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Product Specification

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Technical Information

Dulbecco's Modified Eagle Medium (DMEM) High glucose
w/ 4.5gms Glucose per litre
w/o L-Glutamine, Calcium chloride, HEPES buffer and Sodium pyruvate

Product Code: AT1287A

Application: Dulbecco's Modified Eagle Medium (DMEM) is one of the most widely used modification of Eagle's medium. DMEM is a modification of Basal Medium Eagle (BME) that contains four fold concentration of amino acids and vitamins. Additionally, the formulation also includes glycine, serine and ferric nitrate. The original formulation contains 1000mgs/L of glucose and was originally used to culture embryonic mouse cells. DMEM high glucose is a further modification of original DMEM and contains 4500mgs glucose per litre The additional glucose has proved to be useful in cultivating various other cell lines including primary cultures of mouse and chicken cells as well as various normal and transformed cell lines. AT1287A is Dulbecco's Modified Eagle Medium (DMEM), High glucose with 4.5gms Glucose per litre and without L-Glutamine, Calcium Chloride, Sodium pyruvate, 25mMHEPES buffer . Users are advised to review the literaturefor recommendations regarding medium supplementation and physiological growth requirements specific fordifferent cell lines

Composition**

Ingredients	mg/Litre
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	
Glycine	30.000
L-Arginine hydrochloride	84.000
L-Cystine dihydrochloride	62.570
L-Histidine hydrochloride monohydrate	42.000
L-Isoleucine	105.000
L-Leucine	105.000
L-Lysine hydrochloride	146.000
L-Methionine	30.000
L-Phenylalanine	66.000
L-Serin	42.000
L-Threonine	95.000
L-Tryptophan	16.000
L-Tyrosine disodium salt dihydrate	103.790
L-Valine	94.000

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VITAMINS	
Choline chloride	4.000
D-Ca-pantothenate	4.000
Folic acid	4.000
Nicotinamide	4.000
Pyridoxal hydrochloride	4.000
Riboflavin	0.400
Thiamine hydrochloride	4.000
i-Inositol	7.200
OTHERS	
D-Glucose	4500.000
Sodium pyruvate	15.900

Methodology

1. Suspend 12.57gms in 900ml tissue culture grade water with constant, gentle stirring until the medium is completely dissolved. Do not heat the water.
2. Add 3.7gms of sodium bicarbonate powder (TC1230) or 49.3ml 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)
L-Glutamine powder (TC243)
L-Glutamine solution 200mM (TCL012)
1N Hydrochloric acid (TCL1003)
1N Sodium hydroxide (TCL1002)
Foetal bovine serum (BA3112/BA12432)

Quality Control

Appearance

White to light pink, homogenous powder

Solubility

Clear solution at 12.57 gms/L.

pH without Sodium Bicarbonate

5.90-6.50

pH with Sodium Bicarbonate

7.40 -8.00

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Osmolality without Sodium Bicarbonate (mOsm/Kg H_2O)

250.00 -290.00

Osmolality with Sodium Bicarbonate (mOsm/Kg H_2O)

330.00-370.00

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.

Endotoxin Content

NMT 1EU/ml

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. In spite of above recommended storage condition, certain powderedmedium may show some signs of deterioration /degradationin 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 recommendedsince free base amino acids and salt complexes having low solubility may precipitate in concentrated medium.
3. pH and sodium bicarbonate concentration of the preparedmedium are critical factors affecting cell growth. This is also influenced by amount of medium and volume of culturevessel 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 priorto 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.
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- 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 specifications for identity and performance parameters.