mouse
Published Species	Rat, Human, Mouse
Host/Isotype	Rat / IgG2a, kappa
Class	Monoclonal
Type	Antibody
Clone	MTS510
Conjugate	Unconjugated
Form	Liquid
Concentration	0.5 mg/mL
Purification	Affinity chromatography
Storage buffer	PBS, pH 7.2
Contains	0.09% sodium azide
Storage conditions	4° C
RRID	AB_468617

Applications	Tested Dilution	Publications
Western Blot (WB)	-	3 Publications
Immunohistochemistry (IHC)	-	3 Publications
Immunohistochemistry (Frozen) (IHC (F))	Assay-Dependent	1 Publication
Immunocytochemistry (ICC/IF)	-	1 Publication
Flow Cytometry (Flow)	1 µg/test	8 Publications
Immunoprecipitation (IP)	Assay-Dependent	-
Neutralization (Neu)	Assay-Dependent	13 Publications
Functional Assay (FN)	Assay-Dependent	3 Publications
Inhibition Assays (IA)	-	2 Publications

Product Specific Information

Description: The MTS510 monoclonal antibody reacts with the mouse Toll-like receptor 4 (TLR4)/MD-2 complex. At least ten members of the Toll family have been identified. This family of type I transmembrane proteins is characterized by an extracellular domain with leucine-rich repeats and a cytoplasmic domain with homology to the type I IL-1 receptor. Two of these receptors, TLR2 and TLR4, are pattern recognition receptors and signaling molecules in response to bacterial lipoproteins and have been implicated in innate immunity and inflammation. TLR4 physically associates with MD-2, and together with CD14, this complex is responsible for LPS recognition and signaling. In the mouse, TLR4 is expressed by thioglycolate-elicited peritoneal macrophages. Incubation of peritoneal macrophages with LPS results in down regulation of surface TLR4/MD-2. The TLR4 gene is defective in C3H/HeJ and C57BL/10ScCr mice, both of which have been well characterized as hyporesponders to LPS.

The MTS510 monoclonal antibody co-immunoprecipitates MD-2 (~30 kDa) and TLR4 (~100 kDa), and preferentially reacts with TLR4 that is associated with MD-2. In comparison, binding of the UT41 monoclonal antibody occurs with and without formation of the TLR4/MD-2 complex. Please contact eBioscience Technical Support for further information.

Applications Reported: This MTS510 antibody has been reported for use in flow cytometric analysis, immunoprecipitation, immunohistology staining of frozen tissue sections and inhibition of LPS-induced cytokine production. (Please use Functional Grade purified MTS510, cat. 16-9924, in functional assays.).

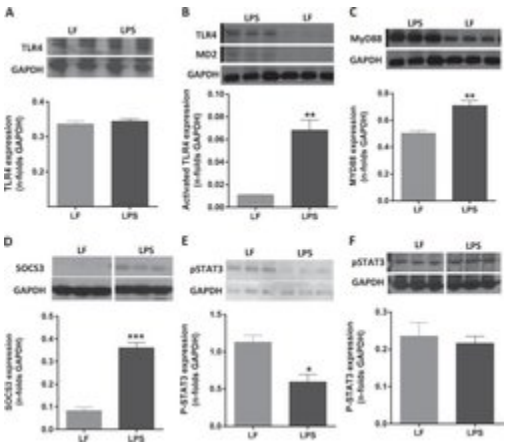
Applications Tested: The MTS510 antibody has been tested by flow cytometric analysis of mouse thioglycolate-elicited peritoneal exudate cells. This can be used at less than or equal to 1 µg per test. A test is defined as the amount (µg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10^5 to 10^8 cells/test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

Purity: Greater than 90%, as determined by SDS-PAGE.

Aggregation: Less than 10%, as determined by HPLC.

