

MD2 Protein, Human (His)

Cat. No.:	HY-P701067
Synonyms:	Lymphocyte antigen 96; LY96; Ly-96; ESOP1; ESOP-1; MD-2;
Species:	Human
Source:	E. coli
Accession:	Q9Y6Y9-1 (Q19-N160)
Gene ID:	/
Molecular Weight:	18.07 kDa

PROPERTIES

Appearance	Lyophilized powder
Formulation	Lyophilized from 0.22 µm filtered solution in 4 mM HCL. Normally 8% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>MD2 Protein, a key player in the innate immune response, serves as a critical component in recognizing bacterial lipopolysaccharide (LPS) and coordinating immune reactions. It binds directly to LPS and collaborates with TLR4 to elicit the innate immune response to bacterial LPS. Moreover, MD2 works in tandem with TLR2, responding to cell wall components from both Gram-positive and Gram-negative bacteria. MD2's interaction with TLR4 enhances NF-kappa-B activation, emphasizing its role in signaling pathways. In cell contexts expressing both LY96 and TLR4, MD2 enables responsiveness to LPS, underlining its importance in the cellular recognition of bacterial components. Structurally, MD2 forms a heterogeneous homomer from homodimers linked by disulfide bonds and is a crucial component of the lipopolysaccharide (LPS) receptor complex, which includes at least CD14, LY96, and TLR4. MD2's ligand binding induces interactions with TLR4 and promotes the oligomerization of the complex, further highlighting its central role in the immune response to bacterial challenges.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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