

Human Plasma-Like Medium (HPLM)

Components	Molecular Weight	Concentration (mg/L)	mM
Amino Acids			
Glycine	75.07	22.521	0.3
L-Alanine	89.09	38.309	0.43000337
L-Arginine HCl	210.66	23.173	0.1100019
L-Asparagine Anhydrous	132.12	6.606	0.05
L-Aspartic acid	133.1	2.662	0.02
L-Cysteine HCl H ₂ O	175.63	7.025	0.03999886
L-Cystine	240.3	24.03	0.1
L-Glutamic Acid	147.13	11.77	0.07999728
L-Glutamine	146.15	80.383	0.55000347
L-Histidine HCl H ₂ O	209.63	23.059	0.10999857
L-Isoleucine	131.17	9.182	0.07000077
L-Leucine	131.17	20.987	0.15999848
L-Lysine HCl	182.65	36.53	0.2
L-Methionine	149.21	4.476	0.029997988
L-Phenylalanine	165.19	13.215	0.07999879
L-Proline	115.13	23.026	0.2
L-Serine	105.09	15.764	0.15000476
L-Threonine	119.12	16.677	0.14000167
L-Tryptophan	204.23	12.254	0.06000098
L-Tyrosine F.B.	181.19	14.495	0.079998896
L-Valine	117.15	25.773	0.22
Vitamins			
Biotin	244.31	0.2	8.19E-04
Choline chloride	139.62	3	0.021486893
D-Calcium pantothenate	476.54	0.25	5.25E-04
Folic Acid	441.4	1	0.002265519
Niacinamide	122.13	1	0.008187996
Para-Aminobenzoic Acid	137.14	1	0.007291819
Pyridoxine HCl	205.64	1	0.004862867
Riboflavin	376.37	0.2	5.31E-04
Thiamine HCl	337.27	1	0.002964984
Vitamin B12	1355.38	0.005	3.69E-06
i-Inositol	180.16	35	0.19427176
Inorganic Salts			
Ammonium Chloride	53.49	2.14	0.04000748
Calcium Chloride Anhyd	110.98	260.803	2.35
Calcium Nitrate 4H ₂ O	236.15	9.446	0.040000003
Magnesium Chloride (anhydrous)	95.21	45.701	0.4800021
Magnesium Sulfate Anhydrous	120.36	42.13	0.35003325
Potassium Chloride	74.55	307.655	4.1268272
Potassium Phosphate Monobasic	136.09	2	0.014696158

Sodium Bicarbonate	84.01	2016.24	24
Sodium Chloride	58.44	6216.2	106.368935
Sodium Phosphate Dibasic Anhydrous	141.96	135.005	0.9510073
Reducing Agents			
Glutathione Reduced	307.33	7.683	0.024999188
Other Components			
Acetone	58.08	3.485	0.06000344
Creatine	149.15	5.245	0.03516594
Creatinine	113.12	8.484	0.075
D-Glucose (Dextrose)	180.16	900.8	5
Fructose	180.16	7.206	0.03999778
Galactose	180.16	10.81	0.060002223
Glycerol	92.09	11.05	0.11999132
Hypoxanthine	136.11	1.3611	0.01
Phenol Red	376.4	5.27	0.014001063
Urea	60.06	300.3	4.9999995
Uridine	244.2	0.733	0.003001638
Non-Proteinogenic Amino Acids			
Acetylcarnitine	239.7	1.199	0.005002086
Betaine	117.15	8.201	0.07000427
L-Amino-N-Butyric Acide	103.12	2.062	0.019996122
L-Carnitine HCl	198	7.92	0.04
L-Citrulline	175.2	7.008	0.04
L-Hydroxyproline	131.13	2.623	0.020003049
L-Ornithine	168.62	11.803	0.06999763
N-Acetylglycine	117.1	10.539	0.089999996
Taurine	125.14	11.263	0.09000319
Water-Soluble Acids			
3-Hydroxybutyric Acid Sodium	126.09	6.305	0.050003964
Alpha Ketoglutaric Acid	146.1	0.731	0.005003422
Citric Acid Anhydrous	192.13	24.977	0.13000052
Formic Acid	46.03	2.301	0.04998914
Malic Acid	134.09	0.67	0.004996644
Malonic Acid	104.06	1.041	0.010003844
Sodium Acetate Anhydrous	82.03	3.281	0.039997563
Sodium L-Lactate	112.06	179.296	1.6
Sodium Pyruvate	110.04	5.502	0.049999997
Succinic Acid	118.09	2.362	0.020001695
Uric Acid	168.11	58.8385	0.35
Antibiotic			
Penicillin		100U/mL	
Streptomycin		100ug/mL	