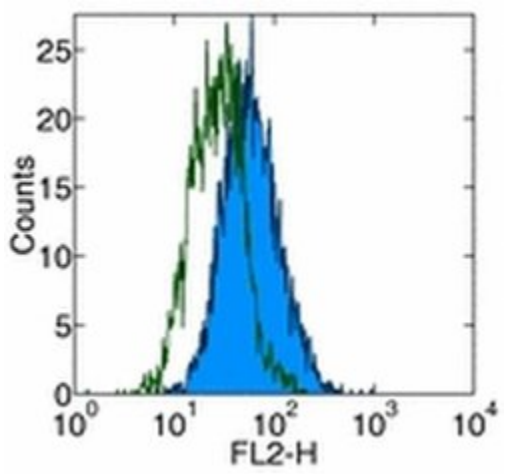
Filtration: 0.2 µm post-manufacturing filtered.

Advanced Verification Data



TLR4/MD-2 Complex Antibody (14-9924-82)
Fig. 3 Chronic low-dose LPS treatment induces leptin resistance in VAN. Western blot analysis was performed in nodose ganglia of rats (A-E) and arcuate nucleus of the hypothalamus (F) after 6 weeks of LPS treatment. (A) TLR4 protein expression was unchanged in nodose ganglia; however (B) nodose ganglia of LPS rats had significantly increased active TLR4 bound to MD2 ($p < 0.01$). (C) MyD88, a downstream signaling molecule of TLR4 was also elevated in nodose ganglia of LPS-treated rats ($p < 0.01$). Results from (B) and (C) were gathered from the same immunoblot. (D) SOCS3 was elevated in the nodose ganglia of LPS-treated rats ($p < 0.001$), and this was associated with (E) a decreased expression of leptin (80ug/kg, ip)-induced phosphorylated STAT-3 protein expression ($p < 0.05$). However, (F) no change in leptin (80ug/kg, ip)-induced phosphorylated STAT-3 protein expression in the arcuate nucleus of the hypothalamus was observed in LPS-treated rats. GAPDH was used as a loading control. Data are mean +- SEM* represents $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Cell treatment validation info.

Product Images For TLR4/MD-2 Complex Monoclonal Antibody (MTS510), eBioscience™



TLR4/MD-2 Complex Antibody (14-9924-82) in Flow
Staining of thioglycolate-induced peritoneal exudate cells (PECs) with Anti-Mouse TLR4/MD-2 Complex PE.Appropriate isotype controls were used (open histogram). Cells in the large scatter population were used for analysis.

View more figures on thermofisher.com

34 References

Western Blot (3)

Physiology & behavior

Chronic exposure to low dose bacterial lipopolysaccharide inhibits leptin signaling in vagal afferent neurons.

Authors: de La Serre CB,de Lartigue G,Raybould HE

Species
Rat

Dilution
Not Cited

Year
2015

PloS one

Toll-like receptor 4 mediates inflammatory cytokine secretion in smooth muscle cells induced by oxidized low-density lipoprotein.

"Published figure using TLR4/MD-2 Complex monoclonal antibody (Product # 14-9924-82) in Western Blot"

Authors: Yang K,Zhang XJ,Cao LJ,Liu XH,Liu ZH,Wang XQ,Chen QJ,Lu L,Shen WF,Liu Y

Species
Not Applicable

Dilution
Not Cited

Year
2015

View more WB references on thermofisher.com

Immunohistochemistry (3)

EMBO molecular medicine

Identification of a novel mechanism of blood-brain communication during peripheral inflammation via choroid plexus-derived extracellular vesicles.

"Published figure using TLR4/MD-2 Complex monoclonal antibody (Product # 14-9924-82) in Immunofluorescence"

Authors: Balusu S,Van Wonterghem E,De Rycke R,Raemdonck K,Stremersch S,Gevaert K,Brkic M,Demeestere D, Vanhooren V,Hendrix A,Libert C,Vandenbroucke RE

Species
Not Applicable

Dilution
Not Cited

Year
2016

Physiology & behavior

Chronic exposure to low dose bacterial lipopolysaccharide inhibits leptin signaling in vagal afferent neurons.

Authors: de La Serre CB,de Lartigue G,Raybould HE

Species
Rat

Dilution
Not Cited

Year
2015

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More applications with references on thermofisher.com

IHC (F) (1) ICC/IF (1) Flow (8) Neu (13) FN (3) IA (2)