



ISCOVE'S MODIFIED DULBECCO'S MEDIUM

With L-Glutamine and 25 mM HEPES, Without Sodium Bicarbonate
Product Number **I7633**

Product Description

In 1976, Guilbert and Iscove demonstrated that precursor cells of erythrocytes and macrophages could be cultured in a reduced-serum medium supplemented with albumin, transferrin, lecithin, and selenium. Iscove's medium is a modification of Dulbecco's Modified Eagle's Medium (DME) containing selenium, additional amino acids and vitamins, sodium pyruvate, HEPES buffer, and potassium nitrate instead of ferric nitrate.

Components	g/L
Calcium Chloride (anhydrous)	0.1653
Magnesium Sulfate (anhydrous)	0.09767
Potassium Chloride	0.33
Potassium Nitrate	0.000076
Sodium Chloride	4.505
Sodium Phosphate Monobasic (anhydrous)	0.109
Sodium Selenite	0.0000173
L-Alanine	0.025
L-Arginine•HCl	0.084
L-Asparagine• H ₂ O	0.0284
L-Aspartic Acid	0.03
L-Cystine•2HCl	0.09124
L-Glutamic Acid	0.075
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-Proline	0.04
L-Serine	0.042
L-Threonine	0.095
L-Tryptophan	0.016
L-Tyrosine•2Na•2H ₂ O	0.10379
L-Valine	0.094
D-Biotin	0.000013
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

Vitamin B-12	0.000013
D-Glucose	4.5
HEPES	5.958
Phenol Red•Na	0.016
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 hygroscopic and should be protected from moisture. The entire contents of each package should be used 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 °.
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 3.02 g sodium bicarbonate or 40.3 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 [W3500]

Sodium Bicarbonate [S5761] or

Sodium Bicarbonate Solution, 7.5% [S8761]

1N Hydrochloric Acid [H9892]

1N Sodium Hydroxide [S2770]

Medium additives as required

Reference

1. Guilbert, L.J. and N.N. Iscove. (1976). Partial Replacement of Serum by Selenite, Transferrin, Albumin and Lecithin in Haemopoietic Cell Cultures. Nature 263:594.

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