

AMES' MEDIUM

With L-Glutamine, Without Sodium Bicarbonate Product Number **A1420**

Product Description

Ames' Medium was formulated to support retinal tissue in relatively short-term culture (Ames and Nesbett, 1981). Rabbit retina incubated in Ames' Medium for more than 2 days maintained its metabolism and electrical responses to photic stimuli. Today, this mixture remains the medium of choice for maintaining central nervous system tissue in vitro.

| Calcium Chloride Anhydrous 0.1275 Magnesium Sulfate 0.1488 Potassium Chloride 0.231 Potassium Phosphate Monobasic(anhydrous) 0.068 Sodium Chloride 7.01 L-Alanine 0.0024 L-Arginine+HCl 0.00421 L-Asparagine (anhydrous) 0.00084 L-Asparatic Acid 0.00012 L-Cystine•2HCl 0.00065 L-Glutamine 0.073 L-Glutamic Acid•Na 0.001183 Glycine 0.00251 L-Histidine•HCl• H₂O 0.00251 L-Isoleucine 0.00058 L-Leucine 0.00144 L-Lysine•HCl 0.003648 L-Methionine 0.00039 L-Phenylalanine 0.00039 L-Proline 0.0007 L-Serine 0.00252 Taurine 0.00075 L-Threonine 0.00075 L-Tyrosine•2Na•2H₂O 0.00211 L-Valine 0.00176 Ascorbic Acid•Na 0.01796 D-Biotin 0.0001 <th>Components</th> <th>g/L</th> | Components | g/L |
|---|--|-----------|
| Magnesium Sulfate 0.1488 Potassium Chloride 0.231 Potassium Phosphate Monobasic(anhydrous) 0.068 Sodium Chloride 7.01 L-Alanine 0.0024 L-Arginine*HCl 0.00421 L-Asparagine (anhydrous) 0.00084 L-Aspartic Acid 0.00012 L-Cystine*2HCl 0.00065 L-Glutamine 0.073 L-Glutamic Acid*Na 0.001183 Glycine 0.00251 L-Histidine*HCl* H ₂ O 0.002513 L-Isoleucine 0.00058 L-Leucine 0.00144 L-Lysine*HCl 0.003648 L-Methionine 0.003648 L-Proline 0.000364 L-Phenylalanine 0.00132 L-Proline 0.00075 L-Threonine 0.00075 L-Threonine 0.00075 L-Tryptophan 0.00049 L-Tyrosine*2Na*2H ₂ O 0.0211 L-Valine 0.00176 Ascorbic Acid*Na 0.0176 D-Biotin 0.0001 | | |
| Potassium Chloride 0.231 Potassium Phosphate Monobasic(anhydrous) 0.068 Sodium Chloride 7.01 L-Alanine 0.0024 L-Arginine•HCl 0.00421 L-Asparagine (anhydrous) 0.00084 L-Aspartic Acid 0.00012 L-Cystine•2HCl 0.00065 L-Glutamine 0.073 L-Glutamic Acid•Na 0.001183 Glycine 0.00045 L-Histidine•HCl• H₂O 0.002513 L-Isoleucine 0.00058 L-Leucine 0.00144 L-Lysine•HCl 0.003648 L-Methionine 0.00039 L-Phenylalanine 0.00039 L-Proline 0.00039 L-Proline 0.00075 L-Serine 0.00252 Taurine 0.00033 L-Tryptophan 0.00033 L-Tryptophan 0.00049 L-Tyrosine•2Na•2H₂O 0.00176 Ascorbic Acid•Na 0.01796 D-Biotin 0.0001 Choline Chloride 0.0007 <td></td> <td></td> | | |
| Potassium Phosphate Monobasic(anhydrous) 0.068 Sodium Chloride 7.01 L-Alanine 0.0024 L-Arginine•HCl 0.00421 L-Asparagine (anhydrous) 0.00084 L-Aspartic Acid 0.00012 L-Cystine•2HCl 0.00065 L-Glutamine 0.073 L-Glutamic Acid•Na 0.001183 Glycine 0.00045 L-Histidine•HCl• H ₂ O 0.002513 L-Isoleucine 0.00058 L-Leucine 0.00144 L-Lysine•HCl 0.003648 L-Methionine 0.003648 L-Phenylalanine 0.0039 L-Phenylalanine 0.00039 L-Proline 0.00007 L-Serine 0.00252 Taurine 0.00075 L-Threonine 0.00333 L-Tyrptophan 0.00049 L-Tyrosine•2Na•2H ₂ O 0.00211 L-Valine 0.00176 Ascorbic Acid•Na 0.01796 D-Biotin 0.0001 Choline Chloride 0.0001 <td>•</td> <td></td> | • | |
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| L-Arginine•HCl L-Asparagine (anhydrous) L-Aspartic Acid L-Aspartic Acid L-Cystine•2HCl L-Glutamine L-Glutamic Acid•Na Clycine L-Histidine•HCl• H₂O L-Isoleucine L-Leucine L-Lysine•HCl L-Phenylalanine L-Phenylalanine L-Proline L-Tryptophan L-Tryptophan L-Tryptophan L-Tyrosine•2Na•2H₂O L-Valine Ascorbic Acid•Na D-Biotin Choline Chloride D-Pantothenic Acid (hemicalcium) Pyridoxal•HCl Riboflavin D-Glucose D-Glucose 1.081 | | |
| L-Asparagine (anhydrous) L-Aspartic Acid L-Cystine•2HCl L-Glutamine L-Glutamine L-Glutamic Acid•Na Glycine L-Histidine•HCl• H₂O L-Isoleucine L-Leucine L-Lysine•HCl L-Methionine L-Phenylalanine L-Proline L-Serine Turine L-Tryptophan L-Tryptophan L-Tyrosine•2Na•2H₂O D-Biotin Choline Chloride D-Pantothenic Acid (hemicalcium) Pyridoxal•HCl Riboflavin Thiamine•HCl C.00073 L-Spelucine D.00007 D-Glucose D.00007 D-Glucose 1.081 | _ : | |
| L-Aspartic Acid L-Cystine•2HCl L-Glutamine D.0073 L-Glutamic Acid•Na Clycine L-Histidine•HCl• H₂O L-Isoleucine L-Leucine L-Leucine L-Henylalanine D.00039 L-Phenylalanine D-Pantothenic Acid•Na D-Glucose D-Glucose D-Glucose D-Glucose D.00012 D-Glucose D.00012 D.00001 D-Glucose D.00001 D.00001 D.00001 D-Glucose D.00007 D.00001 | | |
| L-Cystine•2HCl L-Glutamine L-Glutamine Country L-Glutamic Acid•Na Clycine L-Histidine•HCl• H₂O L-Isoleucine L-Leucine L-Leucine L-Leucine L-Methionine L-Phenylalanine L-Proline L-Serine Turine L-Tyrosine•2Na•2H₂O D-Biotin Choline Chloride D-Pantothenic Acid (hemicalcium) Cytidine D-Glucose D-Glucose D-Country D-Co | | |
| L-Glutamine 0.073 L-Glutamic Acid•Na 0.001183 Glycine 0.00045 L-Histidine•HCl• H₂O 0.002513 L-Isoleucine 0.00058 L-Leucine 0.00144 L-Lysine•HCl 0.003648 L-Methionine 0.00039 L-Phenylalanine 0.00132 L-Proline 0.0007 L-Serine 0.00252 Taurine 0.00075 L-Threonine 0.00075 L-Threonine 0.00333 L-Tryptophan 0.00049 L-Tyrosine•2Na•2H₂O 0.00211 L-Valine 0.00176 Ascorbic Acid•Na 0.01796 D-Biotin 0.0001 Choline Chloride 0.0007 Folic Acid 0.0001 myo-Inositol 0.00272 Niacinamide 0.0001 D-Pantothenic Acid (hemicalcium) 0.0001 Pyridoxal•HCl 0.0001 Riboflavin 0.0001 Cytidine 0.00073 D-Glucose 1.081 | | |
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| L-Histidine•HCl• H₂O L-Isoleucine L-Leucine L-Leucine L-Lysine•HCl L-Methionine L-Phenylalanine L-Proline L-Serine C-Serine C-Threonine L-Tryptophan L-Tryptophan L-Tryptosine•2Na•2H₂O D-Biotin Choline Chloride D-Biotin Choline Chloride D-Pantothenic Acid (hemicalcium) Pyridoxal•HCl Riboflavin Thiamine•HCl Cytidine 0.00073 0.00073 0.00073 0.00013 0.0001 | | |
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| Cytidine 0.00073 D-Glucose 1.081 | | |
| D-Glucose 1.081 | Thiamine•HCl | 0.0001 |
| | Cytidine | 0.00073 |
| | D-Glucose | 1.081 |
| Typoxantinine 0.00062 | Hypoxanthine | 0.00082 |
| Pyruvic Acid•Na 0.01333 | | 0.01333 |
| Thymidine 0.00024 | | 0.00024 |
| Uridine 0.00073 | Uridine | 0.00073 |

