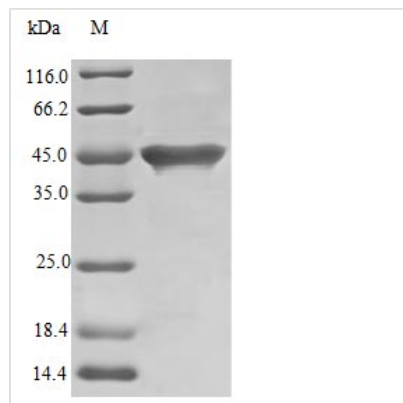




Recombinant Streptococcus sp Streptokinase G protein (skg) (Active)

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| Product Code | CSB-AP000171SNC |
| Abbreviation | Recombinant Streptococcus sp. skg protein (Active) |
| Uniprot No. | P10519 |
| Form | Lyophilized powder |
| Storage Buffer | Lyophilized from a 0.2 µm filtered PBS, pH 7.4 |
| Product Type | Enzyme |
| Immunogen Species | Streptococcus sp. (strain 19909) |
| Biological Activity | Fully biologically active when compared to standard. The specific activity determined by fibrining lysis in agarose plate is 8.0×10^4 IU/mg. |
| Purity | >97% as determined by SDS-PAGE. |
| Sequence | IAGPEWLLDR PSVNNSQLVV SVAGTVEGTN QDISLKFFEI DLTSRPAHGG KTEQGLSPKS KLFATDSGAM PHKLEKADLL KAIQEQLIAN VHSNDDYFEV IDFASDATIT DRNGKVYFAD KDGSVTLP IQ PVQEFLKKGH VRVRPYKEKP VQNQAKSVDV EYTVQFTPLN PDDDFRPALK DTKLLKTLAI GDTITSQELL AQAQSILNKN HPGYTIYERD SSIIVTHDNDI FRTLPMQDE FTYHVKNREQ AYRINKKSG L NEEINNTDLI SEKYYVLKKG EKPYPDFDRS HLKLFITIKYV DVNTNELLKS EQLLTASERN LDFRDLYDPR DKAKLLYNNL DAFGIMDYTL TGKVEDNHDD TNRIITVYMG KRPEGENASY HLAYDKDRYT EEEREVYSYL RYTGTPIPDN PNDK |
| Research Area | Cardiovascular? |
| Source | E.Coli |
| Target Names | skg |
| Expression Region | 27-440aa |
| Notes | Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week. |
| Tag Info | Tag-Free |
| Mol. Weight | 47.3 kDa |
| Protein Length | Full Length of Mature Protein |
| PubMed ID | 2922269 |
| Image | |



Description

Recombinant *Streptococcus* sp Streptokinase G protein (skg) is produced in *E. coli* and contains the full-length mature protein spanning amino acids 27-440. The product comes without tags, which means no extra sequences interfere with its natural function. SDS-PAGE analysis shows purity levels above 97%, while endotoxin levels stay below 1.0 EU/μg according to LAL method testing. The protein appears to be fully biologically active, with a specific activity of 8.0×10^4 IU/mg demonstrated through fibrin lysis on agarose plate assays.

Streptokinase represents an important protein in medical research, largely because of its role in breaking down fibrin. It works as a plasminogen activator, transforming plasminogen into plasmin - a process that's essential for dissolving blood clots. This enzymatic pathway has drawn considerable attention for potential therapeutic uses in thrombolytic therapy, which makes streptokinase quite valuable for cardiovascular research.

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. Fibrinolytic Activity Studies and Mechanism Research

This recombinant streptokinase G protein appears well-suited for investigating how fibrinolysis works at the molecular level in controlled lab environments. The confirmed biological activity, with its specific fibrin lysis activity of 8.0×10^4 IU/mg, suggests it could handle dose-response studies and kinetic analyses of clot breakdown effectively. Researchers might find it useful for studying how streptokinase and plasminogen interact, particularly when examining how the streptokinase-plasminogen activator complex forms. The high purity level (>97%) likely ensures consistent and reproducible results in biochemical assays that measure fibrinolytic parameters.

2. Comparative Enzyme Activity Analysis

The biologically active recombinant protein may serve as a solid reference point



for comparing different fibrinolytic enzymes or streptokinase variants from various bacterial strains. Researchers could conduct side-by-side activity comparisons using the established agarose plate fibrin lysis assay approach. The standardized specific activity measurement offers a quantitative baseline for assessing how potent other fibrinolytic agents might be. This becomes particularly valuable in protein engineering studies where understanding structure-activity relationships in streptokinase variants is the goal.

3. Antibody Development and Immunological Studies

The tag-free, high-purity recombinant streptokinase G protein could work as an immunogen for creating specific antibodies against this bacterial enzyme. Since the mature protein sequence (27-440aa) represents the native antigenic form, it appears suitable for producing antibodies that recognize the natural protein. These antibodies might then be used in follow-up research applications like Western blotting, immunoprecipitation, and ELISA-based detection systems. The low endotoxin level (<1.0 EU/μg) suggests minimal interference in immunological assays and cell-based studies.

4. Protein-Protein Interaction Studies

This recombinant streptokinase can be used in biochemical assays to examine how it interacts with human plasminogen and other parts of the coagulation cascade. Researchers might apply techniques like surface plasmon resonance, isothermal titration calorimetry, or co-immunoprecipitation to characterize binding kinetics and thermodynamics. The high purity and confirmed biological activity suggest that interaction studies would likely reflect the authentic binding properties of the native enzyme. Such studies contribute to understanding how streptokinase functions at the molecular level and what makes it species-specific.

5. In Vitro Clot Lysis Assays and Screening Applications

The biologically active recombinant protein may serve as a positive control or reference standard in lab-based clot lysis assays for research purposes. The established specific activity provides a quantitative benchmark for standardizing and validating assays. Researchers could incorporate this protein into high-throughput screening platforms to evaluate how various compounds affect fibrinolytic activity or to study factors that influence clot dissolution. The consistent activity profile suggests it would work well for quality control applications in research laboratories focused on hemostasis and thrombosis.

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| Endotoxin | Less than 1.0 EU/μg as determined by LAL method. |
| 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.