

### Technical Information

#### Medium 199

With Hank's salt Without L-Glutamine and Sodium bicarbonate

#### Product Code: AL1192

**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 ex-planted tissue could survive in Medium 199 without serum but long term cultivation of cells required supplementation of the medium with serum. Medium 199 is 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. Medium 199 is presently used for the maintenance of non-transformed cells, vaccine and virus production and primary ex-plants of epithelial cells. AL1192 is 10X Medium 199 with Hank's salts. It does not contain L-glutamine and sodium bicarbonate. 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 dihydrate	1850.000
Ferric nitrate nonahydrate	7.200
Magnesium sulphate anhydrous	977.200
Potassium chloride	4000.00
Potassium phosphate monobasic	600.00
Sodium acetate anhydrous	500.000
Sodium chloride	80000.00
Sodium phosphate dibasic	478.600
<b>AMINO ACIDS</b>	
Glycine	500.00
L-Alanine	250.00
L-Arginine hydrochloride	700.00
L-Aspartic acid	300.00
L-Cysteine hydrochloride monohydrate	1.000
L-Cystine dihydrochloride	260.00
L-Glutamic Acid	670.00
L-Histidine hydrochloride monohydrate	220.00
L-Hydroxyproline	100.00
L-Isoleucine	200.00
L-Leucinen	600.00
L-Lysine hydrochloride	700.00
L-Methionine	150.00
L-Phenylalanine	250.00
L-Proline	400.00
L-Serine	250.00
L-Threonine	300.00
L-Tryptophan	100.00
L-Tyrosine disodium salt	576.00
L-Valine	250.00

### VITAMINS

Ascorbic acid	0.5
Calciferol	1.000
Choline chloride	5.000
D-Biotin	0.1
D-Ca-Pantothenate	0.100
DL-Tocopherol phosphate disodium salt	0.100
Folic acid	0.100
Menadione	0.100
Nicotinamide	0.25
Nicotinic acid	0.25
Pyridoxal hydrochloride	0.25
Pyridoxine hydrochloride	0.25
Retinol Acetate	1.400
Riboflavin	1.000
Thiamine hydrochloride	0.100
i-Inositol	0.500
p-Amino benzoic acid (PABA)	0.500

### OTHERS

Adenine sulphate	100.000
Adenosine monophosphate	2.000
Adenosine triphosphate	10.000
Cholesterol	2.000
Deoxyribose	5.000
Glucose	10000.00
Glutathione reduced	0.500
Guanine hydrochloride	3.000
Hypoxanthine	3.54
Phenol red sodium salt	150.00
Polysorbate 80	49.000
Ribose	5.000
Thymine	3.000
Uracil	3.000
Xanthine	3.44

## Methodology

1. Add 4.7ml of 7.5% sodium bicarbonate solution (TCL1013) and 3.42ml of 200mM L-glutamine (TCL1012) for 1 litre of 1X medium prior to use

## Material Required But Not Provided

L-Glutamine solution 200mM (TCL1012) Sodium bicarbonate solution 7.5% (TCL1013) Tissue culture grade water (TCL1010)

### Quality control

**Appearance :**

Red coloured, clear solution

**pH :**

4.20-4.40

**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 .

**Endotoxin Content**

NMT 1EU/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.
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