

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Mouse                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects mouse MD-1 in direct ELISAs and Western blots. In direct ELISAs, this antibody shows 100% cross-reactivity with recombinant human (rh) MD-1. In Western blots, this antibody does not cross-react with rhMD-1.                                                      |
| <b>Source</b>             | Monoclonal Rat IgG <sub>2B</sub> Clone # 142004                                                                                                                                                                                                                             |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant mouse MD-1<br>Asp20-Ser162<br>Accession # O88188                                                                                                                                                                            |
| <b>Conjugate</b>          | Alexa Fluor 700<br>Excitation Wavelength: 675-700 nm<br>Emission Wavelength: 723 nm                                                                                                                                                                                         |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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

**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** 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 was originally identified as a *v-myb*-regulated gene from avian myeloleukemia virus-transformed chicken myeloblasts (1). The mouse homologue of chicken MD-1 (also known as lymphocyte antigen 86) was subsequently discovered as a molecule that is associated with RP105, 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 (2 - 4). 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 (4). Mouse MD-1 cDNA encodes a 162 amino acid (aa) residue precursor protein with a putative 19 aa signal peptide and two potential N-linked glycosylation sites. It shares 40% and 66% aa sequence identity with chicken and human MD-1 respectively (2, 3). MD-1 is mainly expressed in spleen, and also detectable in liver, brain, thymus, and kidney. MD-1 is required for efficient RP105 cell surface expression and function (2 - 5). 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 (5, 6). Since MD-1 is also expressed in liver and brain where RP105 is absent, it has been speculated that MD-1 can also be associated with other LRR-containing molecules, or have additional functions outside the immune system (6).

## PRODUCT SPECIFIC NOTICES

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