

DMEM/F12 Medium

with L-Alanyl-L-Glutamine, with phenol red, with sodium bicarbonate, without HEPES, sterile-filtered, suitable for cell culture

Catalog number: LF-KR-ACE01107

Product Form: Clear solution at 1x

Product size: 500 mL

Sterility: Sterile-filtered

pH: 7.20~7.80

Endotoxin (LAL test): ≤ 5 EU/mL

Shipment: Ambient

Storage: Store at 2-8 °C for 12 months

Application: DMEM/F-12 (Dulbecco's Modified Eagle Medium/Nutrient Mixture F-12) is a widely used basal medium for supporting the growth of many different mammalian cells. Cells successfully cultured in DMEM/F-12 include MDCK, glial cells, fibroblasts, human endothelial cells, and rat fibroblasts.

Usage instruction: DMEM/F-12 is a 1:1 mixture of DMEM and Ham's F-12. This formulation combines DMEM's high concentrations of glucose, amino acids, and vitamins with F-12's wide variety of components. DMEM/F-12 contains no proteins, lipids, or growth factors. Therefore, DMEM/F-12 may require supplementation, commonly with 10% Fetal Bovine Serum (FBS). DMEM/F-12 uses a sodium bicarbonate buffer system and therefore requires a 5–10% CO₂ environment to maintain physiological pH.

For scientific research use only, not for clinical diagnosis or treatment.

Formulation:

Components	Molecular Weight	Concentration (mg/L)	Concentration (mM)
Amino Acids			
Glycine	75	18.75	0.25
L-Alanine	89	4.45	0.049999997
L-Arginine hydrochloride	211	147.5	0.69905216
L-Asparagine-H2O	150	7.5	0.05
L-Aspartic acid	133	6.65	0.05
L-Cysteine hydrochloride-H2O	176	17.56	0.09977272
L-Cystine 2HCl	313	31.29	0.09996805
L-Glutamic Acid	147	7.35	0.05
L-Glutamine	146	365	2.5
L-Histidine hydrochloride-H2O	210	31.48	0.14990476
L-Isoleucine	131	54.47	0.41580153
L-Leucine	131	59.05	0.45076334
L-Lysine hydrochloride	183	91.25	0.4986339
L-Methionine	149	17.24	0.11570469
L-Phenylalanine	165	35.48	0.2150303
L-Proline	115	17.25	0.15
L-Serine	105	26.25	0.25
L-Threonine	119	53.45	0.44915968
L-Tryptophan	204	9.02	0.04421569
L-Tyrosine disodium salt dihydrate	261	55.79	0.21375479
L-Valine	117	52.85	0.4517094
Vitamins			
Biotin	244	0.0035	1.43E-05
Choline chloride	140	8.98	0.06414285
D-Calcium pantothenate	477	2.24	0.004696017
Folic Acid	441	2.65	0.006009071
Niacinamide	122	2.02	0.016557377
Pyridoxine hydrochloride	206	2.013	0.009771844
Riboflavin	376	0.219	5.82E-04
Thiamine hydrochloride	337	2.17	0.006439169
Vitamin B12	1355	0.68	5.02E-04
i-Inositol	180	12.6	0.07
Inorganic Salts			
Calcium Chloride (CaCl2) (anhyd.)	111	116.6	1.0504504
Cupric sulfate (CuSO4-5H2O)	250	0.0013	5.20E-06
Ferric Nitrate (Fe(NO3)3"9H2O)	404	0.05	1.24E-04
Ferric sulfate (FeSO4-7H2O)	278	0.417	0.0015
Magnesium Chloride (anhydrous)	95	28.64	0.30147368

Magnesium Sulfate (MgSO ₄) (anhyd.)	120	48.84	0.407
Potassium Chloride (KCl)	75	311.8	4.1573334
Sodium Bicarbonate (NaHCO ₃)	84	2438	29.02381
Sodium Chloride (NaCl)	58	6995.5	120.61207
Sodium Phosphate dibasic (Na ₂ HPO ₄) anhydrous	142	71.02	0.50014085
Sodium Phosphate monobasic (NaH ₂ PO ₄ -H ₂ O)	138	62.5	0.45289856
Zinc sulfate (ZnSO ₄ -7H ₂ O)	288	0.432	0.0015
Other Components			
D-Glucose (Dextrose)	180	3151	17.505556
Hypoxanthine Na	159	2.39	0.015031448
Linoleic Acid	280	0.042	1.50E-04
Lipoic Acid	206	0.105	5.10E-04
Phenol Red	376.4	8.1	0.021519661
Putrescine 2HCl	161	0.081	5.03E-04
Sodium Pyruvate	110	55	0.5
Thymidine	242	0.365	0.001508265