UAB "LT Biotech"

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Product Information

Dulbecco's Modified Eagle Medium (DMEM) High Glucose (4.5 g/l)
with L-Glutamine, w/o Sodium Bicarbonate

Cat. No.: LTPM-L01 (10 l), LTPM-L02(50 l)

Product Specifications

Appearance	Off-white to creamy white, homogenous powder
Solubility	Clear solution at 13.4 g/l
pH w/o Sodium Bicarbonate	5.90 – 6.50
pH with Sodium Bicarbonate	7.50 – 8.10
Osmolality w/o Sodium Bicarbonate	250 – 290 mOsm/kg
Osmolality with Sodium Bicarbonate	320 – 360 mOsm/kg
Endotoxin	< 5 EU/ml
Cell Culture	Tested
Storage	+2°C to +8°C, dry and protected from light
Use at	13.4 g/l
Add	3.7 g/l Sodium Bicarbonate
CO_2 concentration optimum for liquid medium	8.5 %

Instructions for Use: Preparation of 1 liter liquid medium

1. Suspend 13.4 g in 900 ml tissue culture grade water with constant, gentle stirring until the powder is completely dissolved. Do not heat the water.
2. Add 3.7 g 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 to 0.3 pH units below the desired pH using 1 N HCl or 1 N 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 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°C to +8°C and in dark until use.

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Formulation

Components	mg/l	Vitamins	
Amino Acids		Choline Chloride	4.00
L-Arginine x HCl	84.00	D-Calcium Pantothenate	4.00
L-Cystine x 2 HCl	62.57	Folic Acid	4.00
L-Glutamine	584.00	myo-Inositol	7.20
Glycine	30.00	Nicotinamide	4.00
L-Histidine x HCl x H_2O	42.00	Pyridoxal x HCl	4.00
L-Isoleucine	105.00	Riboflavin	0.40
L-Leucine	105.00	Thiamine x HCl	4.00
L-Lysine x HCl	146.00	**Inorganic Salts**	
L-Methionine	30.00	Calcium Chloride x 2 H_2O	265.00
L-Phenylalanine	66.00	Ferric Nitrate x 9 H_2O	0.10
L-Serine	42.00	Magnesium Sulfate Anhydrous	97.72
L-Threonine	95.00	Potassium Chloride	400.00
L-Tryptophan	16.00	Sodium Chloride	6400.00
L-Tyrosine x 2 Na	103.79	Sodium Dihydrogen Phosphate Anhydrous	109.00
L-Valine	94.00	**Other Components**	
		D-Glucose	4500.00
		Phenol Red Sodium Salt	15.90

Additional Information

- Preparation of concentrated medium is not recommended since free base amino acids and salt complexes having low solubility may precipitate in concentrated medium.
- 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 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 1 N HCl or 1 N NaOH or by bubbling in carbon dioxide.
- 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.

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.