

Recombinant Mouse TLR2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51951

Size: 10ug, 100ug

Protein Name: Toll-like receptor 2 (CD antigen CD282)

Synonym: Tlr2

UniProt ID: Q9QUN7

UniProt Link: www.uniprot.org/uniprotkb/Q9QUN7/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 784 AA

Molecular Weight: 89 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MLRALWLFWILVAITVLFKRCSAQESLSCDASGVCDGRSRSTIPSGLTAAMKSLDLSFNKITYIGH
GDLRACANLQVLILKSSSRINTIEGDAFYSLGSLEHLDSLSDNHLSSLSSSWFGPLSSLKYLNLMGNPYQ
TLGVTSLFPNLTNLQTLRIGNVETFSEIRRIDFAGLTSLNELEIKALSLRNYQSQSLKSIRDIIHHLTLHLS
ESAFLEIFADILSSVRYLELRDTNLARFQFSPLPVDEVSSPMKKLAFRGSVLTDESFNELLKLLRYILE
LSEVEFDDCTLNGLGDFNPSESDVVSELGKVETVTIRRLHIPQFYLFYDLSTVYSLLEKVKRITVENSK
VFLVPCSFSQHLKSLEFLDLSENLMVEEYLKNSACKGAWPSLQTLVLSQNHLSRSMQKTGEILLTLKNL
TSLDISRNTFHPMPDSCQWPEKMRFLNLSSTGIRVVKTCIPQTLEVLDVSNNNLDLSFSLFLPRLQELYI
SRNKLKTLPDASLFPVLLVMKIRENAVSTFSKDQLGSFPKLETLEAGDNHFVCSCCELLSFTMETPALA
QILVDWPDSYLCDSPPRLHGHRLQDARPSVLECHQAALVSGVCCALLLLLVGALCHHFGHLWYLR
MMWAWLQAKRKPKKAPCRDVCYDAFVSYSQDSHWVENLMVQQLENSDPPFKLCLHKRDFVPGK
WIIDNIIDSIEKSHKTVFVLSENFVRSEWCKYELDFSHFRLFDENNDAAILVLEPIERKAIPQRFCKLRK
IMNTKTYLEWPLDEGQQEVFWVNLRTAISK

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.



Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Toll-like receptor 2 (CD antigen CD282) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Cooperates with LY96 to mediate the innate immune response to bacterial lipoproteins and other microbial cell wall components. Cooperates with TLR1 or TLR6 to mediate the innate immune response to bacterial lipoproteins or lipopeptides. Acts via MYD88 and TRAF6, leading to NF-kappa-B activation, cytokine secretion and the inflammatory response (By similarity) (PubMed:15690042). May also promote apoptosis in response to lipoproteins (By similarity). Forms activation clusters composed of several receptors depending on the ligand, these clusters trigger signaling from the cell surface and subsequently are targeted to the Golgi in a lipid-raft dependent pathway. Forms the cluster TLR2:TLR6:CD14:CD36 in response to diacylated lipopeptides and TLR2:TLR1:CD14 in response to triacylated lipopeptides (By similarity). Recognizes M.tuberculosis major T-antigen EsxA (ESAT-6) which inhibits downstream MYD88-dependent signaling (PubMed:17486091). Acts as the major receptor for M.tuberculosis lipoproteins LprA, LprG, LpqH and PhoS1 (pstS1), in conjunction with TLR1 and for some but not all lipoproteins CD14 and/or CD36. The lipoproteins act as agonists to modulate antigen presenting cell functions in response to the pathogen (PubMed:19362712). Recombinant MPT83 from M.tuberculosis stimulates secretion of cytokines (TNF, IL-6 and IL-12p40) by mouse macrophage cell lines in a TLR2-dependent fashion, which leads to increased host innate immunity responses against the bacterium (PubMed:22174456). Lung macrophages which express low levels of TLR2 respond poorly to stimulation by M.tuberculosis LpqH (PubMed:19362712). Required for normal uptake of M.tuberculosis, a process that is inhibited by M.tuberculosis LppM (PubMed:27220037). Interacts with TICAM2 (By similarity).; (Microbial infection) Mediates activation of bone marrow-derived dendritic cells and macrophages, and production of pro-inflammatory cytokines, such as IL12 (IL12B/IL12A), triggered by Toxoplasma gondii micronemal protein 4 (MIC4) and micronemal protein 1 (MIC1).

Subcellular Localization: Cell membrane ; Single-pass type I membrane protein . Cytoplasmic vesicle, phagosome membrane ; Single-pass type I membrane protein . Membrane raft . Note=Does not reside in lipid rafts before stimulation but accumulates increasingly in the raft upon the presence of the microbial ligand. In response to diacylated lipoproteins, TLR2:TLR6 heterodimers are recruited in lipid rafts, this recruitment determine the intracellular targeting to the Golgi apparatus. Triacylated lipoproteins induce the same mechanism for TLR2:TLR1 heterodimers.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.