

### Technical Information

#### Medium 199

With Hank's salts, 25mM HEPES buffer, L-Glutamine and Sodium bicarbonate 1X Liquid Cell Culture Medium

#### Product Code: AL1209A

**Application:-**Medium 199 was the first nutritionally defined medium developed by Morgan, Morton, and Parker in 1950. This complex medium was formulated specifically for nutritional studies on primary chick embryo fibroblasts in the absence of any additives. It was observed that explanted tissue could survive in Medium 199 without serum but long term cultivation of cells required supplementation of the medium with serum.

Media 199 are formulated with either Hank's salts or Earle's salts. The medium when supplemented with serum can be used for growth of a wide variety of cells. Media 199 are presently used for the maintenance of non-transformed cells, vaccine and virus production and primary explants of epithelial cells.

AL1209A is Medium 199 with Hank's salts, 25mM HEPES buffer, L-glutamine and sodium bicarbonate. HEPES, a zwitterionic buffer having a pKa of 7.3 at 37°C prevents the initial rise in pH that tends to occur at the initiation of a culture and increases the buffering capacity of the medium. It does not contain L-Glutamine. 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
<b>INORGANIC SALTS</b>	
Calcium chloride dehydrate	185.000
Ferric nitrate nonahydrate	0.720
Magnesium sulphate anhydrous	97.720
Potassium chloride	400.000
Potassium phosphate monobasic	60.000
Sodium acetate anhydrous	50.000
Sodium bicarbonate	350.000
Sodium chloride	8000.000
Sodium phosphate dibasic	47.860
<b>AMINO ACIDS</b>	
Glycine	50.000
L-Alanine	25.000
L-Arginine hydrochloride	70.000
L-Aspartic acid	30.000
L-Cysteine hydrochloride monohydrate	0.100
L-Cystinedihydrochloride	26.000
L-Glutamic Acid	67.000
L-Glutamine	100.000
L-Histidine hydrochloride monohydrate	22.000
L-Hydroxyproline	10.000
L-Isoleucine	20.000
L-Leucine	60.000
L-Lysine hydrochloride	70.000
L-Methionine	15.000
L-Phenylalanine	25.000
L-Proline	40.000

L-Serine	25.000
L-Threonine	30.000
L-Tryptophan	10.000
L-Tyrosine disodium salt	57.660
L-Valine	25.000
<b>VITAMINS</b>	
Ascorbic acid	0.05
Calciferol	0.100
Choline chloride	0.500
D-Biotin	0.01
D-Ca-Pantothenate	0.010
DL-Tocopherol phosphate Disodium Salt	0.010
Folic acid	0.010
Menadione	0.010
Nicotinamide	0.025
Nicotinic acid	0.025
Pyridoxal hydrochloride	0.025
Pyridoxine hydrochloride	0.025
Retinol Acetate	0.140
Riboflavin	0.010
Thiamine hydrochloride	0.010
i-Inositol	0.050
p-Amino benzoic acid (PABA)	0.050
<b>OTHERS</b>	
Adenine sulphate	10.000
Adenosine monophosphate	0.200
Adenosine triphosphate	1.000
Cholesterol	0.200
Deoxyribose	0.500
Glucose	1000.000
Glutathione reduced	0.050
Guanine hydrochloride	0.300
HEPES Buffer	5958.000
Hypoxanthine	0.354
Phenol red sodium salt	15.000
Polysorbate80	4.900
Ribose	0.500
Thymine	0.300
Uracil	0.300
Xanthine	0.344

### Quality Control

#### Appearance

Red colored, clear solution.

#### pH

7.00 -7.60

#### Osmolality in mOsm/Kg H<sub>2</sub>O

230.00 -270.00

#### Sterility

No bacterial or fungal growth is observed after 14 days of incubation, as per USP specification.

#### 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 it with a control medium through minimum three subcultures.

#### Endotoxin Content

NMT 5EU/ml

### Storage and Shelf Life

Store at 2-8°C away from bright light. Shelf life is 12 months. Use before expiry date given on the product label.

### 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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