

## TLR3 Protein, Human, Recombinant (His)

### General Information

Synonyms:	CD283;IIAE2;toll like receptor 3
Protein Construction:	A DNA sequence encoding the Human TLR3 (AAH59372.1) (Lys27-Ser711) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Lys 27
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q6PCD4
Molecular Weight:	79.38 kDa (predicted); 84.19 kDa (reducing conditions)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE
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 Tris, 300 mM NaCl, 10% glycerol, pH 8.0. 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

Toll-like receptor 3 (TLR3) also known as CD283 (cluster of differentiation 283) is a member of the Toll-like receptor family of pattern recognition receptors of the innate immune system. TLR3/CD283 plays a fundamental role in pathogen recognition and activation of innate immunity. TLR3 is a nucleotide-sensing TLR that is activated by double-stranded RNA, a sign of viral infection. 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. The various TLRs exhibit different patterns of expression. This receptor is most abundantly expressed in placenta and pancreas, and is restricted to the dendritic subpopulation of the leukocytes. It recognizes dsRNA associated with viral infection, and induces the activation of NF-kappaB and the production of type I interferons. It may thus play a role in host defense against viruses. Cancer Immunotherapy Immune Checkpoint Immunotherapy Targeted Therapy

### Reference

- Muzio M, et al.. (2000) Differential expression and regulation of toll-like receptors (TLR) in human leukocytes: selective expression of TLR3 in dendritic cells. *J Immunol.* 164(11): 5998-6004.
- Doyle S, et al.. (2002) IRF3 mediates a TLR3/TLR4-specific antiviral gene program. *Immunity.* 17(3): 251-63.
- Choe J, et al.. (2005) Crystal structure of human toll-like receptor 3 (TLR3) ectodomain. *Science.* 309(5734): 581-5.

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