

Instruction Manual

Product	Size	Catalog Number
Pen/Strep Solution	100 ml	C-42010
Pen/Strep/Fungizone Solution	100 ml	C-42020
Pen/Strep/Fungizone Solution (Special)	100 ml	C-42022
Tylosin Solution	100 ml	C-42030
Amphotericin B Solution	100 ml	C-42040
Gentamicin Solution	100 ml	C-42060
Kanamycin Solution	100 ml	C-42070
Neomycin Solution	100 ml	C-42080
G-418 Sulphate Solution	20 ml	C-42094
Hygromycin B Solution	20 ml	C-42095

Description

Antibiotics are used in order to prevent / clear microbial contaminations in cell culture during initial isolation steps or to cure precious cultures exhibiting microbial contamination, e.g. with mycoplasma or yeast / fungi.

However, antibiotics may not only harm contaminating organisms, but also unfavorably alter the physiology and lifespan of primary human cells. Therefore PromoCell does not recommend the routine use of antibiotics in cell culture as a general preventive measure.

As a further application antibiotics may

be utilized in genetic selection procedures, e.g. G-418.

Storage and Stability

Store at the temperature stated on the label in the dark immediately after arrival. Keep opened containers refrigerated at 4-8°C. If stored properly, the product is stable until the expiry date stated on the label.

Quality Control

All lots of PromoCell Antibiotics are subjected to comprehensive quality control

tests. Each lot is routinely tested for its antimicrobial activity and physical parameters such as osmolality and pH level. Approved in-house lots are used as a reference.

In addition, all lots have been tested for the absence of microbial contaminants (fungi, bacteria).

Intended Use

The products are for *in vitro* research use only and not for diagnostic or therapeutic procedures. For safety precautions please see appropriate MSDS.

Pen/Strep Solution	Pen/Strep/Fungizone Solution	Pen/Strep/Fungizone Solution (Special)	Tylosin Solution
C-42010	C-42020	C-42022	C-42030

■ Formulation

<u>Penicillin</u> 10.000 IU/ml	<u>Penicillin</u> 10.000 IU/ml	<u>Penicillin</u> 10.000 IU/ml	<u>Tylosin Tartrate</u> 5 mg/ml
<u>Streptomycin-Sulfate</u> 10 mg/ml	<u>Streptomycin-Sulfate</u> 10.000 µg/ml	<u>Streptomycin-Sulfate</u> 10.000 µg/ml	<u>Sodium Chloride</u> 9 mg/ml
	<u>Fungizone</u> 25 µg/ml	<u>Fungizone</u> 250 µg/ml	

■ Specification

<u>Appearance</u> Clear colorless solution	<u>Appearance</u> Clear colorless solution	<u>Appearance</u> Clear colorless solution	<u>Appearance</u> Clear yellowish solution
<u>pH</u> 6.0 - 7.5	<u>pH</u> 6.0 - 7.5	<u>pH</u> 6.0 - 7.5	<u>pH</u> 6.0 - 8.0

■ Mode of Action

<u>Penicillin</u> Interferes with the final stage of synthesis of bacterial cell wall.	<u>Penicillin</u> Interferes with the final stage of synthesis of bacterial cell wall.	<u>Penicillin</u> Interferes with the final stage of synthesis of bacterial cell wall.	Interferes with bacterial protein synthesis by binding to the 50S subunit.
<u>Streptomycin-Sulfate</u> Binds to 30S subunit to cause misreading.	<u>Streptomycin-Sulfate</u> Binds to 30S subunit to cause misreading.	<u>Streptomycin-Sulfate</u> Binds to 30S subunit to cause misreading.	
	<u>Fungizone</u> Interferes with the permeability of cell membrane of fungi by binding sterols.	<u>Fungizone</u> Interferes with the permeability of cell membrane of fungi by binding sterols.	

