

## 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.<br>Western blot.<br>Immunofluorescence.<br>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<br>Label: FITC<br>State: Liquid 0.2 µm filtered Ig fraction<br>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:        | <a href="#">Entrez Gene 23643 Human Q9Y6Y9</a>   |



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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