CDH

Product Specification

cdhfinechemical.com

Technical Information

Glasgow's Minimum Essential Medium (GMEM)

w/ L-Glutamine and Tryptose Phosphate Broth

w/o Sodium bicarbonate

Product Code : AT1069

Composition**

Ingredients	Gms / Litre
Ingredients	mg/L
INORGANIC SALTS	
Calcium chloride dihydrate	265.000
Ferric nitrate nonahydrate	0.100
Magnesium sulphate anhydrous	97.720
Potassium chloride	400.000
Sodium chloride	6400.000
Sodium dihydrogen phosphate anhydrous	109.000
AMINO ACIDS	
L-Arginine hydrochloride	42.000
L-Cystine	24.000
L-Glutamine	292.000
L-Histidine hydrochloride	21.000
L-Isoleucine	52.400
L-Leucine	52.400
L-Lysine hydrochloride	73.100
L-Methionine	15.000
L-Phenylalanine	33.000
L-Threonine	47.600
L-Tryptophan	8.000
L-Tyrosine disodium salt	52.000
L-Valine	46.800
VITAMINS	
Choline chloride	2.000
D-Ca-Pantothenate	2.000
Folic acid	2.000
Nicotinamide	2.000
Pyridoxal hydrochloride	2.000
Riboflavin	0.200
Thiamine hydrochloride	2.000
i-Inositol	3.600
OTHERS	
D-Glucose	4500.000

Phenol red sodium salt	15.000
Tryptose Phosphate Broth	2950.000

Principle & Interpretation

Glasgow's Minimum Essential Medium is a modification of Basal medium Eagle (BME). Ian Macpherson and Michael Stoker added tryptose phosphate broth and twice the concentration of amino acids and vitamins to BME. The medium was originally used to culture BHK-21 clone 13 cells, used for investigating the genetic factors affecting cell competence.

AT1069 is Glasgow's Minimum Essential Medium with L-glutamine and tryptose phosphate broth. Users are advised to review the literature for recommendations regarding medium supplementation and physiological growth requirements specific for different cell lines.

Methodology

1. Suspend 15.5gms in 900 ml tissue culture grade water with constant, gentle stirring until the powder is completely dissolved. Do not heat the water.
2. Add 2.75gms of sodium bicarbonate powder (TC1230) or 36.7ml of 7.5% sodium bicarbonate solution (TCL1013) for 1 litre of medium and stir until dissolved.
3. Adjust the pH to 0.2 - 0.3 pH units below the desired pH using 1N HCl or 1N NaOH since the pH tends to rise during filtration.
4. Make up the final volume to 1000ml with tissue culture grade water.
5. Sterilize the medium immediately by filtering through a sterile membrane filter with a porosity of 0.22 micron or less, using positive pressure rather than vacuum to minimize the loss of carbon dioxide.
6. Aseptically add sterile supplements as required and dispense the desired amount of sterile medium into sterile containers.
7. Store liquid medium at 2-8°C and in dark till use.

Material required but not provided

Tissue culture grade water (TCL1010)
Sodium bicarbonate (TC1230)
Sodium bicarbonate solution 7.5% (TCL1013)
1N Hydrochloric acid (TCL1003)
1N Sodium hydroxide (TCL1002)
Foetal bovine serum (BA3112/BA30432)

Quality Control

Appearance
Off-white to Creamish white, homogenous powder.
Solubility
Clear solution at 15.5 gms/L.
pH without Sodium Bicarbonate
5.70-6.30
pH with Sodium Bicarbonate
7.10-7.70
Osmolality without Sodium Bicarbonate
235.00-275.00
Osmolality with Sodium Bicarbonate
295.00-335.00
Cultural Response
The growth promotion capacity of the medium is assessed qualitatively by analyzing the cells for the morphology and quantitatively by estimating the cell counts and comparing it with a control medium through minimum three subcultures.
Endotoxin content
NMT 5EU/ml

CDH

Product Specification

cdhfinechemical.com

Storage and Shelf Life

1. All the powdered media and prepared liquid culture media should be stored at 2-8°C. Use before the expiry date. Inspite of above recommended storage condition, certain powdered medium may show some signs of deterioration /degradation in certain instances. This can be indicated by change in colour, change in appearance and presence of particulate matter and haziness after dissolution.
2. Preparation of concentrated medium is not recommended since free base amino acids and salt complexes having low solubility may precipitate in concentrated medium.
3. pH and sodium bicarbonate concentration of the prepared medium are critical factors affecting cell growth. This is also influenced by amount of medium and volume of culture vessel used (surface to volume ratio). For example, in large bottles, such as Roux bottles pH tends to rise perceptibly as significant volume of carbon dioxide is released. Therefore, optimal conditions of pH, sodium bicarbonate concentration, surface to volume ratio must be determined for each cell type. We recommend stringent monitoring of pH. If needed, pH can be adjusted by using sterile 1N HCl or 1N NaOH or by bubbling in carbon dioxide.
4. If required, supplements can be added to the medium prior to or after filter sterilization observing sterility precautions. Shelf life of the medium will depend on the nature of supplement added to the medium.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conforms solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate.
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.
- Do not use the products if it fails to meet specificatons for identity and performens parameters.