Data Sheet (Cat.No.TMPY-02904)

TargetMol

TLR4 Protein, Human, Recombinant (His)

General Information

Synonyms:	TLR-4;TOLL;toll-like receptor 4;ARMD10;TLR4;CD284
Protein Construction:	A DNA sequence encoding the human TLR4 (Met1-Lys631) (O00206-1) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Glu 24
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	O00206-1
Molecular Weight:	70.5 kDa (predicted); 68 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	1.Immobilized TLR4 Protein, Human, Recombinant (His) at 1 μg/mL (100 μL/well) on His Tag Antibody, Mouse MAb precoated (5 μg/mL, 100 μL/well) can bind Anti-TLR4 Antibody, the EC50 is 4-15 ng/mL (QC tested). 2.Immobilized Anti-TLR4 Antibody at 2 μg/mL (100 μL/well) can bind TLR4 Protein, Human, Recombinant (His), the EC50 is 4-15 ng/mL (Routinely tested).
Purity:	≥ 87 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM PB, 500 mM NaCl, pH 6. 0, 10% glycerol or Supplied as sterile 20 mM PB, 500 mM NaCl, 10% Glycerol, pH 6. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

TLR4, also known as TLR-4, is a member of the Toll-like receptor (TLR) family, which plays a fundamental role in pathogen recognition and activation of innate immunity. TLRs are highly conserved from Drosophila to humans and share structural and functional similarities. They recognize pathogen-associated molecular patterns (PAMPs) that are expressed on infectious agents, and mediate the production of cytokines necessary for the development of effective immunity. TLR4 is most abundantly expressed in placenta, and in myelomonocytic subpopulation of the leukocytes. TLR 4 has also been designated as CD284 (cluster of differentiation 284). It has been implicated in signal transduction events induced by lipopolysaccharide (LPS) found in most gram-negative bacteria. TLR4 Cooperates with LY96 and CD14 to mediate the innate immune response to bacterial lipopolysaccharide (LPS). It acts via MYD88, TIRAP and TRAF6, leading to NF-kappa-B activation, cytokine secretion and the inflammatory response. It is also involved in LPS-independent inflammatory responses triggered by Ni(2+).

Reference

Re, Fabio,et al. (2002) Monomeric recombinant MD-2 binds toll-like receptor 4 tightly and confers lipopolysaccharide responsiveness. J Biol Chem. 277(26):23427-32.

Shimazu, R,et al. (1999) MD-2, a Molecule that Confers Lipopolysaccharide Responsiveness on Toll-like Receptor 4. J Exp Med. 189(11):1777-82.

Blanco, A M,et al. (2005) Involvement of TLR4/type I IL-1 receptor signaling in the induction of inflammatory mediators and cell death induced by ethanol in cultured astrocytes. Journal of immunology. 175(10):6893-9.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only· Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481