



Fisher BioReagents®

# Fisher BioReagents® Antibiotics and Antimycotics

## Optimized for cell culture

In many life science laboratories, the in vitro culturing of bacterial, plant, and animal cells is a routine task. High quality antibiotics and antimycotics from Fisher BioReagents can be used to ensure successful growth of cells by eliminating unwanted bacterial strains and fungi while maintaining the health and vitality of the desired cells.

### Advantages

- **High quality** - antibiotics and antimycotics meet rigorous quality control tests, including verification of potency, purity, and solubility using microbiological and chromatographic methods.
- **Built for selection** - excellent choice of antibiotics for selection of antibiotic resistance genes in both bacterial and mammalian cells.
- **High purity and stability** - ultrapure antibiotics ensure successful growth of target cells and reproducible results.
- **Maximum convenience** - antibiotics and antimycotics come in both sterile powder and liquid forms.

### Applications

- Plant cell culture
- Mammalian cell culture
- Tissue culture
- Genetic marker selection



Table 1. Antibiotic modes of action

Catalog No.	Product Description	Molecular Weight	Mode of Action	Susceptible Organisms	Form	Size	Packaging
BP2950-1	Bacitracin	1422.7	Inhibitor of protein disulfide isomerase. Interferes with building blocks of peptidoglycan bacterial cell wall.	Gram+	Dry	1g	Amber glass bottle
BP2951-1	Cefotaxime Sodium Salt	477.5	Inhibitor of bacterial cell wall synthesis. Eliminates Agrobacterium species after inoculation.	Gram-	Dry	1g	Amber glass bottle
BP2952-1MU	Hygromycin B	527.5	Inhibits protein synthesis.	Prokaryotes and higher eukaryotes	Liquid	1mu	Crimp top on glass bottle
BP2949-5	Nystatin	926.1	Alters membrane permeability and allows potassium ion leakage.	Yeasts and molds	Dry	5g	Amber glass bottle
BP2953-1	Paromomycin Sulfate	615.6	Inhibits protein synthesis.	Gram+ and Gram-	Dry	1g	Amber glass bottle
BP2955-5	Penicillin G Sodium Salt	356.4	Interferes with peptidoglycan synthesis in bacterial cell walls.	Gram+	Dry	5g	Amber glass bottle
BP2959-50*	Penicillin/Streptomycin Mixture		Interferes with synthesis of bacterial cell wall. Inhibits protein synthesis; binds to 30S ribosomal subunit.	Gram+ and Gram-	Liquid	50mL	Clear plastic bottle
BP2960-50*	Penicillin/Streptomycin/ Glutamine Mixture		Interferes with synthesis of bacterial cell wall. Inhibits protein synthesis. Interferes with bacterial cell division.	Gram+ and Gram-	Liquid	50mL	Clear plastic bottle
BP2961-50*	Penicillin/Streptomycin/ Neomycin Mixture		Interferes with synthesis of bacterial cell wall. Inhibits protein synthesis.	Gram+ and Gram-	Liquid	50mL	Clear plastic bottle
BP2962-100	Phleomycin	1526.5	Disrupts the integrity of DNA, and blocks S-phase entry in the cell cycle.	Bacteria, yeast, fungi, plant and animal cells	Liquid	100mg	Clear plastic bottle
BP2954-1	Polymyxin B Sulfate	1385.61	Interferes with cytoplasmic membrane.	Gram-	Dry	1g	Amber glass bottle
BP2956-100	Puromycin Dihydrochloride	544.4	Inhibits protein synthesis.	Gram+ and various animal and insect cells	Dry	100mg	Clear glass bottle
BP2963-1	Rapamycin	914.2	Possesses immunosuppressive properties. Blocks a protein that is involved in cell division. A type of serine/ threonine kinase inhibitor.	Yeasts and filamentous fungi, antineoplastic properties	Dry	1mg	Clear glass bottle
BP2957-1	Spectinomycin Dihydrochloride Pentahydrate	495.3	Inhibits protein synthesis.	Gram+ and Gram-	Dry	1g	Amber glass bottle
BP2958-1	Vancomycin Hydrochloride	1485.7	Inhibits formation of peptidoglycan polymers of bacterial cell wall.	Gram+	Dry	1g	Amber glass bottle

