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**

EM,VC,NDH,TA,MAM 04/08-1

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