

MOLECULAR BIOLOGY

LEGEND



Indicates the solubility or miscibility of the product.



Indicates whether the antibiotic is used against with Gram +, Gram -, or as a selection agent.



Indicates the Chemical Abstracts Service (CAS) Number of the product.



Indicates the storage temperature of the product. RT indicates room temperature.

Antibiotics & Transformation

PhytoTech Labs® offers antibiotics, antibiotic solutions, reagents, and stains for plant transformation, research, selection, seed testing and more. In this flyer, we have listed our more popular selection. Please visit phytotechlab.com for a complete listing.

A104

ACETOSYRINGONE

3',5'-Dimethoxy-4'-hydroxyacetophenone. Acetosyringone is a naturally occurring compound secreted from wounded dicot plant tissues and is a chemotractant for *Agrobacterium* sp. It is generally used at 5uM to 200uM to enhance transformation in monocots. Acetosyringone should NOT be autoclaved. Also available as a sterile solution in a concentration of 100mM (product number A1104).



2478-38-8



DMSO



RT

Available Package Sizes:

1g 5g 25g

A122

AMOXICILLIN

Amoxicillin is a β -lactam antibiotic with broad spectrum activities similar to that of ampicillin. It is effective against most gram-positive and gram-negative bacteria by inhibiting bacterial cell-wall synthesis. Similar to other β -lactam antibiotics, amoxicillin activity is inhibited by β -lactamase producing microbes.



Gram \pm



Water



-20 °C

Available Package Sizes:

5g 25g

A116

AMPICILLIN

D(-)- β -Aminobenzylpenicillin. Ampicillin is a broad spectrum β -lactam antibiotic. It is a semi synthetic derivative of penicillin and has a similar mode of action to that of benzylpenicillin against gram-positive organisms; however, it is more effective against gram-negative bacilli such as *Haemophilus influenza* and *Enterobacteriaceae* such as *Escherichia coli*.



Gram \pm



Water



2 to 8 °C

Available Package Sizes:

5g 25g

C346**CARBENICILLIN**

α -Carboxybenzylpenicillin, Disodium Salt. Carbenicillin is a derivative of penicillin with a mode of action similar to benzylpenicillin. It is the most commonly used antibiotic for the elimination of *Agrobacterium tumefaciens* during plant transformation. Also available as a sterile filtered solution in a concentration of 100 mg/mL (product number C540).

Gram \pm 

Water



2 to 8 °C

Available Package Sizes:

5g 10g 25g 100g 500g

C540**CARBENICILLIN SOLUTION (100 MG/ML)**

Sterile Filtered 100 mg/mL Solution. Carbenicillin is a derivative of penicillin with a mode of action similar to benzylpenicillin. It is the most commonly used antibiotic for the elimination of *Agrobacterium tumefaciens* during plant transformation. **This product ships via 1-Day Shipping on dry ice to ensure product integrity during shipping transit.**

Gram \pm 

Water



-20 °C

Available Package Sizes:

100mL

C380**CEFOTAXIME**

(6R,7R)-3-[(Acetyloxy)methyl]-7-[[[(2Z)-(2-amino-4-thiazolyl)(methoxyimino)acetyl]amino]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic Acid. Cefotaxime is used in transformation research to eliminate *Agrobacterium tumefaciens*.

Gram \pm 

Water



2 to 8 °C

Available Package Sizes:

1g 5g 25g 100g 500g

C537**CEFOTAXIME SOLUTION (100 MG/ML)**

Sterile Filtered 100 mg/mL Solution. (6R,7R)-3-[(Acetyloxy)methyl]-7-[[[(2Z)-(2-amino-4-thiazolyl)(methoxyimino)acetyl]amino]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic Acid. Cefotaxime is used in transformation research to eliminate *Agrobacterium tumefaciens*. **This product ships via 1-Day Shipping on dry ice to ensure product integrity during shipping transit.**

Gram \pm 

Water



-20 °C

Available Package Sizes:

10mL 100mL

C252**CHLORAMPHENICOL**

Chloramphenicol is derived from *Streptomyces venezuelae* and has a broad spectrum of activity against gram-positive and gram-negative bacteria. It is often used for selection in molecular biology with the *cyt B* gene.

