

## DESCRIPTION

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human                                                                                                                                 |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human MD-1 in direct ELISAs and Western blots. In Western blots, no cross-reactivity with recombinant mouse MD-1 is observed. |
| <b>Source</b>                                                                                                                                                                                           | Monoclonal Mouse IgG <sub>1</sub> Clone # 153014                                                                                      |
| <b>Purification</b>                                                                                                                                                                                     | Protein A or G purified from hybridoma culture supernatant                                                                            |
| <b>Immunogen</b>                                                                                                                                                                                        | Mouse myeloma cell line NS0-derived recombinant human MD-1<br>Gly21-Ser162<br>Accession # O95711                                      |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 488<br>Excitation Wavelength: 488 nm<br>Emission Wavelength: 515-545 nm                                                   |
| <b>Formulation</b>                                                                                                                                                                                      | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide                                                                          |
| *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |                                                                                                                                       |

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## BACKGROUND

MD-1 is a secreted glycoprotein that is associated with RP105 and is required for efficient RP105 cell surface expression and function (1-4). RP105 is a type I transmembrane glycoprotein with extracellular leucine-rich repeats (LRR) typically found in Toll-like receptor (TLR) family members. However, RP105 has a short cytoplasmic tail and lacks the Toll-IL-1 R (TIR) domain that defines the IL-1 R/TLR superfamily (1-3). RP105 plays an important role in B-cell activation by bacterial lipopolysaccharide (LPS). It is expressed primarily on mature B cells, dendritic cells and macrophages (3).

Human MD-1 cDNA encodes a 162 amino acid (aa) precursor protein with a putative 19 aa signal peptide and two potential N-linked glycosylation sites. It shares 38% and 66% amino acid sequence identity with chicken and mouse MD-1 respectively (1, 2). MD-1 is mainly expressed in spleen, and also detectable in liver, brain, thymus, and kidney. The cell surface RP105/MD-1 complex, in conjunction with TLR4, mediates the innate immune response to LPS in B cells. Activation of the RP105 complex has been shown to protect against apoptosis, induce B-cell proliferation and upregulate B7.2, a co-stimulatory molecule (4, 5). Since MD-1 is also expressed in liver and brain where RP105 is absent, MD-1 may also be associated with other LRR-containing molecules, or have additional functions outside the immune system (5).

## PRODUCT SPECIFIC NOTICES

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