Precautions and Disclaimer

REAGENT

For R&D use only. Not for drug, household or other uses.

Preparation Instructions

Powdered media are hygroscopic and should be protected from moisture. The entire contents of each package should be used after opening. Preparing a concentrated solution of medium is not recommended as precipitates may form. Supplements can be added prior to filtration or introduced aseptically to sterile medium.

- 1. Measure out 90% of final required volume of water. Water temperature should be 15-20°C.
- Gas the water with 100% CO₂. While gently stirring the water, add 1.9 g of sodium bicarbonate or 25.3 ml of sodium bicarbonate solution [7.5% w/v] for each liter of medium.
- Add the powdered medium to the sodium bicarbonate and water mixture. Stir until dissolved. Do NOT heat water
- 4. Rinse original package with a small amount of water to remove all traces of powder. Add to solution in step 3.
- Add additional water to bring the solution to final volume
- Sterilize immediately by filtration using a membrane with a porosity of 0.22 microns. Positive pressure filtration will reduce CO₂ loss.
- The medium is designed to provide a physiological pH when equilibrated with 5% CO₂ at 37 °C. The pH can be adjusted under these conditions using 1N HCL or 1N NaOH. High CO₂ is used during preparation to avoid precipitation of CaCO₃.

Storage and Stability

Store the dry powdered medium at 2-8 °C under dry conditions and liquid medium at 2-8 °C in the dark. Deterioration of the powdered medium may be recognized by any or all of the following: [1] color change, [2] granulation/clumping, [3] insolubility. Deterioration of the liquid medium may be recognized by any or all of the following: [1] pH change, [2] precipitate or particulates, [3] cloudy appearance [4] color change. The nature of supplements added may affect storage conditions and shelf life of the medium. Product label bears expiration date.

Procedure

MATERIALS REQUIRED BUT NOT PROVIDED; Water for tissue culture [W3500] Sodium Bicarbonate [S5761] or Sodium Bicarbonate Solution, 7.5% [S8761] 1N Hydrochloric Acid [H9892] 1N Sodium Hydroxide [S2770] Medium additives as required Reference(s) Revised: March 2007

1. Ames, A. and Nesbett, F. (1981). In Vitro Retina as an Experimental Model of the Central Nervous System. J. Neurochem. 37:867.

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