

Recombinant Human TLR9 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50978

Size: 10ug, 100ug

Protein Name: Toll-like receptor 9 (CD antigen CD289)

Synonym: TLR9, UNQ5798/PRO19605

UniProt ID: Q9NR96

UniProt Link: www.uniprot.org/uniprotkb/Q9NR96/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1032 AA

Molecular Weight: 116 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MGFCRSALHPLSLLVQAIMLAMTLALGTLPAFLPCELQPHGLVNCNWFLKSVPHFSMAAPRGNVTS
LSLSSNRIHHLHDSDFAHLPRLHLNLKWNCPPVGLSPMHFPCMTIEPSTFLAVPTLEELNLSYNNI
MTVPALPKSLISLSLSTNIMLDSASLAGLHALRFLFMDGNCYKNPCRQALEVAPGALLGLGNLTH
LSLKYNLTVVPRNLPSSEYLLLSYNRIVKLAPEDLANLTALRVLDVGGNCRRCDHAPNPCMECPR
HFPQLHPDFTSHLSRLEGLVLKDSSLSWLNASWFRGLGNLRVLDLSENFYKCYTKTKAFQGLTQLR
KLNLSFNYSQKRVSAHLSLAPSGSLVALKELDMHGIFFRSLDETTLRPLARLPMLQTLRLQMNFINQ
AQLGIFRAFPGLRYVDLSNDRISGASELTATMGEADGGEKVWLQPGDLAPAPVDTTPSSEDFRPNCS
TLNFTLDLSRNNLVTVPQEMFAQLSHLQCLRLSHNCISQAVNGSQFLPLTGLQVLDLSHNKLDLYHE
HSFTELPRLEALDSYNSQPFGMQGVGHNFVVAHLRTRLRHLSLAHNNIHSQVSQQLCSTSLRALDF
SGNALGHMWAEGDLYLHFFQGLSGLIWLDSQNRLHTLLPQTLRNLPKSLQVLRRLRDNYLAFFKWW
SLHFLPKLEVLDLAGNQLKALTNGSLPAGTRLRRLDVSCNSISFVAPGFFSKAKELRELNLSANALKT
VDHSWFGPLASALQILDVSANPLHCACGAAMDFLLEVQAAPGLPSRVKCGSPGQLQGLSIFAQD
LRLCLDEALSWDCFALSLLAVALGLGVPMLHHLGWDLYWYCFHLCLAWLPWRGRQSGRDEDALPY
DAFVVFDKTQSAVADWVYNELRGQLEECRGRWALRLCLEERDWLP GKTLFENLWASVYGSRKTLF
VLAHTDRVSGLLRASFLLAQQRLLEDKDVVVLVILSPDGRRSRYVRLRQRLCRQSVLLWPHQPSG
QRSFWAQLGMALTRDNHHFYNRNFCQGPTAE

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 9 (CD antigen CD289) 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: Key component of innate and adaptive immunity (PubMed:14716310). TLRs (Toll-like receptors) control host immune response against pathogens through recognition of molecular patterns specific to microorganisms (PubMed:14716310). TLR9 is a nucleotide-sensing TLR which is activated by unmethylated cytidine-phosphate-guanosine (CpG) dinucleotides (PubMed:14716310). Acts via MYD88 and TRAF6, leading to NF-kappa-B activation, cytokine secretion and the inflammatory response (PubMed:11564765, PubMed:17932028, PubMed:40980882). Also acts via ADCY7, leading to cyclic di-AMP (c-di-AMP) synthesis and activation of the NLRP3 inflammasome (By similarity). Plays a role in defense against systemic mouse cytomegalovirus infection (By similarity). Controls lymphocyte response to Helicobacter infection (By similarity). Upon CpG stimulation, induces B-cell proliferation, activation, survival and antibody production (PubMed:23857366).

Subcellular Localization: Endoplasmic reticulum membrane ; Single-pass type I membrane protein . Early endosome membrane . Lysosome . Cytoplasmic vesicle, phagosome . Golgi apparatus membrane . Note=Relocalizes from endoplasmic reticulum to endosome and lysosome upon stimulation with agonist. Exit from the ER requires UNC93B1. Endolysosomal localization is required for proteolytic cleavage and subsequent activation. Intracellular localization of the active receptor may prevent from responding to self nucleic acid.

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.