SERANA Science for Life	Document ID:	TDS-RAL-002-100ML	Version:	005
	Date of Issue:	10-JAN-2023	Approved by:	Dr. Iman Kamranfar
	Review Date:	10-JAN-2025	Signature:	
	Title:	**TECHNICAL DATASHEET**		

Penicillin-Streptomycin Solution 100X

Filtration	0.1µm sterile filtered
Product Code	RAL-002-100ML
Shelf Life	4 years from DOM. Avoid repeated freeze-thaw cycles. Preparation of aliquots recommended. Once opened, store at +2°C to +8°C and use within 4-6 weeks
Storage Temperature	-5 to -20°C.
Shipping Temperature	Frozen / dry ice
Thawing	Overnight at +2°C to +8°C. Swirl gently to homogenize
Working concentration	Recommended final concentration of 10ml/L

QC Specifications

Physical and Chemical Analysis	**Method**	**Specifications**	**Units**
Appearance	Visual	Clear, colourless solution	n/a
pH	Electronic pH Meter	6.0 - 7.0	n/a
Osmolality	Osmometer	Test and report	mOsm/kg
Endotoxin	LAL Kinetic	≤ 1.0	EU/ml
Sterility			
Aerobic Bacteria	Internally Validated	Not detected	n/a
Anaerobic Bacteria	Internally Validated	Not detected	n/a
Fungi (Yeast & Mold)	Internally Validated	Not detected	n/a
Mycoplasma	qPCR	Not detected	n/a

Formulation

Components	**CAS number**	**Concentration**
NaCl	7647-14-5	9000 mg/L
Penicillin G Sodium	69-57-8	10^7 Units/L
Streptomycin Sulfate	3810-74-0	10000 mg/L

Product description

Antibiotic/Antimycotic Solution is supplied to offer one-step supplementation convenience to be used in cell culture to prevent bacterial and fungi contaminations due to the effective combined action against gram-positive and gram-negative bacteria, and against yeast and multicellular fungi. Hence, this product saves time and reduces the risk of contamination caused by multiple invasive supplements. This product is recommended as primary cell line prophylaxis and is suitable for contaminated cells.

Penicillins were originally obtained from the *Penicillium* fungi genus, principally *P. chrysogenum* and *P. rubens*. A number of natural penicillins have been discovered, but only two purified compounds are in clinical use: penicillin G/Benzylpenicillin, and penicillin V/ Phenoxymethylpenicillin. Gram-positive bacteria are very susceptible to these types of antibiotics because penicillins can easily enter them as they do not have an outer cell membrane and these molecules are small enough to pass through the spaces of glycoproteins in the cell wall. Penicillins have both a direct and indirect bactericidal effect, disrupting cell wall synthesis by inhibiting the cross-linking of peptidoglycans and triggering the release of enzymes that further change the cell wall, respectively.

Product Use: This product is intended for laboratory use only.