

Medium 199 w/ Hank's BSS
w/o HEPES

12-109



Description	CAS #	Chemical Formula	Concentration		Molarity	
			g/L	mg/L	mM	uM
Calcium Chloride Dihydrate	10035-04-8	CaCl ₂ • 2H ₂ O	0.186	186.000	1.265	1.265E+03
Dextrose	50-99-7	C ₆ H ₁₂ O ₆	1.000	1.000E+03	5.551	5.551E+03
Ferric Nitrate Nonahydrate	7782-61-8	Fe(NO ₃) ₃ • 9H ₂ O	7.200E-04	0.720	1.782E-03	1.782
Magnesium Sulfate Anhydrous	7487-88-9	MgSO ₄	9.769E-02	97.688	0.812	811.561
Potassium Chloride	7447-40-7	KCl	0.400	400.000	5.366	5.366E+03
Potassium Phosphate Monobasic Anhydrous	7778-77-0	KH ₂ PO ₄	0.060	60.000	0.441	440.852
Sodium Bicarbonate	144-55-8	NaHCO ₃	1.400	1.400E+03	16.665	1.666E+04
Sodium Chloride	7647-14-5	NaCl	8.000	8.000E+03	136.893	1.369E+05
Sodium Phosphate Dibasic-7-Hydrate	7782-85-6	Na ₂ HPO ₄ • 7H ₂ O	9.000E-02	90.000	0.336	335.733
L-Alanine	56-41-7	HO ₂ CCH(NH ₂)CH ₃	2.500E-02	25.000	0.281	280.615
L-Arginine Monohydrochloride	1119-34-2	C ₆ H ₁₄ N ₄ O ₂ • HCl	7.000E-02	70.000	0.332	332.289
L-Aspartic Acid	56-84-8	HO ₂ CCH(NH ₂)CH ₂ CO ₂ H	3.000E-02	30.000	0.225	225.394
L-Cysteine Monohydrochloride Monohydrate	7048-04-6	C ₃ H ₇ NO ₂ S • HCl • H ₂ O	1.000E-04	0.100	5.695E-04	0.569
L-Glutamic Acid	56-86-0	C ₅ H ₉ NO ₄	6.700E-02	67.000	0.455	455.472
L-Glutamine	56-85-9	C ₅ H ₁₀ N ₂ O ₃	0.100	100.000	0.684	684.229
Glutathione Reduced	70-18-8	C ₁₀ H ₁₇ N ₃ O ₆ S	5.333E-05	5.333E-02	1.735E-04	0.174
Glycine	56-40-6	HO ₂ CCH ₂ NH ₂	5.000E-02	50.000	0.666	666.045
L-Histidine Monohydrochloride Monohydrate	5934-29-2	C ₆ H ₉ N ₃ O ₂ • HCl • H ₂ O	2.200E-02	22.000	0.105	104.962
L-Hydroxyproline	51-35-4	C ₅ H ₉ NO ₃	1.000E-02	10.000	7.626E-02	76.260
L-Isoleucine	73-32-5	HO ₂ CCH(NH ₂)CH(CH ₃)CH ₂ CH ₃	2.000E-02	20.000	0.152	152.474
L-Leucine	61-90-5	HO ₂ CCH(NH ₂)CH ₂ CH(CH ₃) ₂	6.000E-02	60.000	0.457	457.422
L-Lysine Monohydrochloride	657-27-2	C ₆ H ₁₄ N ₂ O ₂ • HCl	7.000E-02	70.000	0.383	383.247
L-Methionine	63-68-3	HO ₂ CCH(NH ₂)CH ₂ CH ₂ SCH ₃	1.500E-02	15.000	0.101	100.536
L-Phenylalanine	63-91-2	HO ₂ CCH(NH ₂)CH ₂ C ₆ H ₅	2.500E-02	25.000	0.151	151.341
L-Proline	147-85-3	C ₅ H ₉ NO ₂	4.000E-02	40.000	0.347	347.433
L-Serine	56-45-1	HO ₂ CCH(NH ₂)CH ₂ OH	2.500E-02	25.000	0.238	237.891
L-Threonine	72-19-5	HO ₂ CCH(NH ₂)CH(OH)CH ₃	3.000E-02	30.000	0.252	251.847
L-Tryptophan	73-22-3	C ₁₁ H ₁₂ N ₂ O ₂	1.000E-02	10.000	4.896E-02	48.964
L-Valine	72-18-4	HO ₂ CCH(NH ₂)CH(CH ₃) ₂	2.500E-02	25.000	0.213	213.493
L-Ascorbic Acid (Vitamin C)	50-81-7	C ₆ H ₈ O ₆	5.000E-05	5.000E-02	2.839E-04	0.284
D-Biotin (Vitamin H)	58-85-5	C ₁₀ H ₁₆ N ₂ O ₃ S	1.000E-05	1.000E-02	4.093E-05	4.093E-02
