

Recombinant Human TLR2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50971

Size: 10ug, 100ug

Protein Name: Toll-like receptor 2 (Toll/interleukin-1 receptor-like protein 4) (CD antigen CD282)

Synonym: TLR2, TIL4

UniProt ID: O60603

UniProt Link: www.uniprot.org/uniprotkb/O60603/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 784 AA

Molecular Weight: 90 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MPHTLWMVWVLGVISLSKEESSNQASLSCDRNGICKGSSGSLNSIPSGLTEAVKSLDLSNNRITYIS
NSDLQRCVNLQALVLTSGINTIEEDSFSSLGSLHLDLSYNYLSNLSSSWFKPLSSLTFLNLLGNPY
KTLGETSLFSHLTKLQILRVGNMDTFTKIQRKDFAGLTFLEELEIDASDLQSYEPKSLKSIQNVSHLILH
MKQHILLLEIFVDVTSSVECLELRDLDLTFHFSELSTGETNSLIKKFTFRNVKITDESLFQVMKLLNQI
SGLLELEFDDCTLNGVGNFRASDNDRVIDPGKVETLTIRRLHIPRFYLFYDLSTLYSLTERVKRITVEN
SKVFLVPCLLSQHLKSLEYLDLSENLMVEEYLKNSACEDAWPSLQTLILRQNHASLEKTGETLLTLK
NLTNIDISKNSFHSMPETCQWPEKMKYLNLSSTRIHSVTGCIPKLEILDVSNNNLNLFSNLNPQLKEL
YISRNKLMTPDASLLPMLLVLKISRNAITTFSEQLDSFHTLKTLEAGGNFICSCEFLSFTQEQQALA
KVLIDWPANYLCDSPSHVRGQQVQDVRLSVSECHRTALVSGMCCALFLLILLTGVLCHRFHGLWYM
KMMWAWLQAKRKPRKAPSRNICYDAFVSYSERDAYWVENLMVQELENFNPPFKLCLHKRDFIPGK
WIIDNIIDSIEKSHKTVFVLSNFVKSEWCKYELDFSHFRLFDENNDAAILILLEPIEKKAIPQRFCKLRKI
MNTKTYLEWPMDEAQREGFWVNLRAAIKS

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 (Toll/interleukin-1 receptor-like protein 4) (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 (PubMed:17889651, PubMed:21078852). Acts via MYD88 and TRAF6, leading to NF-kappa-B activation, cytokine secretion and the inflammatory response. May also activate immune cells and promote apoptosis in response to the lipid moiety of lipoproteins (PubMed:10426995, PubMed:10426996). Recognizes mycoplasmal macrophage-activating lipopeptide-2kD (MALP-2), soluble tuberculosis factor (STF), phenol-soluble modulins (PSM) and B.burgdorferi outer surface protein A lipoprotein (OspA-L) cooperatively with TLR6 (PubMed:11441107). Stimulation of monocytes in vitro with M.tuberculosis PstS1 induces p38 MAPK and ERK1/2 activation primarily via this receptor, but also partially via TLR4 (PubMed:16622205). MAPK activation in response to bacterial peptidoglycan also occurs via this receptor (PubMed:16622205). Acts as a receptor for M.tuberculosis lipoproteins LprA, LprG, LpqH and PstS1, some lipoproteins are dependent on other coreceptors (TLR1, CD14 and/or CD36); the lipoproteins act as agonists to modulate antigen presenting cell functions in response to the pathogen (PubMed:19362712). M.tuberculosis HSP70 (dnaK) but not HSP65 (groEL-2) acts via this protein to stimulate NF-kappa-B expression (PubMed:15809303). Recognizes M.tuberculosis major T-antigen EsxA (ESAT-6) which inhibits downstream MYD88-dependent signaling (shown in mouse) (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 (PubMed:16880211). Required for normal uptake of M.tuberculosis, a process that is inhibited by M.tuberculosis LppM (By similarity).

Subcellular Localization: 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 determines 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.



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- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.