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Product datasheet for AM26186FC-N

MD2 (LY96) Mouse Monoclonal Antibody [Clone ID: 4H1]

Product data:

Product Type:	Primary Antibodies
Clone Name:	4H1
Applications:	ELISA, FN, IF, WB
Recommended Dilution:	Functional assays: Inhibits LPS binding to MD-2. Western blot. Immunoflourescence. Typical starting working dilution is 1:50.
Reactivity:	Human
Host:	Mouse
Isotype:	IgG1
Clonality:	Monoclonal
Immunogen:	Baculovirally expressed His-tagged human MD-2
Specificity:	This antibody reacts with both the monomeric and the polymeric form of sMD-2.
Formulation:	PBS Label: FITC State: Liquid 0.2 µm filtered Ig fraction Stabilizer: 1% bovine serum albumin
Concentration:	lot specific
Purification:	Protein G
Conjugation:	FITC
Storage:	Store at 2 - 8 °C.
Stability:	Shelf life: one year from despatch.
Gene Name:	lymphocyte antigen 96
Database Link:	Entrez Gene 23643 Human Q9Y6Y9

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Background:

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. 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.

Synonyms:

Lymphocyte antigen 96, ESOP-1, LY96, ESOP1, MD2