■ Suggested Working Concentration

<u>Penicillin</u> 100 IU/ml	<u>Penicillin</u> 100 IU/ml	<u>Penicillin</u> 100 IU/ml	In tissue culture systems Tylosin has been used up to concentrations of 0.3 mg/ml without any cytotoxic effects. The recommended working concentration in tissue culture varies from 10 - 200 µg/ml.
<u>Streptomycin-Sulfate</u> 100 µg/ml	<u>Streptomycin-Sulfate</u> 100 µg/ml	<u>Streptomycin-Sulfate</u> 100 µg/ml	
	<u>Fungizone</u> 0.25 µg/ml	<u>Fungizone</u> 2.5 µg/ml	

■ Storage / Stability

Stable for 3 days at 37°C.	Stable for 3 days at 37°C.	Stable for 3 days at 37°C.	-20°C
Stable for approximately 2-3 weeks at 2-8 °C.	Stable for approximately 2-3 weeks at 2-8 °C.	Stable for approximately 2-3 weeks at 2-8 °C.	
For long-term storage, solution should be kept frozen at -20°C.	For long-term storage, solution should be kept frozen at -20°C.	For long-term storage, solution should be kept frozen at -20°C.	

Amphotericin B Solution	Gentamicin Solution	Kanamycin Sulfate Solution
C-42040	C-42060	C-42070

■ Concentration

250 µg/ml	5 mg/ml	5 mg/ml
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■ Specification

<u>Appearance</u> Clear yellow solution	<u>Appearance</u> Clear colorless solution	<u>Appearance</u> Clear colorless solution
<u>pH</u> 8.5 - 12.5	<u>pH</u> 6.0 - 8.0	<u>pH</u> 6.5 - 8.5

■ Mode of Action

Interferes with the permeability of cell membrane of sensitive fungi by binding sterols.	Interferes with bacterial protein synthesis by binding to 30S subunit of ribosomes.	Inhibits bacterial protein synthesis by interaction with ribosomal subunits.
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■ Suggested Working Concentration

<u>Primary Human Cells</u> 0.05 µg/ml	50 µg/ml final concentration	50 µg/ml final concentration
<u>Other Cells</u> 2.5 µg/ml		

■ Storage / Stability

Stable for 3 days at 37°C.	Stable for at least 1 year at 2-8 °C.	Stable for 5 days at 37°C.
Stable for approximately 2-3 weeks at 2-8 °C.		Stable for approximately 2-3 weeks at 2-8 °C.
For long-term storage, solution should be kept frozen at -20°C.		For long-term storage, solution should be kept frozen at -20°C.

Neomycin Solution C-42080	G-418 Sulphate Solution C-42094	Hygromycin B Solution C-42095
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■ Concentration

10 mg/ml	50 mg/ml	50 mg/ml
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■ Specification

<u>Appearance</u> Clear colorless solution	<u>Appearance</u> Clear colorless solution	<u>Appearance</u> Brownish solution
<u>pH</u> 6.0 - 8.0	<u>pH</u> 6.5 - 7.5	<u>pH</u> 6.0 - 8.0

■ Mode of Action

Blocks polypeptide synthesis by irreversibly binding to 80S ribosomal subunits.	Blocks polypeptide synthesis by irreversibly binding to 80S ribosomal subunits.	Inhibits protein synthesis by disrupting translocation and promoting mistranslation at the 80S ribosome.
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■ Suggested Working Concentration

50 µg/ml final concentration	<u>Prokaryotic selection:</u> 8-16 µg/ml	<u>Selection of resistant mammalian cells:</u> 200 µg/ml <u>For plant cells and bacteria:</u> 20-200 µg/ml
	<u>Plant cell maintenance:</u> 10 µg/ml	
	<u>Plant cell selection:</u> 25-50 µg/ml	
	<u>Mammalian cell maintenance:</u> 200 µg/ml	
	<u>Mammalian cell selection:</u> 300-1000 µg/ml	

■ Storage / Stability

Stable for 5 days at 37°C.	Stable for at least 1 year at 2-8 °C.	Stable for about 1 month at 37°C and at least two years at +4°C.
Stable for approximately 2-3 weeks at 2-8 °C.	For long-term storage, the solution should be kept frozen in aliquots at -20°C.	
For long-term storage, solution should be kept frozen at -20°C.		