CDH

Product Specification

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Technical Information

MCDB 110 Medium

With Trace elements, L- Glutamine and 25mM HEPES buffer
Without Sodium bicarbonate

Product Code: AT1132

Application:- MCDB media were developed for the culture of specific cell types without a serum supplement. The media were supplemented with growth factors, hormones, traceelements, or low levels of dialyzed fetal bovine serum protein (FBSP). Each MCDB medium was formulated fora specific cell type. MCDB 105 and 110 were formulatedfor rapid clonal growth of normal human diploid cells. MCDB 131 medium was originally developed for the clonal growth of human micro-vascular endothelial cells (HMVEC). MCDB 151, 201 and 302 were originally developed for human keratinocytes, clonal growth of chick embryo fibroblasts and CHO cells.

AT1132 is MCDB 110 with trace elements, L-glutamine and 25mM HEPES buffer. HEPES, a zwitterionic bufferhaving a pKa of 7.3 at 37ºC prevents the initial rise in pH that tends to occur at the initiation of a culture and increases the buffering capacity of the medium. Users are advised to review the literature for recommendations regarding medium supplementation and physiological growth requirements specific for different cell lines.

Composition**

Ingredients	mg/Litre
INORGANIC SALTS	
Ammonium metavanadate	0.000585
Calcium chloride dihydrate	147.000
Cupric sulphate pentahydrate	0.00025
Disodium hydrogen phosphate anhydrous	425.940
Ferrous sulphate heptahydrate	0.00139
Magnesium sulphate anhydrous	120.380
Manganese sulphate	0.000151
Molybdic acid ammonium tetrahydrate	0.00124
Nickel chloride	0.00012
Potassium Chloride	372.750
Sodium chloride	6546.000
Sodium metasillicate nonahydrate	0.142
Sodium selenite	0.0038
Stannous chloride monohydrate	0.000113
Zinc sulphate heptahydrate	0.144
AMINO ACIDS	
Glycine	22.520
L-Alanine	8.910
L-Arginine hydrochloride	210.700
L-Asparagine monohydrate	15.000
L-Aspartic acid	13.310
L-Cystine hydrochloride monohydrate	8.780
L-Glutamic acid	14.710
L-Glutamine	365.300
L-Histidine hydrochloride monohydrate	20.970
L-Isoleucine	3.940
L-Leucine	13.120

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L-Lysine hydrochloride	36.540
L-Methionine	4.480
L-Phenylalanine	4.960
L-Proline	34.530
L-Serine	10.510
L-Threonine	11.910
L-Tryptophan	2.040
L-Tyrosine disodium salt dihydrate	7.840
L-Valine	11.720
VITAMINS	
Choline chloride	13.960
D-Biotin	0.007339
D-Ca-Pantothenate	0.238
Folinic acid (Calcium)	0.000602
Niacinamide	6.110
Pyridoxine hydrochloride	0.0617
Riboflavin	0.113
Thiamine hydrochloride	0.337
Vitamin B12	0.136
myo-Inositol	18.020
OTHERS	
Adenine hydrochloride	1.720
D-Glucose	720.640
HEPES	5958.000
Phenol red sodium salt	1.242
Putrescine dihydrochloride	0.000161
Sodium pyruvate	110.000
Thioctic acid	0.00206
Thymidine	0.0727

Methodology

1. Suspend 15.3gms in 900 ml tissue culture grade water with constant, gentle stirring until the powder is completely dissolved. Do not heat the water.
2. Adjust the pH to 0.2 - 0.3 pH units below the desired pH using 1N HCl or 1N NaOH since the pH tends to rise during filtration.
3. Make up the final volume to 1000ml with tissue culture grade water.
4. Sterilize the medium immediately by filtering through a sterile membrane filter with a porosity of 0.22 micron or less,using positive pressure rather than vacuum to minimize the loss of carbon dioxide.
5. Aseptically add sterile supplements as required and dispense the desired amount of sterile medium into sterile containers.
6. Store liquid medium at 2-8°C and in dark till use.

Material Required But Not Provided

Tissue culture grade water (TCL1010)

1N Hydrochloric acid (TCL1003)
1N Sodium hydroxide (TCL1002)
Foetal bovine serum (BA3112/BA12432)

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Quality control

Appearance

Off-white to Creamish white, homogenous powder.

Solubility

Clear solution at 15.3 gms/L.

pH without Sodium Bicarbonate

6.10-6.70

Osmolality without Sodium Bicarbonate

245.00 -285.00

Cultural Response

The growth promotion capacity of the medium is assessed qualitatively by analyzing the cells for the morphology and quantitatively by estimating the cell counts and comparing itwith a control medium through minimum three subcultures.

Endotoxin Content

NMT 5EU/ml

Storage and Shelf Life

1. All the powdered media and prepared liquid culture mediashould be stored at 2-8°C. Use before the expiry date. In spiteof above recommended storage condition, certain powderedmedium may show some signs of deterioration /degradationin certain instances. This can be indicated by change in colour, change in appearance and presence of particulate matter and haziness after dissolution.
2. Preparation of concentrated medium is not recommendedsince free base amino acids and salt complexes having low solubility may precipitate in concentrated medium.
3. pH and sodium bicarbonate concentration of the preparedmedium are critical factors affecting cell growth. This is also influenced by amount of medium and volume of culturevessel used (surface to volume ratio). For example, in large bottles, such as Roux 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 1N HCl or 1N NaOH or by bubbling in carbon dioxide.
4. If required, supplements can be added to the medium priorto or after filter sterilization observing sterility precautions. Shelf life of the medium will depend on the nature of supplement added to the medium.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conforms solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate.
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- Do not use the products if it fails to meet specifications for identity and performance parameters.