University of California, San Francisco
Cell Culture Facility

Media Production Formulations

Alpha Minimum Essential Medium (with Nucleosides)

CCF Product Code Number: CCFAC007

Component	Formula	mg/L
Part A: Inorganic Salts		
Calcium chloride (anhydrous)	$CaCl_2$	200.00
Magnesium sulfate	$MgSO_4 \cdot 7H_2O$	200.00
Potassium chloride	KCl	400.00
Sodium bicarbonate	$NaHCO_3$	2200.00
Sodium Chloride	NaCl	6800.00
Sodium phosphate · H_2O	$NaH_2PO_4 \cdot H_2O$	140.00
Part B: Other components		
D-Glucose	$C_6H_{12}O_6$	1000.00
Lipoic acid	$C_8H_{14}O_2S_2$	0.20
Phenol Red (Na)	$C_{19}H_{13}NaO_5S$	10.00
Sodium Pyruvate	$C_3H_3O_3 \cdot Na$	110.00

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Component	Formula	mg/L
Part C: Amino Acids		
L-Alanine	$C_3H_7NO_2$	25.00
L-Arginine hydrochloride	$C_6H_{14}N_4O_2 \cdot HCl$	127.00
L-Asparagine·H_2O	$C_4H_8N_2O_3 \cdot H_2O$	50.00
L-Aspartic acid (free acid)	$C_4H_7NO_4$	30.00
L-Cysteine hydrochloride·H_2O	$C_3H_7NO_2S \cdot HCl \cdot H_2O$	100.00
L-Cystine	$C_6H_{12}N_2O_4S_2$	24.00
L-Glutamic acid	$C_5H_9NO_4$	75.00
L-Glutamine	$C_5H_{10}N_2O_3$	292.00
Glycine	$C_2H_5NO_2$	50.00
L-Histidine hydrochloride·H_20	$C_6H_9N_3O_2 \cdot HCl \cdot H_20$	42.00
L-Isoleucine	$C_6H_{13}NO_2$	52.00
L-Leucine	$C_6H_{13}NO_2$	52.40
L-Lysine·HCl	$C_6H_{14}N_2O_2 \cdot HCl$	72.47
L-Methionine	$C_5H_{11}NO_2S$	15.00
L-Phenylalanine	$C_9H_{11}NO_2$	32.00
L-Proline	$C_5H_9NO_2$	40.00

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Component	Formula	mg/L
Part C: Amino Acids	(continued)	
L-Serine	$C_3H_7NO_3$	25.00
L-Threonine	$C_4H_9NO_3$	48.00
L-Tryptophan	$C_{11}H_{12}N_2O_2$	10.00
L-Tyrosine	$C_9H_{11}NO_3$	36.00
L-Valine	$C_5H_{11}NO_2$	46.00
Part D: Vitamins		
Ascorbic acid·Na	$C_6H_8O_6$	50.00
Biotin	$C_{10}H_{16}N_2O_3S$	0.10
Choline chloride	$C_5H_{14}ClNO$	1.00
D-Calcium pantothenate	$C_{18}H_{32}CaN_2O_{10}$	1.00
Folic acid	$C_{19}H_{19}N_7O_6$	1.00
i-Inositol	$C_6H_{12}O_6$	2.00
Nicotinamide	$C_6H_6N_2O$	1.00
Pyridoxine hydrochloride	$C_8H_9NO_3$·HCl	1.00
Riboflavin	$C_{17}H_{20}N_4O_6$	0.10

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Component	Formula	mg/L
Part D: Vitamins	(continued)	
Thiamine hydrochloride	$C_{12}H_{17}ClN_4OS \cdot HCl$	1.00
Vitamin B_{12}	$C_{63}H_{88}CoN_{14}O_{14}P$	1.36
Part E: Ribonucleosides & Nucleosides		
Adenosine	$C_{10}H_{13}N_5O_4$	10.00
Cytidine	$C_9H_{13}N_3O_5$	10.00
Guanosine	$C_{10}H_{13}N_5O_5$	10.00
Uridine	$C_9H_{12}N_2O_6$	10.00
2' Deoxyadenosine	$C_{10}H_{13}N_5O_3$	10.00
2' Deoxyadenosine monohydrate	$C_{10}H_{13}N_5O_3 \cdot H_20$	11.00
Thymidine	$C_{10}H_{14}N_2O_5$	10.00

pH: 7.2 Osmolarity: 305-315 mOsm