

# Streptokinase

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## Recombinant (rSK)

Expressed in *E. coli*

Cat. No. CRP08120

Lot. No. (See product label)

## PRODUCT INFORMATION

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**Description:** Streptokinase is an extracellular metallo-enzyme produced by beta-haemolytic streptococcus and is used as an effective and cheap clot-dissolving medication in some cases of myocardial infarction (heart attack) and pulmonary embolism. It belongs to a group of medications known as fibrinolytics, and works by activating plasminogen through cleavage to produce plasmin. The half life of streptokinase is 6 hours.

**Amino-Acid Sequence:** 414aa, non-glycosylated

**M. W. :** approximately 47 kDa

**Recombinant:** Expressed in *E. coli*

**Purity:** >95% by SDS-PAGE and HPLC analyses.

**Formulation:** Lyophilized from a 0.2mm filtered concentrated (1mg/ml) solution in PBS, pH 7.4.

**Specific Activity:** Fully biologically active when compared to standard. The specific biological activity measured by the ability of fibrin lysis in agarose plate was found to be 80,000U/mg.

**Endotoxin:** Less than 1EU/mg of rSK as determined by LAL method.

**Reconstitution:** It is recommended to reconstitute the lyophilized rSK in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/ml. Stock solutions should be apportioned into working aliquots and stored at  $\leq -20^{\circ}\text{C}$ . Further dilutions should be made in appropriate buffered solutions.

**Storage:** Lyophilized rSK is stable for several weeks at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.

## FOR RESEARCH USE ONLY

**Synonyms:** Streptococci streptokinase

**CAS number:** [9002-01-1](#)

**Formula:**  $\text{C}_{2100}\text{H}_{3278}\text{N}_{566}\text{O}_{669}\text{S}_4$

**Mechanism of action:** Plasmin is produced in the blood to break down the major constituent of blood clots fibrin, therefore dissolving clots once they have fulfilled their purpose in stopping bleeding. Extra production of plasmin caused by streptokinase breaks down unwanted blood clots, for example, in the lungs (pulmonary embolism). Streptokinase forms a complex in the plasma with plasminogen to form an activator complex. This complex then forms plasmin from unbound plasminogen.

## REFERENCES

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1. Sikri N, Bardia A (2007). A history of streptokinase use in acute myocardial infarction. *Tex Heart Inst J* 34 (3): 318–27.
2. Meneveau N, Schiele F, Vuilleminot A, et al (July 1997). Streptokinase vs alteplase in massive pulmonary embolism. A randomized trial assessing right heart haemodynamics and pulmonary vascular obstruction. *Eur. Heart J.* 18 (7): 1141–8.