

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human MD-1 in Western blots. In Western blots, approximately 25% cross-reactivity with recombinant mouse MD-1 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human MD-1 Gly21-Ser162 Accession # O95711
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

## 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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human MD-1 (Catalog # 925-MD)

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## 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).

### References:

1. Miyake, K. *et al.* (1998) J. Immun. **161**:1348.
2. Miura, Y. *et al.* (1998) Blood **92**:2815.
3. Miyake, K. *et al.* (1995) J. Immunol. **154**:3333.
4. Nagai, Y. *et al.* (2002) Blood **99**:1699.
5. Ogata, H. *et al.* (2000) J. Exp. Med. **192**:23.