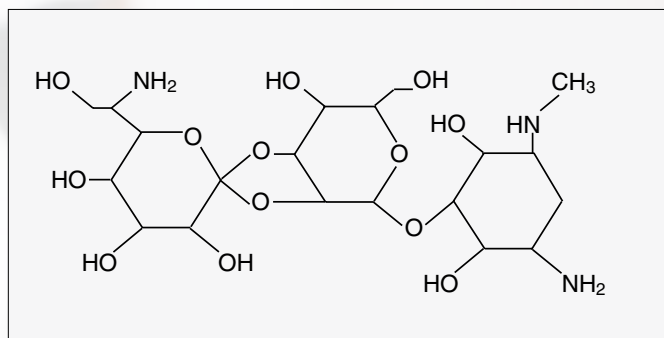
\* Molecular weights are not available because products are mixtures.

Table 2. Selective antibiotics used in transformation studies

Catalog No.	Product Description	Formula	Antibiotic Resistance Genes
BP2952-1MU	Hygromycin B	$C_{20}H_{37}N_3O_{13}$	The aph4 gene (also known as hph or hyg) encodes an enzyme, hygromycin phosphotransferase, which confers resistance to hygromycin B. This antibiotic is particularly useful as a selective agent for the incorporation of aph4 in plant tissue.
BP2962-100	Phleomycin	$C_{55}H_{65}O_{21}N_{21}S_2Cu \cdot HCl$	Phleomycin resistance is conferred by the Sh ble gene from <i>Streptoalloteichus hindustanus</i> which encodes a protein that binds to phleomycin, inhibiting its DNA cleavage activity. Useful in transformation studies involving plant and mammalian cells.
BP2956-100	Puromycin Dihydrochloride	$C_{22}H_{29}N_7O_5 \cdot 2HCl$	Selection agent for cells transformed with pac gene. Used for stable transfection of DNA into mammalian cells.
BP2957-1	Spectinomycin Dihydrochloride Pentahydrate	$C_{14}H_{24}N_2O_7 \cdot 2HCl \cdot 5H_2O$	Resistance to spectinomycin may develop by mutations in rpsL gene that prevent this antibiotic from binding to the 30S ribosomal subunit and inhibiting proper translation; streptomycin resistance is recessive.

Table 3. Additional antibiotics available from Fisher BioReagents

Catalog No.	Product Description
BP606	Actinomycin-D
BP2643	Amikacin
BP928, BP2645	Amphotericin B
BP1760	Ampicillin Sodium Salt
BP902	Ampicillin Trihydrate
BP2502	Antibiotic A23187
BP2647	Blasticidin S Hydrochloride
BP2648	Carbenicillin Disodium Salt
BP904	Chloramphenicol
BP2516	Doxorubicin Hydrochloride
BP2653	Doxycycline Hydrochloride
BP920	Erythromycin
BP673	G418 Sulfate
BP918	Gentamycin Sulfate
BP2527	Ionomycin Calcium Salt
BP906	Kanamycin Sulfate
BP2734	Ketoconazole
BP2668	Miconazole
BP2531	Mitomycin C
BP2669	Neomycin Sulfate
BP914	Penicillin-G Potassium Salt
BP2679	Rifampicin
BP2541	Staurosporine
BP910	Streptomycin Sulfate
BP912	Tetracycline Hydrochloride

**Hygromycin B**

CAS No. 31282-04-9

Molecular Weight 527.5

Molecular Formula  $C_{20}H_{37}N_3O_{13}$ 

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