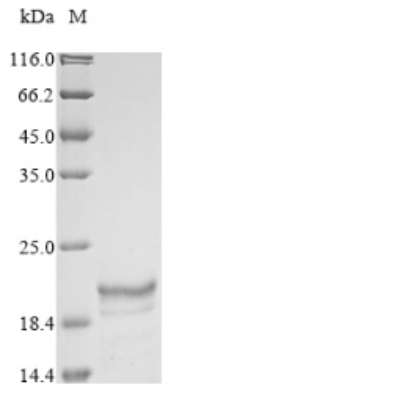
Recombinant Sudan ebolavirus Envelope glycoprotein (GP), partial

Product Code	CSB-EP742487SRE
Abbreviation	Recombinant Sudan ebolavirus GP 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.	Q7T9D9
Form	Liquid or Lyophilized powder
Storage Buffer	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
Product Type	Recombinant Protein
Immunogen Species	Sudan ebolavirus (strain Uganda-00) (SEBOV) (Sudan Ebola virus)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	QTNTKATGKCNPNLHYWTAQEQHNAAGIAWIPYFGPGAEGIYTEGLMHNQNALVCGLRQLANETTQALQLFLRATTELRTYTILNRKAIDFLLRRWGGTCRILGPDCCIEPHDWTKNITDKINQIIHDFIDNPLPN
Research Area	Others
Source	E.coli
Target Names	GP
Expression Region	502-637aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-KSI-tagged
Mol. Weight	30.8 kDa
Protein Length	Partial
Image	



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

Description

Recombinant Sudan ebolavirus Envelope glycoprotein (GP) is produced in E. coli, covering amino acid region 502-637. This partial protein carries an N-terminal 6xHis-KSI tag to help with purification and achieves over 85% purity as confirmed by SDS-PAGE. The preparation appears suitable for various research applications and should provide reliable, reproducible results.

The Sudan ebolavirus Envelope glycoprotein (GP) likely plays a crucial role in the viral lifecycle, particularly in mediating entry into host cells. It seems essential for fusion of the viral membrane with the host cell membrane, which makes it a significant focus in virology research. Understanding its structure and interactions may be vital for developing therapeutic approaches against ebolavirus infections.

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. Antibody Development and Epitope Mapping

This recombinant GP fragment (502-637aa) could serve as an immunogen for generating polyclonal or monoclonal antibodies specific to the Sudan ebolavirus envelope glycoprotein. The N-terminal 6xHis-KSI tag helps with purification and immobilization for immunization protocols. The fragment represents a specific region of the GP that might contain unique epitopes distinct from other ebolavirus strains. Researchers could potentially use this protein to develop strain-specific antibodies for research applications and comparative studies between different ebolavirus species.

2. Protein-Protein Interaction Studies

The 6xHis-KSI tagged GP fragment can be used in pull-down assays to identify potential cellular binding partners or co-factors that interact with this specific region of the Sudan ebolavirus envelope glycoprotein. The histidine tag allows efficient immobilization on nickel-based resins for affinity purification

experiments. Researchers can incubate cell lysates or purified protein libraries with the immobilized GP fragment to capture interacting proteins for subsequent mass spectrometry analysis. This approach might reveal host cell factors involved in viral entry or membrane fusion processes.

3. ELISA-Based Binding Assays

The recombinant GP fragment with its N-terminal tag can be used as a coating antigen in enzyme-linked immunosorbent assays to study binding interactions with various ligands, receptors, or other proteins. The 85% purity level appears sufficient for ELISA applications where the protein can be directly coated onto microplate wells. Researchers can investigate binding specificity, affinity measurements, and competitive binding studies using this fragment as a capture reagent. The tag also permits oriented immobilization using anti-His antibodies or nickel-coated plates.

4. Biochemical Characterization and Stability Studies

This partial GP protein can be subjected to various biochemical analyses to characterize its biophysical properties, including thermal stability, pH sensitivity, and aggregation behavior. The fragment's stability under different buffer conditions, temperature ranges, and storage conditions can be monitored using techniques such as dynamic light scattering, circular dichroism spectroscopy, or analytical ultracentrifugation. Such studies may provide valuable insights into the structural properties of this specific GP region and inform optimal conditions for experimental use and storage.

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.