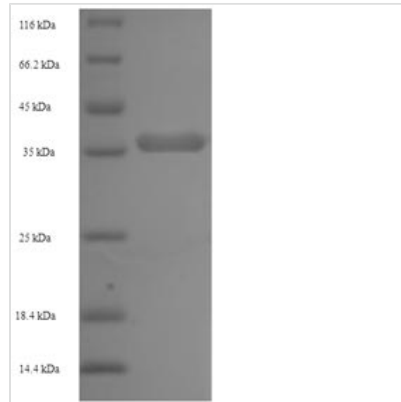




Recombinant Pan troglodytes Lymphotoxin-beta (LTB), partial

Product Code	CSB-EP771253EQVa2
Relevance	Cytokine that binds to LTBR/TNFRSF3. May play a specific role in immune response regulation. Provides the mbrane anchor for the attachment of the heterotrimeric complex to the cell surface .
Abbreviation	Recombinant Chimpanzee LTB protein, partial
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q862Z7
Alias	Tumor necrosis factor C ;TNF-CTumor necrosis factor ligand superfamily member 3
Product Type	Recombinant Protein
Immunogen Species	Pan troglodytes (Chimpanzee)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	QDQGGLVTETADPGAQAQQLGFGKLPEEEPETDLSPGLPAAHLIGAPLKGQ GLGWETTKEQAFLTSGTQFSDAEGALPQDGLYYLYCLVGYRGRTPPGGGDP QGRSVTLRSSLYRAGGAYGPGTPELLLEGAETVTPVLDPARRQGYGPLWYTS VGFGGLVQLRRGERVYVNISHPDMVDFARGKTFFGAVMVG
Research Area	Others
Source	E.coli
Target Names	LTB
Expression Region	49-244aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-SUMO-tagged
Mol. Weight	36.8kDa
Protein Length	Extracellular Domain
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Recombinant Pan troglodytes Lymphotoxin-beta (LTB) is produced using an E. coli expression system, covering the 49-244 amino acid region of the extracellular domain. The protein carries an N-terminal 6xHis-SUMO tag to simplify purification and analysis. SDS-PAGE confirms the product shows greater than 90% purity, which appears suitable for various research applications. This recombinant protein is designed for research use only and is not intended for therapeutic or diagnostic purposes.

Lymphotoxin-beta (LTB) plays a central role in the immune system, mainly through signaling pathways that control lymphoid tissue development and organization. It belongs to the tumor necrosis factor superfamily and seems crucial for maintaining the structure of secondary lymphoid organs. LTB's involvement in immune response regulation has made it an important target in immunology research, especially in studies exploring lymphoid organogenesis and immune system development.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Comparative Evolutionary Protein Structure Analysis

This recombinant chimpanzee LTB extracellular domain may help researchers study how lymphotoxin-beta structure has been conserved or changed between Pan troglodytes and other primate species. The purified protein allows for detailed biochemical characterization - techniques like circular dichroism spectroscopy, dynamic light scattering, and analytical ultracentrifugation can determine folding patterns and oligomerization states. When compared with human LTB, structural studies might reveal species-specific conformational differences that evolved between closely related primates. The N-terminal His-SUMO tag makes purification and immobilization easier for structural analysis techniques.

2. Cross-Species Protein-Protein Interaction Studies



The His-SUMO tagged chimpanzee LTB extracellular domain works well as a tool for pull-down assays. Researchers can identify and characterize potential binding partners from chimpanzee or human cell lysates. The recombinant protein can be immobilized on nickel-affinity resins to capture interacting proteins, which are then identified through mass spectrometry analysis. This approach helps investigate whether chimpanzee LTB maintains similar binding specificities compared to human orthologs and could reveal novel interaction networks. The high purity level appears to reduce background binding in these interaction studies.

3. Antibody Development and Cross-Reactivity Testing

This recombinant chimpanzee LTB can serve as an immunogen for generating species-specific antibodies. It's also useful for testing cross-reactivity of existing anti-human LTB antibodies. The purified extracellular domain represents the native antigenic surface that would be exposed under physiological conditions, making it appropriate for antibody screening applications. ELISA-based assays using the His-tagged protein can be developed to characterize antibody binding kinetics and specificity. Such antibodies would likely prove valuable as research tools for studying chimpanzee immune system components in comparative immunology research.

4. Protein Stability and Folding Studies

The recombinant chimpanzee LTB extracellular domain provides a model system for investigating protein stability and folding mechanisms within the lymphotoxin family. Thermal denaturation studies, chemical unfolding experiments, and refolding kinetics can be performed to characterize the thermodynamic properties of this primate protein variant. The SUMO tag can be cleaved when needed to study native protein behavior, while the His tag makes purification of properly folded protein straightforward for these biophysical analyses. These studies may contribute to understanding structure-stability relationships in cytokine family proteins across species.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.