

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO
CELL CULTURE FACILITY
Media Production Formulations

M-199, EBSS
with Earle's Balanced Salts Solution (EBSS)

CCF Product Code Number: CCFAX001 (Old Code AG100)

Compound	Formula	mg/L
Part A: Inorganic Salts		
Calcium chloride (anhydrous)	CaCl ₂	200.00
Magnesium sulfate·7H ₂ O	MgSO ₄ ·7H ₂ O	200.00
Potassium chloride	KCl	400.00
Sodium acetate	C ₂ H ₃ O ₂ Na	50.00
Sodium bicarbonate	NaHCO ₃	2200.00
Sodium chloride	NaCl	6800.00
Sodium phosphate·H ₂ O	NaH ₂ PO ₄ ·H ₂ O	140.00
Part B: Other components		
D-Glucose	C ₆ H ₁₂ O ₆	1000.00
Ferric nitrate 9H ₂ O	Fe(NO ₃) ₃ 9H ₂ O	0.72
Glutathione (reduced)	C ₁₀ H ₁₇ N ₃ O ₆ S	0.050
Phenol Red	C ₁₉ H ₁₃ O ₅ S·Na ₂	20.00
Tween 80	Polyoxyethylenesorbitanm onooleate	20.00
Cholesterol	C ₂₇ H ₄₆ O	0.20
Part C: Amino Acids		
D,L-Alanine	C ₃ H ₇ NO ₂	50.00
L-Arginine hydrochloride	C ₆ H ₁₄ N ₄ O ₂ HCl	70.00

D,L-Aspartic acid	C ₄ H ₇ N ₀₄	60.00
L-Cysteine hydrochloride H ₂ O	C ₃ H ₇ NO ₂ S HCl. H ₂ O	0.11
L-Cystine	C ₆ H ₁₂ N ₂ O ₄ S ₂	20.00
D,L-Glutamic acid	C ₅ H ₉ NO ₄	150.00
L-Glutamine	C ₅ H ₁₀ N ₂ O ₃	100.00
Glycine	C ₂ H ₅ NO ₂	50.00
L-Histidine hydrochloride H ₂ O	C ₆ H ₉ N ₃ O ₂ HCl H ₂ O	21.88
L-Hydroxyproline	C ₅ H ₉ NO ₃	10.00
D,L-Isoleucine	C ₆ H ₁₃ NO ₂	40.00
D,L-Leucine	C ₆ H ₁₃ NO ₂	120.00
L-Lysine HCl	C ₆ H ₁₄ N ₂ O ₂ ·HCl	70.00
D,L-Methionine	C ₅ H ₁₁ NO ₂ S	30.00
D,L-Phenylalanine	C ₉ H ₁₁ NO ₂	50.00
L-Proline	C ₅ H ₉ NO ₂	40.00
D,L-Serine	C ₃ H ₇ NO ₃	50.00
D,L-Threonine	C ₄ H ₉ NO ₃	60.00
D,L-Tryptophan	C ₁₁ H ₁₂ N ₂ O ₂	20.00
L-Tyrosine	C ₉ H ₁₁ NO ₃	40.00
D,L-Valine	C ₅ H ₁₁ NO ₂	50.00

Part D: Vitamins

Ascorbic acid	C ₆ H ₈ O ₆	0.05
D-Ca Pantothenate		0.01
d-Biotin	C ₁₀ H ₁₆ N ₂ O ₃ S	0.01
Choline chloride	C ₅ H ₁₄ ClNO	0.50
Folic acid	C ₁₉ H ₁₉ N ₇ O ₆	0.01
i-Inositol	C ₆ H ₁₂ O ₆	0.05
Niacin (Nicotinic acid)	C ₆ H ₅ NO ₂	0.025
Niacinamide	C ₆ H ₆ N ₂ O	0.025
Para-Amino Benzoic Acid	C ₇ H ₇ NO ₂	0.05
Pyridoxal hydrochloride	C ₈ H ₉ NO ₃ ·HCl	0.025

Pyridoxine hydrochloride	$C_8H_9NO_3 \cdot HCl$	0.025
Riboflavin	$C_{17}H_{20}N_4O_6$	0.010
Thiamine hydrochloride	$C_{12}H_{17}ClN_4OS \cdot HCl$	0.010
Calciferol (Vitamin D ₂)	$C_{28}H_{44}O$	0.10
Menadione (Vitamin K ³)	$C_{11}H_8O_2$	0.01
α Tocopherol P04 (disodium salt) (Vitamin E)	$C_{29}H_{49}O_5PNa_2$	0.01
Vitamin A (acetate)	$C_{22}H_{32}O_2$	0.14

Part E: Nucleosides

Adenosine 5'- triphosphate disodium salt 3H ₂ O	$C_{10}H_{14}N_5Na_2O_{13}P_3 \cdot 3H_2O$	1.00
Adenine sulfate	$(C_5H_5N_5) H_2SO_4$	10.00
Adenylic acid	$C_{10}H_{14}N_5O_7P$	0.20
Deoxyribose	$C_{10}H_{16}O_4$	0.50
D-Ribose	$C_5H_{10}O_5$	0.50
Guanine hydrochloride (freebase)	$C_5H_5N_5O HCl$	0.30
Hypoxanthine	$C_5H_4N_4O$	0.30
Thymine	$C_5H_6N_2O_2$	0.30
Uracil	$C_4H_4N_2O_2$	0.30
Xanthine	$C_5H_4N_4O_2$	0.30

pH 7.4 Osmolarity: 295-305 mOsm