Recombinant TLR4 protein (His tag)

Catalog Number	546397
Synonyms	hToll; CD antigen CD284
Species	Human
Expression System	E. coli
Accession	O00206
Molecular Weight	Predictes a molecular mass of 23.66 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 24 kDa band.

Product Information

Sequence Region	653-839
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 653-839 aa (O00206) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	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 unless customers require otherwise.

Description

Description	Recombinant Human Toll-like Receptor 4 (hToll/CD284) TIR Domain Fragment (residues 653-839) – a high-purity protein tool designed for investigating the intracellular signaling mechanisms of TLR4. This fragment fully encompasses the TIR domain, enabling focused studies on innate immune pathway activation and protein-protein interactions. Toll-like receptor 4 (TLR4) is a crucial transmembrane pattern recognition receptor in human innate immunity that detects pathogen-associated molecular patterns (PAMPs) like bacterial lipopolysaccharide (LPS) and damage-associated molecular patterns (DAMPs). Located primarily at the plasma membrane as a single-pass type I membrane protein, TLR4 initiates signaling through both MYD88-dependent pathways leading to NF-kappa-B activation and proinflammatory cytokine secretion, and TICAM1-dependent pathways resulting in type I interferon production. The protein undergoes dynamic subcellular trafficking, internalizing to endosomes upon ligand stimulation. The TIR domain (residues 672-815) contained within this recombinant fragment mediates critical downstream signaling interactions through adaptor proteins including MYD88, TIRAP, and TRAF6, making it essential for understanding TLR4's role in inflammation, immune regulation, and disease pathogenesis.