Calciferol (Vitamin D2)	50-14-6	C ₂₈ H ₄₄ O	1.000E-04	0.100	2.521E-04	0.252
D-Calcium Pantothenate (Vitamin B5)	137-08-6	C ₁₈ H ₃₂ CaN ₂ O ₁₀	1.000E-05	1.000E-02	2.099E-05	2.099E-02
Choline Chloride	67-48-1	HOCH ₂ CH ₂ N(CH ₃) ₃ Cl	5.000E-04	0.500	3.581E-03	3.581
Folic Acid	59-30-3	C ₁₉ H ₁₉ N ₇ O ₆	1.000E-05	1.000E-02	2.266E-05	2.266E-02
I-Inositol	87-89-8	C ₆ H ₁₂ O ₆	5.000E-05	5.000E-02	2.775E-04	0.277
Menadione	58-27-5	C ₁₁ H ₈ O ₂	1.000E-05	1.000E-02	5.808E-05	5.808E-02
Nicotinic Acid	59-67-6	C ₆ H ₅ NO ₂	2.500E-05	2.500E-02	2.031E-04	0.203
Niacinamide (Nicotinamide)	98-92-0	C ₆ H ₆ N ₂ O	2.500E-05	2.500E-02	2.047E-04	0.205
Pyridoxal hydrochloride	65-22-5	C ₈ H ₉ NO ₃ • HCl	2.500E-05	2.500E-02	1.228E-04	0.123
Pyridoxine Monohydrochloride	58-56-0	C ₈ H ₁₁ NO ₃	2.500E-05	2.500E-02	1.216E-04	0.122
Riboflavin (Vitamin B2)	83-88-5	C ₁₇ H ₂₀ N ₄ O ₆	1.000E-05	1.000E-02	2.657E-05	2.657E-02
Thiamine Monohydrochloride (Vitamin B1)	67-03-8	C ₁₂ H ₁₈ N ₄ O ₄ S	1.000E-05	1.000E-02	2.965E-05	2.965E-02
DL-α-Tocopherol Phosphate Disodium Salt	60934-46-5	C ₂₉ H ₄₉ O ₅ PN ₂	1.000E-05	1.000E-02	1.803E-05	1.803E-02
Retinyl acetate (Vitamin A acetate)	127-47-9	C ₂₂ H ₃₂ O ₂	1.400E-04	0.140	4.262E-04	0.426
Adenine Sulfate	321-30-2	(C ₅ H ₅ N ₅) ₂ H ₂ SO ₄ •2H ₂ O	1.000E-02	10.000	2.473E-02	24.730
Adenosine Monophosphate	18422-05-4	C ₁₀ H ₁₄ N ₅ O ₇ P•nH ₂ O	2.000E-04	0.200	5.760E-04	0.576
Adenosine Triphosphate Disodium Salt	51963-61-2	C ₁₀ H ₁₄ N ₅ O ₁₃ P ₃ Na ₂ •3H ₂ O	1.000E-03	1.000	1.652E-03	1.652
Guanine HCl	635-39-2	C ₅ H ₅ N ₅ O•HCl	3.000E-04	0.300	1.599E-03	1.599
Thymine	65-71-4	C ₅ H ₆ N ₂ O ₂	3.000E-04	0.300	2.379E-03	2.379
Uracil	66-22-8	C ₄ H ₄ N ₂ O ₂	3.000E-04	0.300	2.676E-03	2.676
Phenol Red	34487-61-1	C ₁₉ H ₁₄ O ₅ S	1.500E-02	15.000	3.985E-02	39.851
P-Aminobenzoic Acid	150-13-0	C ₇ H ₇ NO ₂	5.000E-05	5.000E-02	3.647E-04	0.365

Deoxyribose	533-67-5	C5H10O4 (CHO-CH2-HCOH-HCOH-CH2-OH)	5.000E-04	0.500	3.729E-03	3.729
Ribose	50-69-1	C5H10O5	5.000E-04	0.500	3.331E-03	3.331
L-Tyrosine Disodium Salt, Dihydrate	122666-78-9	C9H9NO3Na2 • 2H2O	5.766E-02	57.661	0.221	220.763
L-Cystine Dihydrochloride	30925-07-6	C6H12N2O4S2•2HCl	2.607E-02	26.067	8.323E-02	83.227
Hypoxanthine Disodium Salt	68-94-0	C5H2N4ONa2	3.970E-04	0.397	2.204E-03	2.204
Xanthine·Na·H2O	1196-43-6	C5H3N4NaO2·H2O	3.789E-04	0.379	1.972E-03	1.972
Sodium Acetate	127-09-3	C2H3NaO2	5.003E-02	50.026	0.610	609.846
Tween 80	9005-65-6	N/A (Complex mixture of fatty acid esters)	4.900E-03	4.900	N/A	
Cholesterol	57-88-5	C27H46O	2.000E-04	0.200	5.173E-04	0.517