

PRODUCT INFORMATION

ANTIBIOTICS and ANTIMYCOTICS

(J608, J607, J594, J592, J595, J593, 0414, 0741, 0339, 0230, 0219, 0304, 0408, 0677, 0558, 0418, 0242, 0319, 0382, 0442)

Antibiotics and antimycotics are used extensively in many laboratory applications, from selecting transformed bacteria to maintaining cell lines.

Most common vectors, whether plasmid or phage DNA, carry genes encoding resistance to antibiotics and are identified by the ability of the host bacteria to grow in the presence of the antibiotic. Antibiotic solutions are usually added to freshly autoclaved media (after it has cooled to about 50°C). These antibiotic solutions can also be plated directly on the surface of an agar plate and spread evenly. Liquid media or agar plates containing antibiotics should be stored at 4°C for no longer than 30 days to maintain the drug's effectiveness. Below is a table of common antibiotics for the selection of bacteria harboring resistant plasmids. Unless otherwise stated, all antibiotic solutions should be prepared in sterile distilled water and then stored at -20°C.

ANTIBIOTIC	STOCK CONCENTRATION	WORKING CONCENTRATION
Ampicillin	50 mg/mL	50 µg/mL
Chloramphenicol	10 mg/mL	20 µg/mL
Gentamycin Sulfate	15 mg/mL	15 µg/mL
Kanamycin	15 mg/mL	30 µg/mL
Nalidixic Acid	5 mg/mL	15 µg/mL
Streptomycin Sulfate	30 mg/mL	30 µg/mL
Tetracycline Hydrochloride*	15 mg/mL	15 µg/mL

*prepare in 70% ETOH

AMRESCO also offers antibiotics and antimycotics for your cell culture needs.

When coupled with aseptic technique, researchers using these products can be confident that they are maintaining pure cultures, devoid of contamination. It is important to be aware that some antibiotics/antimycotics exhibit cell specific cytotoxicity and therefore caution must be exercised when selecting effective antibiotics and working concentrations. The table on the back summarizes the uses and mechanism of the action of all antibiotics/antimycotics available from **AMRESCO**.



Compound	Use	Mechanism	Ordering Information	
			Code	Size
Actinomycin D	Selection agent	Inhibitor of nucleic acid synthesis	J608	5 mg
Hygromycin B	Selection agent	Inhibitor of protein synthesis in both prokaryotes and eukaryotes	J607	100 mg
Mitomycin C	Selection and carcinostatic agent	Inhibitor of DNA synthesis	J594	2 mg
Mycophenolic Acid	Selection for vectors expressing the <i>E. coli gpt</i> gene	Interferes with GMP synthesis by blocking IMP dehydrogenase	J592	100 mg
Netropsin	Inhibition of growth for bacteria (+) (-), yeast and mycobacteria	Binds to double-stranded DNA	J595	25 mg
Puromycin Dihydrochloride	Selection for mammalian cell lines expressing a transfected <i>pac</i> gene (<i>Streptomyces alboniger</i>)	Inhibitor of protein synthesis in both prokaryotes and eukaryotes	J593	25 mg
Amphotericin B	Elimination of yeasts and molds in cell culture	Interferes with membrane permeability	0414	250 mg 500 mg
Ampicillin Trihydrate	Selection of transformed bacteria (+) (-)	Interferes with formation of bacterial cell wall	0741	50 g 100 g 500 g
Ampicillin Sodium Salt	See above	See above	0339	25 g 100 g
Chloramphenicol	Amplification of vectors in bacteria (-)	Inhibits protein synthesis	0230	100 g 500 g
Erythromycin	Cell culture (+) (-)	Inhibits protein synthesis	0219	10 g 50 g
Gentamycin Sulfate	Cell culture (+) (-) mycoplasma	Binds to the 30S subunit of the bacterial ribosome	0304	5 g 10 g
Kanamycin Sulfate	Cell culture (+) (-) yeasts	Binds to the 30S subunit of the bacterial ribosome	0408	10 g 25 g 100 g
Nalidixic Acid	Cell culture (+) (-)	Inhibits DNA gyrase	0677	50 g 250 g
Neomycin Sulfate	(+) (-)	Causes miscoding in protein synthesis	0558	25 g 100 g
Nystatin	Control of yeast and molds	Alters membrane permeability	0418	5X10 ⁶ U 25X10 ⁶ U
Penicillin G	Cell culture (+) (-)	Interferes with synthesis of bacterial membrane	0242	10X10 ⁷ U 1X10 ⁹ U
Polymyxin B	(-)	Interferes with cytoplasmic membrane	0319	25X10 ⁶ U 10X10 ⁷ U
Streptomycin Sulfate	Cell culture (+) (-)	Binds 30S subunit of ribosome	0382	50 g 100 g 500 g
Tetracycline Hydrochloride	Bacterial Selection (+) (-)	Blocks binding of tRNA to the 30S subunit	0442	25 g 100 g

Legend: (+) Gram-Positive Bacteria, (-) Gram-Negative Bacteria

**These products are for research use only. They are not intended for drug use on animals or humans.

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