

Dulbecco's MEM/Ham's F-12 (1:1 mixture) liquid and powder medium

The (1:1) mixture has improved levels of different nutrients through the contribution of Ham's F-12. It has found utility for the growth of a wide range of mammalian cells when supplemented with growth factors, hormones or serum (e.g. to grow human proteins such as erythropoietin).

Product	Cat. No.	Unit
DMEM/Ham's F-12 liquid medium without L-glutamine Storage temperature: +2 – +8 °C	F 4815	500 ml
DMEM/Ham's F-12 liquid medium with stable glutamine Storage temperature: +2 – +8 °C	FG 4815	500 ml
DMEM/Ham's F-12 powder medium with L-glutamine without NaHCO ₃ Storage temperature: +2 – +8 °C	T 481-01	1 l
	T 481-05	5 l
	T 481-10	10 l
	T 481-50	50 l

Formulation

Different from the original formulation only 0.05 mg/l riboflavin is used to avoid negative photo oxidative effects.

Tab. 16: Composition of the 1:1 mixture Dulbecco's MEM/Ham's F-12

Substance	Concentration (mg/l)	Substance	Concentration (mg/l)
NaCl	6999.5	L-leucine	59
KCl	311.8	L-lysine-HCl	91.25
Na ₂ HPO ₄	71	L-methionine	17.24
NaH ₂ PO ₄ ·H ₂ O	62.5	L-phenylalanine	35.5
MgSO ₄ ·7H ₂ O	100	L-proline	17.25
MgCl ₂ ·6H ₂ O	61	L-serine	26.25
CaCl ₂	116.61	L-threonine	53.5
Fe(NO ₃) ₃ ·9H ₂ O	0.05	L-tryptophane	9
FeSO ₄ ·7H ₂ O	0.417	L-tyrosine	38.7
CuSO ₄ ·5H ₂ O	0.00125	L-valine	52.85
ZnSO ₄ ·7H ₂ O	0.432	Cholin chloride	9
D-glucose	3151	a-Biotin	0.00365
NaHCO ₃	2438	Folic acid	2.65
Na-pyruvate	55	D-Ca-pantothenate	2.24
Phenol red	12.5	Myo-inositol	12.6
L-alanine	4.5	Nicotinamide	2.02
L-arginine-HCl	147.5	Pyridoxal-HCl	2
L-asparagine-H ₂ O	7.5	Pyridoxin-HCl	0.031
L-aspartic acid	6.65	Riboflavin	0.22
L-cysteine-HCl	15.75	Thiamine-HCl	2.17
L-cystine	24	Vitamin B ₁₂	0.68
L-glutamine	365.3	Hypoxanthine	2.05
L-glutamic acid	7.35	Thymidine	0.37
Glycine	18.75	Lipoic acid	0.11
L-histidine-HCl·H ₂ O	31.5	Linoleic acid	0.042
L-isoleucine	54.5	Putrescine-2HCl	0.081

Reference:

Barnes, D. and Sato; G. *Anal. Biochem.* **102**, 255 [1980]