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Product Information

Streptolysin O
from *Streptococcus pyogenes*

Catalog Numbers **S5265 and S0149**
Storage Temperature 2–8 °C

CAS RN 98072-47-0
Synonym: SLO

Product Description
Streptolysin O (SLO) is a single polypeptide chain that is not glycosylated. It has a molecular mass of ~69 kDa[1,2] and an isoelectric point (pI) of 6.0-6.4.[1]

Streptolysin O is an immunogenic, oxygen-labile toxin, which is reversibly activated by dithiothreitol.[2] It is released into the extracellular medium along with other toxins, including streptolysin S, during the growth of most strains of group A and many strains of groups C and G *Streptococci*.[2,3] Streptolysin S differs from SLO in that it is oxygen-stable, nonimmunogenic and only active when associated with a carrier protein.[4] SLO may be used for cell permeabilization or hemolysis. Erythrocytes from different animal species have significantly different susceptibility to hemolysis by SLO.[2] It has been used to introduce oligonucleotides into cultured eukaryotic cells by permeabilization.[4] SLO has also been used to permeabilize human T lymphocytes.[5]

Kinetic studies have been performed on partially purified SLO. Cholesterol was found to inhibit hemolytic activity when added prior to incubation of SLO with rabbit erythrocytes; however, no inhibition was observed when cholesterol was added after the initiation of hemolysis.[6]

The products are lyophilized from a 10 mM Tris-Cl buffer solution containing 3 mM sodium azide, 5 mM sodium EDTA, and 1 mM PMSF. The protein content is 3-9% and each vial contains less than 1 mg solid (25,000–50,000 units/vial). S0149 has been γ-irradiated.

Unit Definition: One unit will cause 50% lysis of 50 µl of a 2% human red blood cell suspension in phosphate buffered saline, pH 7.4, at 37 °C for 30 minutes.

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
SLO is soluble in cold water (1 mg/ml). Reconstitute by adding water into the vial and gently rotating.

After reconstitution, the solution should be stored at –20 °C in aliquots and any unused portions should be discarded. SLO is readily oxidized in solution. The activity is significantly increased in the presence of reducing agents, 20 mM cysteine[3] or 10 mM dithiothreitol.[1] A SLO solution will lose ~50% activity within 10 days when stored at 2-8 °C. It is recommended to freeze solutions at a minimal concentration of 0.2 mg/ml.

Storage/Stability
It is recommended to store Streptolysin O at 2–8 °C. The lyophilized products retain activity for up to three years when stored properly.

References
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4. Barry, E. *et al*., Biotechniques, **15**, 1016 (1993).
5. Graves, J.D. *et al*., Biochem. J., **265**, 407-413 (1990).
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EM,VC,NDH,TA,MAM 04/08-1