



DULBECCO'S MODIFIED EAGLE'S MEDIUM [DME]

With L-Glutamine, 4500 mg/L Glucose and 110 mg/L Sodium Pyruvate, Without Sodium Bicarbonate
Product Number **D7777**

Product Description

Many modifications of Eagle's medium have been developed since the original formulation. The most widely used modification is Dulbecco's Modified Eagle's Medium. DME is a modification of Minimum Essential Medium Eagle [MEM] that contains a higher concentration of vitamins and amino acids, as well as additional supplementary components.

Components	g/L
L-Arginine•HCl	0.084
L-Cystine•2HCl	0.0626
L-Glutamine	0.584
Glycine	0.03
L-Histidine•HCl• H ₂ O	0.042
L-Isoleucine	0.105
L-Leucine	0.105
L-Lysine•HCl	0.146
L-Methionine	0.03
L-Phenylalanine	0.066
L-Serine	0.042
L-Threonine	0.095
L-Tryptophan	0.016
L-Tyrosine 2Na•2H ₂ O	0.10379
L-Valine	0.094
Choline Chloride	0.004
Folic Acid	0.004
myo-Inositol	0.0072
Niacinamide	0.004
D-Pantothenic Acid hemicalcium	0.004
Pyridoxal•HCl	0.004
Riboflavin	0.0004
Thiamine•HCl	0.004
Calcium Chloride [Anhydrous]	0.2
Ferric Nitrate•9H ₂ O	0.0001
Magnesium Sulfate [Anhydrous]	0.09767
Potassium Chloride	0.4
Sodium Chloride	6.4
Sodium Phosphate Monobasic [Anhydrous]	0.109
Glucose	4.5
Phenol Red•Na	0.0159
Pyruvic Acid•Na	0.11

Precautions and Disclaimer

REAGENT

For R&D use only. Not for drug, household or other uses.

Preparation Instructions

Powdered media are extremely hygroscopic and should be protected from atmospheric moisture. The entire contents of each package should be used immediately after opening. Preparing a concentrated solution of medium is not recommended as precipitates may form. Supplements can be added prior to filtration or introduced aseptically to sterile medium.

1. Measure out 90% of final required volume of water. Water temperature should be 15-20 °C.
2. While gently stirring the water, add the powdered medium. Stir until dissolved. Do NOT heat.
3. Rinse original package with a small amount of water to remove all traces of powder. Add to solution in step 2.
4. To the solution in step 3, add 3.7 g sodium bicarbonate or 49.3 ml of sodium bicarbonate solution [7.5%w/v] for each liter of final volume of medium being prepared. Stir until dissolved.
5. While stirring, adjust the pH of the medium to 0.1-0.3 pH units below the desired pH since it may rise during filtration. The use of 1N HCl or 1N NaOH is recommended.
6. Add additional water to bring the solution to final volume.
7. Sterilize immediately by filtration using a membrane with a porosity of 0.22 microns.
8. Aseptically dispense medium into sterile container.

Storage and Stability

Store the dry powdered medium at 2-8 °C under dry conditions and liquid medium at 2-8 °C in the dark. Deterioration of the powdered medium may be recognized by any or all of the following: [1] color change, [2] granulation/clumping, [3] insolubility. Deterioration of the liquid medium may be recognized by any or all of the following: [1] pH change, [2] precipitate or particulates [3] cloudy appearance [4] color change. The nature of supplements added may affect storage conditions and shelf life of the medium. Product label bears expiration date.

Procedure

MATERIALS REQUIRED BUT NOT PROVIDED

Water for tissue culture use [W3500]

Sodium Bicarbonate [S5761] or

Sodium Bicarbonate Solution, 7.5% [S8761]

1N Hydrochloric Acid [H9892]

1N Sodium Hydroxide [S2770]

Medium additives as required

References

1. Dulbecco, R. and Freeman, G.(1959). Plaque Production by the Polyoma Virus. *Virology*. 8, 396-397.

Revised: April 2007

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.