MCDB 131 MEDIUM
With L-Glutamine
Without Sodium Bicarbonate

Product Number **M8537**
Storage Temperature 2-8°C

Product Description
MCDB media were designed for the low-protein or serum-free growth of specific cell types using hormones, growth factors, trace elements or low levels of dialyzed fetal bovine serum protein (FBSP).

MCDB-131 medium was formulated to provide a defined and optimally balanced nutritional environment that selectively promotes growth of specific cell types. MCDB 131 is an optimized medium designed to support clonal growth of human microvascular endothelial cells, including HUVEC and ECV-304 cells, when supplemented with 0.7% FBSP, 10 ng/ml epidermal growth factor and 1 µg/ml hydrocortisone.

MCDB-131 MEDIUM, Product No. M8537 is one of the cell culture media available from Sigma. The selection of a nutrient medium is strongly influenced by 1] type of cell, 2] type of culture [monolayer, suspension, clonal] and 3] degree of chemical definition necessary. It is important to review the literature for recommendations concerning medium, supplementation and physiological parameters required for a specific cell line.

Components	g/L
Ammonium Metavanadate	0.000000585
Calcium Chloride anhydrous	0.1775
Cupric Sulfate•5 H_2O	0.000001249
Ferrous Sulfate•7 H_2O	0.000278
Magnesium Sulfate (anhydrous)	1.204
Manganese Sulfate	0.000000151
Molybdic Acid•4 H_2O (ammonium)	0.000003708
Nickel Chloride•6 H_2O	0.000000071
Sodium Phosphate Dibasic	0.071
Sodium Chloride	6.4284
Potassium Chloride	0.2982
Sodium Metasilicate•9 H_2O	0.002842
Sodium Selenite	0.000005187
Zinc Sulfate•7 H_2O	0.000000288
L-Alanine	0.00267
L-Arginine•HCl	0.06321
L-Asparagine• H_2O	0.01501
L-Aspartic Acid	0.01331
L-Cysteine•HCl• H_2O	0.03512
L-Glutamic Acid	0.004413
L-Glutamine	1.461
Glycine	0.00225
L-Histidine•HCl• H_2O	0.04192
L-Isoleucine	0.0656
L-Leucine	0.1312
L-Lysine•HCl	0.1826
L-Methionine	0.01492
L-Phenylalanine	0.03304
L-Proline	0.01151
L-Serine	0.03153
L-Threonine	0.01191
L-Tryptophan	0.00408
L-Tyrosine•2Na•2 H_2O	0.02252
L-Valine	0.1171
D-Biotin	0.000007329
Choline Chloride	0.01396
Folinic Acid (calcium)	0.0005115
myo-Inositol	0.007208
Niacinamide	0.006105
D-Pantothenic Acid (hemicalcium)	0.011915
Pyridoxine•HCl	0.002056
Riboflavin	0.000003764
Thiamine•HCl	0.003373
Vitamin B-12	0.000013554
Adenine•HCl	0.0001716
D-Glucose	1.0
Phenol Red•Na	0.0124212
Putrescine•2HCl	0.000000161
Pyruvic Acid•Na	0.11
DL-6,8-Thioctic Acid	0.000002063
Thymidine	0.00002422

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. The nature of the supplement may affect storage conditions and shelf life of the 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 1.18 g sodium bicarbonate or 15.7 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/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 particulate matter throughout the solution, [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. Knedler A. and Ham R., (1987) In Vitro Cell. Devel. Biol. 23(7): 481-491.

Revised May 2007

Sigma-Aldrich Inc.
3050 Spruce St. St. Louis, MO 63103 USA 314-771-5765
Technical Service: 800-325-5832 or call collect 314-771-5765
Or e-mail at techserv@sial.com
To order: 800-325-3010 or call collect 314-771-5750
www.sigma-aldrich.com