

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

F12 Ham's Nutrient Mixture
CCF Product Code Number: CCFAB002 (Old Code ac200)

Compound	Formula	mg/L
Part A: Inorganic Salts		
Calcium chloride (anhydrous)	CaCl ₂	33.00
Cupric sulfate·5H ₂ O	CuSO ₄ ·5H ₂ O	0.00249
Ferrous sulfate·7H ₂ O	FeSO ₄ ·7H ₂ O	0.834
Magnesium chloride·6H ₂ O	MgCl ₂ ·6H ₂ O	122.80
Potassium chloride	KCl	223.60
Sodium bicarbonate	NaHCO ₃	1176.00
Sodium chloride	NaCl	7599.00
Sodium phosphate, heptahydrate	Na ₂ H ₂ P ₀ ₄ ·7 H ₂ O	268.00
Zinc sulfate·7H ₂ O	ZnSO ₄ ·7H ₂ O	0.863
Part B: Other components		
D-Glucose	C ₆ H ₁₂ O ₆	1802.00
Hypoxanthine	C ₅ H ₄ N ₄ O	4.10
Linoleic acid	C ₁₈ H ₃₂ O ₂	0.084
Lipoic acid	C ₈ H ₁₄ O ₂ S ₂	0.21
Phenol Red	C ₁₉ H ₁₃ O ₅ S·Na ₂	1.20
Putrescine·2HCl	C ₄ H ₁₄ Cl ₂ N ₂ ·2HCl	0.161
Sodium pyruvate	C ₃ H ₃ O ₃ ·Na	110.00
Thymidine	C ₁₀ H ₁₄ N ₂ O ₅	0.73
Part C: Amino Acids		
L-Alanine	C ₃ H ₇ NO ₂	8.90
L-Arginine hydrochloride	C ₆ H ₁₄ N ₄ O ₂ ·HCl	211.00
L-Asparagine·H ₂ O	C ₄ H ₈ N ₂ O ₃ ·H ₂ O	15.01

L-Aspartic acid	C ₄ H ₇ NO ₄	13.30
L-Cysteine hydrochloride·H ₂ O	C ₃ H ₇ NO ₂ S·H ₂ O	35.12
L-Glutamic acid	C ₅ H ₉ NO ₄	14.70
L-Glutamine	C ₅ H ₁₀ N ₂ O ₃	146.00
Glycine	C ₂ H ₅ NO ₂	7.50
L-Histidine hydrochloride·H ₂ O	C ₆ H ₉ N ₃ O ₂ ·HCl·H ₂ O	20.96
L-Isoleucine	C ₆ H ₁₃ NO ₂	3.94
L-Leucine	C ₆ H ₁₃ NO ₂	13.10
L-Lysine·HCl	C ₆ H ₁₄ N ₂ O ₂ ·HCl	36.50
L-Methionine	C ₅ H ₁₁ NO ₂ S	4.48
L-Phenylalanine	C ₉ H ₁₁ NO ₂	4.96
L-Proline	C ₅ H ₉ NO ₂	34.50
L-Serine	C ₃ H ₇ NO ₃	10.50
L-Threonine	C ₄ H ₉ NO ₃	11.90
L-Tryptophan	C ₁₁ H ₁₂ N ₂ O ₂	2.04
L-Tyrosine	C ₉ H ₁₁ NO ₃	5.40
L-Valine	C ₅ H ₁₁ NO ₂	11.70

Part D: Vitamins

Biotin	C ₁₀ H ₁₆ N ₂ O ₃ S	0.0073
D-Calcium pantothenate	C ₁₈ H ₃₂ CaN ₂ O ₁₀	0.48
Choline chloride	C ₅ H ₁₄ ClNO	13.96
Folic acid	C ₁₉ H ₁₉ N ₇ O ₆	1.30
i-Inositol	C ₆ H ₁₂ O ₆	18.00
Niacinamide	C ₆ H ₆ N ₂ O	0.037
Pyridoxine hydrochloride	C ₈ H ₁₁ NO ₃ ·HCl	0.062
Riboflavin	C ₁₇ H ₂₀ N ₄ O ₆	0.038
Thiamine HCl	C ₁₂ H ₁₇ ClN ₄ OS·HCl	0.34
Vitamin B ₁₂	C ₆₃ H ₈₈ CoN ₁₄ O ₁₄ P	1.36

pH: 7.20 Osmolarity: 292-302 mOsm