MCDB-201 MEDIUM
With L-Glutamine and 30 mM HEPES

Product Number **M6770**
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). Each MCDB medium was formulated (qualitatively and quantitatively) to provide a defined and optimally balanced nutritional environment that selectively promoted growth of a specific cell type. MCDB 105 and 110 are modifications of MCDB 104 medium, optimized for long-term survival and rapid clonal growth of human diploid fibroblast-like cells (WI-38, MRC-5, IMR-90) and of low-passage human foreskin fibroblasts using FBSP or hormone and growth factor supplements. MCDB 151, 201 and 302 are modifications of Ham's nutrient mixture F-12, designed for the growth of human keratinocytes, clonal growth of chicken embryo fibroblasts and Chinese hamster ovary (CHO) cells using low levels of FBSP, extensive trace elements or no serum protein.

MCDB 201 MEDIUM, Product No. M6770 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
L-Alanine	0.00891
L-Arginine•HCl	0.0632
L-Asparagine•H_2O	0.15
L-Aspartic Acid	0.01331
L-Cysteine•HCl•H_2O	0.03513
L-Glutamic Acid	0.01471
L-Glutamine	0.14615
Glycine	0.00751
L-Histidine•HCl•H_2O	0.02097
L-Isoleucine	0.01312
L-Leucine	0.03935
L-Lysine•HCl	0.03654
L-Methionine	0.00448
L-Phenylalanine	0.00496
L-Proline	0.00576
L-Serine	0.03153
L-Threonine	0.03574
L-Tryptophan	0.00613
L-Tyrosine•2Na•2H_2O	0.01135
L-Valine	0.03513
D-Biotin	0.00000733
Choline Chloride	0.01396
Folinic Acid (calcium)	0.00000512
myo-Inositol	0.01802
Niacinamide	0.00611
D-Pantothenic Acid (hemicalcium)	0.000477
Pyridoxine•HCl	0.0000617
Riboflavin	0.000113
Thiamine•HCl	0.000337
Vitamin B-12	0.000136
Adenine•HCl	0.000172
D-Glucose	1.441
HEPES	7.149
Linoleic Acid	0.0000841
Phenol Red•Na	0.001242
Putrescine•2HCl	0.000000161
Pyruvic Acid•Na	0.055
Thioctic Acid	0.00000206
Thymidine	0.0000727
Ammonium Metavanadate	0.000000006
Calcium Chloride(anhydrous)	0.2219
Cupric Sulfate•5H_2O	0.00000025
Ferrous Sulfate•7H_2O	0.001668
Magnesium Sulfate (anhydrous)	0.18057
Manganese Sulfate	0.000000075
Molybdic Acid•4H_2O (ammonium)	0.000000618
Nickel Chloride•6H_2O	0.0000000012
Potassium Chloride	0.22365
Sodium Chloride	7.599
Sodium Metasilicate•9H_2O	0.000142
Sodium Phosphate Dibasic (anhydrous)	0.07099
Sodium Selenite	0.000000865
Zinc Sulfate•7H_2O	0.000028744

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. 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.
5. Add additional water to bring the solution to final volume.
6. Sterilize immediately by filtration using a membrane with a porosity of 0.22 microns.
7. 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]
1N Hydrochloric Acid [H9892]
1N Sodium Hydroxide [S2770]
Medium additives as required

References

1. McKeehan, W.L. and Ham, R.G., (1976). Stimulation of Clonal Growth of Normal Fibroblasts with Substrata Coated with Basic Polymers. J. Cell Biol., 71, 727-734.

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