BioArtha Labs PVT LTD
Unit 2, Plot #R-11, 1st Cross,
KSSIDC Industrial Estate Bommasandra
2nd Stage, Yarandahalli Jigani Rd
Bangalore, Karnataka -560099 (India)
info@bioarthalabs.com

DATA SHEET

Rev.ver: 01

1. Identification

Product name	**Dulbecco's Modified Eagle Medium (DMEM), Low glucose w/ 1gm Glucose per liter, L-Glutamine, 25mM HEPES buffer and Sodium pyruvate w/o Sodium bicarbonate**
Catalog.no	**CCMP012**

2. Description

Dulbecco's Modified Eagle Medium (DMEM) is one of the most widely utilized variants of Eagle's medium, designed to support a broad range of mammalian cell types. It is a modification of Basal Medium Eagle (BME), enriched with approximately four times the concentration of amino acids and vitamins to better meet the nutritional needs of more fastidious cells.

The DMEM formulation is further supplemented with glycine, serine, and ferric nitrate, enhancing its ability to support cellular metabolism and proliferation. The original DMEM formulation contains 1 g/L of glucose and was initially developed for the culture of embryonic mouse cells.

To accommodate a broader range of cell types and experimental requirements, a high-glucose version of DMEM was developed, containing 4.5 g/L of glucose. This increased glucose concentration has been shown to improve the growth and maintenance of various cell types, including primary cultures of mouse and chicken cells, as well as numerous normal and transformed cell lines.

3. Product Specifications

Appearance	Off-white to Creamish white, homogenous powder.
Solubility	Clear solution at 16.0 gms/L.
Storage and shelf life	Store at +2°C to +8°C protected from light.
Shipping conditions	Ambient

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4. Formulation

Components	Concentration mg/L
Amino Acids:	
L-Arginine HCl	84.0
L-Cystine 2HCl	62.570
Glycine	30.00
L-Glutamine	584.00
L-Histidine HCl H_2O	42.00
L-Isoleucine	105.000
L-Leucine	105.000
L-Lysine HCl	146.000
L-Methionine	30.00
L-Phenylalanine	66.00
L-Serine	42.00
L-Threonine	95.00
L-Tryptophan	16.00
L-Tyrosine 2Na $2H_2O$	103.790
L-Valine	94.000
Vitamins:	
Choline chloride	4.000
D-Calcium Pantothenate	4.000

Components	Concentration mg/L
Folic Acid	4.000
Nicotinamide	4.000
Pyridoxal HCl	4.000
Thiamine HCl	4.000
i-Inositol	7.200
Riboflavin	0.400
Inorganic Salts	
$CaCl_2$ $2H_2O$	265.000
Ferric nitrate nonahydrate	0.100
$MgSO_4$	97.720
KCl	400.000
Sodium chloride	6400.000
Sodium dihydrogen phosphate anhydrous	109.000
Other Components:	
D-Glucose	1000.00
HEPES buffer	5958.00
Sodium Pyruvate	110.000
Phenol red sodium salt	15.900

Directions:

1. Suspend 16.0 gms in 900ml tissue culture grade water with constant, gentle stirring until the powder is completely dissolved. Do not heat the water.
2. Add 3.7 gms of Sodium bicarbonate powder or 49.3 ml of 7.5% Sodium bicarbonate solution for 1 liter 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.

5. Precautions and Disclaimer

This product is for research use only. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.