

## Product Name

Name: DMEM, High Glucose, without Sodium Pyruvate, without L-Glutamine

Cat. No.: C3115-0500

Size: 500 mL

## Product Description

DMEM, High Glucose, without Sodium Pyruvate, L-Glutamine is a modification of Basal Medium Eagle (BME), which is considered as one of the more common (e.g., MEM & RPMI) but less complex media, in contrast to enriched media such as Ham's F-12 or CMRL among others, which are utilized not only for more specialized cell types but also as the basis for some of the more unique serum-free media formulations. DMEM, High Glucose contains four-fold higher concentration of certain amino acids (AA's) and vitamins in addition to other ancillary constituents. The original DMEM formulation contains 1000 mg/L of glucose and was first reported for culturing mouse embryonic cells MEC's. A higher glucose level (4500 mg/L) has proven to be optimal for cultivation of many cell types. DMEM, High Glucose, without Sodium Pyruvate, L-Glutamine contains no growth promoting factors or antimicrobials. The type of medium recommended usually is dependent upon the type and character of the cells in culture.

Most common types of media consist of an isotonic, buffered basal nutrient enriched environment which provides an energy source, inorganic salts, vitamins, amino acids as well as additional constituents (e.g. supplements) according to the demands of a particular cell line. This relatively more complex medium formulation provides an optimal cell culture environment to mimic the *in vivo* environment including basic nutritional requirements, osmotic pressure, and physiological pH among other considerations.

These more complex media not only meet the minimum requirements for cell growth and proliferation but also are part and parcel of a much wider array of factors culminating in a final medium that segues with the essential cell-niche requirements for optimal growth results. For example, L-Glutamine, a precursor of glutamate, is one of the most readily available sources of energy for many rapidly dividing cell-types for use *in vitro* and is a key component and essential amino acid that is found in many cell-culture media formulations and needed in virtually all mammalian cells in culture. Supplementation with Sodium Pyruvate serves as an additional and easily accessible energy source for cells in culture. Along with D-glucose, these balanced energy sources serve as the carbon skeletons for anabolic processes in addition to nucleic acid metabolism and protein production.

## Composition

Ingredients	mg/L	Ingredients	mg/L
<b>INORGANIC SALTS</b>			
Calcium chloride dihydrate	265.000	Potassium chloride	400.000
Ferric nitrate nonahydrate	0.100	Sodium chloride	6400.000
Magnesium sulphate anhydrous	97.720	Sodium dihydrogen phosphate anhydrous	109.000
<b>AMINO ACIDS</b>			
Glycine	30.000	L-Methionine	30.000



## DMEM High Glucose product information

PI-C3115 V1.0

L-Arginine hydrochloride	84.000	L-Phenylalanine	66.000
L-Cystine dihydrochloride	62.570	L-Serine	42.000
L-Histidine hydrochloride monohydrate	42.000	L-Threonine	95.000
L-Isoleucine	105.000	L-Tryptophan	16.000
L-Leucine	105.000	L-Tyrosine disodium Salt	103.790
L-Lysine hydrochloride	146.000	L-Valine	94.000
<b>Vitamins</b>			
Choline chloride	4.000	Pyridoxal hydrochloride	4.000
D-Ca-Pantothenate	4.000	Riboflavin	4.000
Folic acid	4.000	Thiamine hydrochloride	4.000
Nicotinamide	4.000	i-Inositol	7.200
<b>OTHERS</b>			
D-Glucose	4500.000	Sodium bicarbonate	3700.000
Phenol red Sodium Salt	15.900		

### Storage and Stability

The product should be kept at **2 - 8°C**.

The product is **light-sensitive** and therefore should not be left in the light.

Shelf life: 12 months from date of manufacture.

### Procedure

1. Take a bottle from the storage at 2 - 8°C and read the label.
2. Wipe the outside of the bottle with a disinfectant solution such as 70% ethanol.
3. Use the medium using aseptic/sterile technique under a laminar-flow culture hood.
4. Add antibiotics or other nutrients if desired.

### Quality Control

Dulbecco's Modified Eagle Medium (DMEM), High Glucose, without Sodium Pyruvate, L-Glutamine is tested for sterility, pH, osmolality, and endotoxin concentration. In addition, each batch is tested for cell growth performance.

### Manufacturer

Shanghai Dr. Cell Co., Ltd.

### Issue Date

June 2023

### Precaution and Disclaimer

For research use only, not for clinical diagnosis, and treatment.