Gram \pm 

EtOH



RT

Available Package Sizes:

5g 25g 100g

G570**GENTAMICIN SULFATE**

Gentamicin Sulfate. Gentamicin sulfate is an aminoglycoside antibiotic that is effective against many gram-negative bacteria (e.g., *Brucella*, *Escherichia*, *Enterobacter*, *Francisella*, *Yersinia*, etc.) and some strains of staphylococci. Also available as a sterile filtered solution in a concentration of 100 mg/mL (product number G3410).

Gram \pm 

Water



2 to 8 °C

Available Package Sizes:

5g 10g 25g

G3410**GENTAMICIN SULFATE SOLUTION (100 MG/ML)**

Sterile Filtered 100 mg/mL Solution. Gentamicin sulfate is an aminoglycoside antibiotic that is effective against many gram-negative bacteria (e.g., *Brucella*, *Escherichia*, *Enterobacter*, *Francisella*, *Yersinia*, etc.) and some strains of staphylococci. **This product ships via 1-Day Shipping on dry ice to ensure product integrity during shipping transit.**

Gram \pm 

Water



-20 °C

Available Package Sizes:

25mL 100mL

G345**GLYPHOSATE**

N-(phosphonomethyl)glycine. Glyphosate is a herbicide that can be used as a selection agent in plant cells containing the EPSP synthetase gene.



1071-83-6



Water



2 to 8 °C

Available Package Sizes:

1g

H397**HYGROMYCIN B**

O-6-Amino-6-deoxy-L-glycero-D-galacto-heptopyranosylidene-(1-2-3)-O- β -D-talopyranosyl-(1-5)-2-deoxy-N³-methyl-D-Streptamine. Hygromycin B is effective against bacteria, fungi, and higher eukaryotic cells. Also available as a sterile filtered solution in a concentration of 100mg/mL in DI Water (product number H385) and 50 mg/mL in PBS Buffer (product number H370).

Gram \pm 

Water



2 to 8 °C

Available Package Sizes:

1g

K378**KANAMYCIN**

O-3-Amino-3-deoxy- α -D-glucopyranosol-(1 β)-O-[6-amino-6-deoxy- α -D-glucopyranosyl-(1 β)-2-deoxy-D-Streptamine Monosulfate. Kanamycin is effective against gram-positive and gram-negative bacteria and is used to select for the nptII gene. Also available as a sterile filtered solution in a concentration of 100 mg/mL (product number K4751).

Gram \pm 

Water



RT

Available Package Sizes:

5g 10g 25g

K4751**KANAMYCIN SOLUTION (100 MG/ML)**

Sterile Filtered 100 mg/mL Solution. Gentamicin sulfate is an aminoglycoside antibiotic that is effective against many gram-negative bacteria (e.g., *Brucella*, *Escherichia*, *Enterobacter*, *Francisella*, *Yersinia*, etc.) and some strains of staphylococci. **This product ships via 1-Day Shipping on dry ice to ensure product integrity during shipping transit.**

Gram \pm 

Water



-20 °C

Available Package Sizes:

25mL 100mL

M649**B-MERCAPTOETHANOL**

2-mercaptoethanol, 2-Me, BMe, 2-thioethanol, 2-Hydroxyethyl-mercaptan. β -Mercaptoethanol is a disulfide reducing agent for proteins. Often supplemented to Plant DNA extraction buffers to limit oxidation of polyphenols.



60-24-2



Water



RT

Available Package Sizes:

100mL 500mL

M5600**MEROPENEM TRIHYDRATE**

Meropenem is a broad spectrum antibiotic with activity against Gram-positive and Gram-negative bacteria. It is a beta-lactam antibiotic which inhibits bacterial wall synthesis and belongs to the subgroup of carbapenem.

Gram \pm 

Water



-20 °C

Available Package Sizes:

100mg 1g 5g 25g

M565**MTT**

3-[4,5-dimethylthiazol-2-yl]-2,5-diphenyltetrazolium Bromide; Thiazolyl Blue Tetrazolium Bromide. MTT is a tetrazolium dye that is often used to assess cell viability through redox enzymes in the mitochondria.



