

## DESCRIPTION

<b>Source</b>	Chinese Hamster Ovary cell line, CHO-derived		
	Mouse TLR4 (Asn26-Lys629) Accession # Q9QUK6	DIEGRMDP	Mouse IgG <sub>2a</sub> (Glu98-Lys330)
	N-terminus		C-terminus
<b>N-terminal Sequence Analysis</b>	Asn26		
<b>Structure / Form</b>	Disulfide-linked homodimer		
<b>Predicted Molecular Mass</b>	96 kDa		

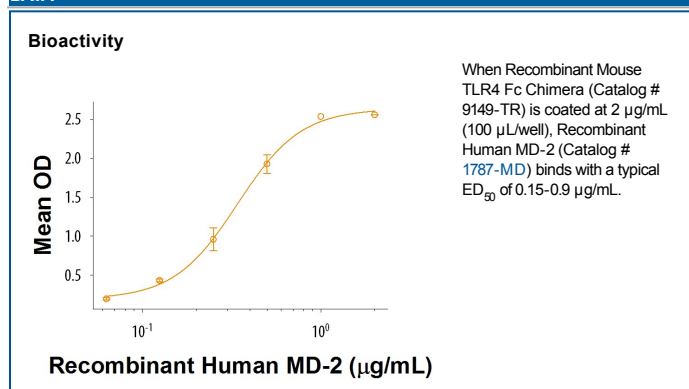
## SPECIFICATIONS

<b>SDS-PAGE</b>	115-137 kDa, reducing conditions
<b>Activity</b>	Measured by its binding ability in a functional ELISA. When Recombinant Mouse TLR4 Fc Chimera is immobilized at 2 µg/mL, 100 µL/well, the concentration of Recombinant Human MD-2 (Catalog # 1787-MD) that produces 50% of the optimal binding response is approximately 0.15-0.9 µg/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 500 µg/mL in PBS.
<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>	<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>● 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## DATA



**BACKGROUND**

TLR4, also known as CD284, is a 100 kDa type I transmembrane glycoprotein that belongs to the mammalian Toll-Like Receptor family of pathogen pattern recognition molecules. The complex of TLR4 with MD-2 functions as a critical receptor for bacterial endotoxin/lipopolysaccharide (LPS) (1-3). Mature mouse TLR4 consists of a 613 amino acid (aa) extracellular domain (ECD), a 21 aa transmembrane segment, and a 176 aa cytoplasmic domain. TLR4 contains 19 leucine rich repeats in its ECD and one cytoplasmic Toll/IL-1 receptor (TIR) domain (4-6). Within the ECD, mouse TLR4 shares 63% and 83% aa sequence identity with human and rat TLR4, respectively. On monocytes, macrophages, dendritic cells, and B cells, MD-2 expression is required for cell surface localization of TLR4 and for optimal LPS-induced TLR4 signaling (7-10). MD-2 also forms soluble disulfide-linked homo-oligomers which can interact with TLR4 (8). Through a domain separate from its TLR4-binding domain, MD-2 extracts LPS from circulating CD14-LPS complexes and carries the LPS into a ternary complex with TLR4 (11-13). The interaction of MD-2/LPS with TLR4 induces receptor oligomerization and the triggering of an inflammatory response (2, 14). Increased levels of plasma MD-2 in septic shock patients sensitizes MD-2 non-expressing epithelial cells to LPS and promotes widespread tissue inflammation (15).

**References:**

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