

## Technical Data Sheet

## Purified NA/LE Rat Anti-Mouse CD284/MD-2 Complex

## Product Information

<b>Material Number:</b>	562221
<b>Alternate Name:</b>	TLR4/MD-2 Complex
<b>Size:</b>	0.5 mg
<b>Concentration:</b>	1.0 mg/ml
<b>Clone:</b>	MTS510
<b>Immunogen:</b>	Mouse Pro-B cell line Ba/F3 expressing transfected BALB/c mouse TLR4 and MD-2
<b>Isotype:</b>	Rat IgG2a, $\kappa$
<b>Reactivity:</b>	QC Testing: Mouse
<b>Storage Buffer:</b>	No azide/low endotoxin: Aqueous buffered solution containing no preservative, 0.2 $\mu$ m sterile filtered. Endotoxin level is $\leq 0.01$ EU/ $\mu$ g ( $\leq 0.001$ ng/ $\mu$ g) of protein as determined by the LAL assay.

## Description

The MTS510 antibody reacts with the molecular complex of Toll-Like Receptor 4 and MD-2 (TLR4-MD-2) which is expressed on LPS responsive macrophages. TLR4, a member of the Toll-Like Receptor Family, has been renamed CD284 and identified to be the transmembrane signal-transducing portion of the receptor for LPS. TLR4 associates on the cell surface with CD14 and MD-2, a 0.7 kDa molecule which is anchored to the membrane via its physical association with TLR4. The association of MD-2 with TLR4 is required for recognition of LPS and the anti-mitotic compound Taxol, which mimics the action of LPS on mouse cells. MTS510 mAb detects TLR4-MD-2 on the surface of thioglycollate-elicited macrophages from all mouse strains tested (ie, BALB/c, C57BL/6, C3H/HeJ, C3H/HeN, and DBA/1), including the C3H/HeJ strain which expresses an LPS-resistant mutant TLR4. Expression of TLR4-MD-2 is down-regulated on peritoneal macrophages after exposure to LPS, correlating with the occurrence of LPS tolerance. TLR4-MD-2 is not detected on splenocytes or thymocytes.

## Preparation and Storage

Store undiluted at 4°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

This preparation contains no preservatives, thus it should be handled under aseptic conditions.

## Application Notes

## Application

Flow cytometry	Routinely Tested
Inhibition	Reported
Immunoprecipitation	Reported

## Suggested Companion Products

Catalog Number	Name	Size	Clone
555840	Purified NA/LE Rat IgG2a, $\kappa$ Isotype Control	0.5 mg	R35-95
553894	Biotin Mouse Anti-Rat IgG2a	0.5 mg	RG7/1.30
554061	PE Streptavidin	0.5 mg	(none)
558293	Purified Rat Anti-Mouse CD284/MD-2 Complex	0.1 mg	MTS510
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2

## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Please refer to [www.bdbiosciences.com/pharmingen/protocols](http://www.bdbiosciences.com/pharmingen/protocols) for technical protocols.

## References

Akashi S, Saitoh S, Wakabayashi Y, et al. Lipopolysaccharide interaction with cell surface Toll-like receptor 4-MD-2: higher affinity than that with MD-2 or CD14. *J Exp Med.* 2003; 198(7):1035-1042. (Clone-specific: Flow cytometry, Immunoprecipitation, Inhibition)  
 Akashi S, Shimazu R, Ogata H, et al. Cutting edge: cell surface expression and lipopolysaccharide signaling via the toll-like receptor 4-MD-2 complex on mouse peritoneal macrophages. *J Immunol.* 2000; 164(7):3471-3475. (Immunogen: Flow cytometry, Immunoprecipitation, Inhibition)  
 Beutler B, Poltorak A. The sole gateway to endotoxin response: how LPS was identified as Tlr4, and its role in innate immunity. *Drug Metab Dispos.* 2001; 29(4):474-478. (Biology)

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Kawasaki K, Nogawa H, Nishijima M. Identification of mouse MD-2 residues important for forming the cell surface TLR4-MD-2 complex recognized by anti-TLR4-MD-2 antibodies, and for conferring LPS and taxol responsiveness on mouse TLR4 by alanine-scanning mutagenesis. *J Immunol.* 2003; 170(1):413-420. (Biology)

Nomura F, Akashi S, Sakao Y, et al. Cutting edge: endotoxin tolerance in mouse peritoneal macrophages correlates with down-regulation of surface toll-like receptor 4 expression. *J Immunol.* 2000; 164(7):3476-3479. (Immunogen: Flow cytometry, Inhibition)

Shimazu R, Akashi S, Ogata H, et al. MD-2, a molecule that confers lipopolysaccharide responsiveness on Toll-like receptor 4.. *J Exp Med.* 1999; 189(11):1777-1782. (Biology)

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