298-93-1



Water



2 to 8 °C

Available Package Sizes:

1g

M569**MUG**

MUGluc; 4-Methylumbelliferyl β -D-glucuronide Trihydrate. MUG is a fluorescent β -Glucuronidase (GUS) substrate that excites at 360 nm and emits at 450 nm to measure GUS expression quantitatively.



881005-91-0



DMSO



2 to 8 °C

Available Package Sizes:

1g

R795**RIBAVIRIN**

Ribavirin is an adenosine/guanosine analogue that has extremely broad antiviral activity in both RNA and DNA viruses. In RNA virus, depending on the rotation of ribavirin's carboxamide group which can resemble adenosine or guanosine to pair with uracil or cytosine, it induces mutation in RNA replication and disrupts RNA duplication process.



36791-04-5



Water



2 to 8 °C

Available Package Sizes:

1g 5g 25g

S742**SPECTINOMYCIN DIHYDROCHLORIDE**

Spectinomycin is an aminocyclitol antibiotic derived from *Streptomyces spectabilis*. It inhibits protein synthesis by binding to the 30S ribosome subunit. Spectinomycin is effective against various Gram-negative bacteria.



Gram -



Water



2 to 8 °C

Available Package Sizes:

5g 25g 100g

T869**TIMENTIN**

Timentin is a mixture of ticarcillin and clavulanic acid and exhibits broad spectrum activity toward gram-negative bacteria. Timentin is used most commonly in the regeneration medium for elimination of the *Agrobacterium* post-transformation.



Gram ±



Water



2 to 8 °C

Available Package Sizes:

2g 5g 10g 25g 100g

T767**TIMENTIN SOLUTION (100 MG/ML)**

Sterile Filtered 100 mg/mL Solution. Timentin is a mixture of ticarcillin and clavulanic acid and exhibits broad spectrum activity toward gram-negative bacteria. Timentin is used most commonly in the regeneration medium for elimination of the *Agrobacterium* post-transformation. **This product ships via 1-Day Shipping on dry ice to ensure product integrity during shipping transit.**



Gram ±



Water



-20 °C

Available Package Sizes:

10mL 25mL 100mL

V870**VANCOMYCIN HYDROCHLORIDE**

Vancomycin is a glycopeptide antibiotic produced by *Streptomyces orientalis* that is effective against most Gram-positive bacteria by blocking bacterial cell wall synthesis. Also available as a sterile filtered solution in a concentration of 100 mg/mL (product number V8370).



Gram ±



Water



-20 °C

Available Package Sizes:

1g 5g 10g 25g

X874**X-GAL**

5-bromo-4-chloro-3-indolyl- β -D-galactopyranoside. X-Gal is also known 5-Bromo-4-chloro-3-indolyl- β -D-galactopyranoside and it is used to detect β -galactosidases. The lac Z gene encodes β -galactosidases which will cleave X-Gal to form an insoluble blue dimer. This is used in blue-white screening in *Escherichia coli*.



7240-90-6



DMSO/DMF



-20 °C

Available Package Sizes:

100mg 500mg 1g

X877**X-GLUC, MONOCYCLOHEXYL AMMONIUM SALT**

5-bromo-4-chloro-3-indolyl- β -D-glucuronic Acid; Monocyclohexyl Ammonium Salt. X-Gluc is used to detect β -glucuronidase (GUS) activity in genetically modified plant tissue. β -glucuronidase is encoded by the gusA (uidA) gene found in *Escherichia coli*. In transformed cells, β -glucuronidase cleaves X-gluc, and forms an insoluble blue dimer.



114162-64-0



DMSO/DMF



-20 °C

Available Package Sizes:

100mg 500mg 1g 5g

X871**X-GLUC, SODIUM SALT**

5-bromo-4-chloro-3-indolyl- β -D-glucuronic Acid; Sodium Salt. X-Gluc is used to detect β -glucuronidase (GUS) activity in genetically modified plant tissue. β -glucuronidase is encoded by the gusA (uidA) gene found in *Escherichia coli*. In transformed cells, β -glucuronidase cleaves X-gluc, and forms an insoluble blue dimer.



129541-41-9



DMSO/DMF



-20 to 0 °C

Available Package Sizes:

100mg 500mg 1g 5g



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