TLR3 Recombinant Protein

PRODUCT OVERVIEW

Product Name	TLR3, Recombinant Protein
Full Product Name	TLR3 Protein, Mouse, Recombinant (His Tag)
Product Gene Name	TLR3 recombinant protein
Product Synonym Names	Mouse TLR3/CD283 Protein (His Tag); AI957183 Protein, Mouse; Tlr3 Protein, Mouse; toll like receptor 3
Sequence	Met1-Leu70 5
Host	HEK293 Cells
Form/Format	Lyophilized from sterile PBS, pH7.4. Normally 5%-8% trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hard copy of CoA.
Purity/Purification	>97% as determined by SDS-PAGE
Preparation and Storage	Samples are stable for up to twelve months from date of receipt at -20 degree C to -80 degree C. Store it under sterile conditions at -20 degree C to -80 degree C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice.
Molecular Weight	103,671 Da
3D Structure	ModBase 3D Structure for Q99MB1
Species	Mouse
Endotoxin	<1.0EU per ug of the protein as determined by the LAL method
Predicted N Terminal	Thr 26
Tag	C-His
Protein Construction	A DNA sequence encoding the extracellular domain of mouse TLR3 (NP_569054.2)(Met 1-Leu 705) was expressed with a C-terminal polyhistidine tag.
Reconstitution	A hardcopy of COA with reconstitution instruction is sent along with the products. Please refer to it for detailed information.
Product Categories/Family for TLR3 recombinant protein	Neuroinflammation Cancer Drug Targets
Related Product Information for TLR3 recombinant 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.
Product References and Citations for TLR3 recombinant protein	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.

Other Notes	Small volumes of TLR3 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for TLR3 purchase	MBS8122574 is a recombinant protein targeting TLR3. Also known as TLR3 Protein, Mouse, Recombinant (His Tag). Host: HEK293 Cells.



SDS-Page of TLR3 recombinant protein

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for TLR3. It may not necessarily be applicable to this product.

NCBI GI #	31543872
NCBI GeneID	142980
NCBI Accession #	NP_569054.2
UniProt Primary Accession #	Q99MB1
UniProt Secondary Accession #	Q91ZM4
UniProt Related Accession #	Q99MB1
GenBank Nucleotide #	NM_126166.4
NCBI Official Full Name	toll-like receptor 3
NCBI Official Synonym Full Names	toll-like receptor 3
NCBI Official Symbol	Tlr3
NCBI Official Synonym Symbols	AI957183
UniProt Protein Name	Toll-like receptor 3
UniProt Synonym Protein Names	CD_antigen: CD283
Protein Family	Toll-like receptor
UniProt Gene Name	Tlr3
UniProt Entry Name	TLR3_MOUSE
NCBI Protein Information	toll-like receptor 3

UniProt Comments for TLR3	TLR3: a member of the Toll-like receptor (TLR) family which plays a fundamental role in pathogen recognition and activation of innate immunity. Most abundantly expressed in placenta and pancreas. Restricted to the dendritic subpopulation of the leukocytes. It recognizes dsRNA associated with viral infection. Acts via MyD88 and TRAF6, leading to the activation of NF-kappaB and the production of type I interferon. Protein type: Receptor, cytokine; Membrane protein, integral Cellular Component: cell surface; membrane; lysosomal membrane; endoplasmic reticulum; cytoplasm; integral to membrane; intracellular; endosome Molecular Function: identical protein binding; protein binding; transmembrane receptor activity; RNA binding; double-stranded RNA binding; receptor activity Biological Process: positive regulation of interleukin-12 production; positive regulation of JNK cascade; microglial cell activation; positive regulation of interferon-alpha biosynthetic process; defense response; positive regulation of NF-kappaB import into nucleus; toll-like receptor 3 signaling pathway; signal transduction; activation of NF-kappaB transcription factor; positive regulation of interleukin-8 production; response to exogenous dsRNA; positive regulation of interferon type I production; positive regulation of interferon-beta production; inflammatory response; defense response to virus; positive regulation of cytokine production; positive regulation of I-kappaB kinase/NF-kappaB cascade; immune system process; MyD88-independent toll-like receptor signaling pathway; response to virus; response to dsRNA; positive regulation of interleukin-6 production; positive regulation of tumor necrosis factor production; positive regulation of toll-like receptor signaling pathway; positive regulation of chemokine production; positive regulation of chemokine biosynthetic process; positive regulation of interferon-beta biosynthetic process; toll-like receptor signaling pathway; innate immune response; positive regulation of transcription from RNA polymerase II promoter; positive regulation of protein amino acid phosphorylation; I-kappaB phosphorylation; positive regulation of inflammatory response; microglial cell activation during immune response; positive regulation of interferon-gamma biosynthetic process
Research Articles on TLR3	**1.** Ischemic preconditioning-induced ischemic tolerance is mediated by astrocytic TLR3 signaling.
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