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10-3520: Monoclonal Antibody to human TLR4/MD-2 (Clone : 18H10)(Discontinued)

Clonality :	Monoclonal
Clone Name :	18H10
Application :	Functional Assay,FACS
Reactivity :	Human
Gene :	LY96
Gene ID :	23643
Uniprot ID :	Q9Y6Y9
Format :	Purified
Alternative Name :	Lymphocyte antigen 96, ESOP-1, LY96
Isotype :	Mouse IgG2b
Immunogen Information :	TLR4/MD-2 expressing CHO cells/ chimeric TLR4/MD-2 fusion protein

Description

The monoclonal antibody 10-3520 reacts with MD-2, an accessory molecule of the Toll-like receptor 4 (TLR4, CD284). TLRs belong to a family of proteins that specifically recognizes and senses microbial products. They are highly conserved throughout evolution and act as innate immune recognition receptors against many pathogens. TLR4 is a functional receptor for gram-negative bacterial lipopolysaccharides (LPS). TLR4 associates with MD-2 which is absolutely required for LPS-induced activation of TLR4. MD-2 exists as a cell surface protein in association with TLR4. It also exists as secreted forms consisting of MD-2 monomers and multimers (sMD-2). Circulating sMD-2 is mainly present as a doublet of ~20 and 25 kD, representing differentially glycosylated forms. Unlike TLR4, sMD-2 binds directly LPS without the need of soluble CD14 (sCD14). However, LPS-MD-2 interactions are increased when LPS is pretreated with CD14. Only monomeric sMD-2 is biologically active and able to associate with TLR4 and LPS. sMD-2 circulates in plasma of healthy individuals as a non-active, polymeric protein. In septic plasma, the total amount of sMD-2 was strongly elevated and contained both sMD-2 polymers and monomers. Soluble MD-2 is proposed to be an important mediator of organ inflammation during sepsis. During experimental human endotoxemia, the monomeric and total sMD-2 content in plasma increased with the kinetics of an acute phase protein. This parallels enhanced TLR4 costimulatory activity. In vitro studies revealed that sMD-2 release appears to be restricted to endothelial and dendritic cells. The monoclonal antibody 18H10 reacts with MD-2. However, it does not react with sMD-2. In addition, the monoclonal antibody 18H10 is able to inhibit bacterial binding to MD-2.

Product Info

Amount :	2 (Clone : 18H10)(Discontinued) / 500 µg
Content :	0.5 mg, 0.2 µm filtered antibody solution in PBS, containing 0.1% bovine serum albumin.
Storage condition :	Product should be stored at 4 °C. Under recommended storage conditions, product is stable for one year.

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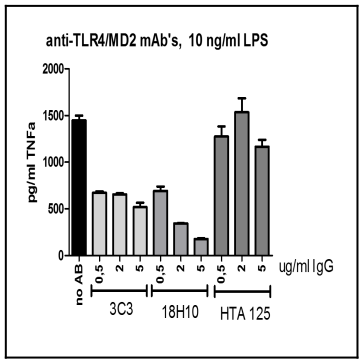


Figure-1: Functional study of human TLR4/MD-2 antibody (10-3520) on TNF production in a whole blood model upon treatment with LPS 10 ng/ml.

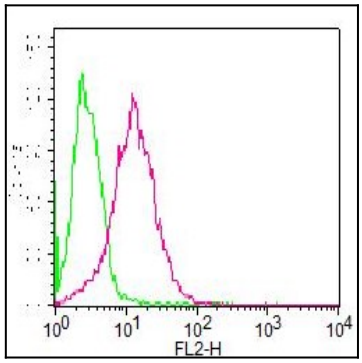


Figure-2: Cell surface FLOW analysis of Anti-human TLR4/MD2 (10-3520) antibody using TLR4/IL8 Leeporter™ Luciferase reporter HeLa cell line (ABEOMICS, Cat. No. 14-124ACL), which stably expresses human TLR4, MD-2 and CD14 (Refer to Cat. No. 14-124ACL for more information on this reporter cell line). Green represents Isotype control (ABEOMICS, Cat. No. 10-103), Red represents Anti-human TLR4/MD2 antibody (10-3520). 0.5 µg/10^6 cells were used. PE conjugated Goat anti-mouse was used as secondary antibody.

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