

Product Information

DMEM/F-12 (Dulbecco's Modified Eagle Medium/Nutrient Mixture F-12) is a widely used basal medium designed to support the growth of a broad range of mammalian cell types. It combines the high nutrient formulation of DMEM with the rich mix of supplements found in Ham's F-12, offering enhanced performance for culturing many adherent and suspension cells.

RBDMEMF01 is supplemented with 3.151gm/L glucose, L-alanyl-L-glutamine, sodium bicarbonate and Phenol red. The media is formulated without Sodium Pyruvate and HEPES.

Storage temperature	2-8°C, protect from light
Shelf life	18 months

Applications

DMEM/F-12 is a nutrient-rich basal medium extensively utilized in cell biology research and biotechnological applications . DMEM/F-12 is employed for the culture of a variety of adherent and suspension cell types, including epithelial cells, fibroblasts, glial cells, and transformed cell lines. It is particularly suitable for cells with high nutrient demands due to its enhanced formulation combining the strengths of DMEM and Ham's F-12.

Quality Control

Appearance	Orangish red, clear liquid
pH	7.0 -7.6
Osmolality	290–330 mOsm/kg
Sterility ¹	Sterile
Endotoxin ²	< 1.0 EU/ml
Cell culture test ³	Meets the requirements
Mycoplasma contamination ⁴	Negative

Note:

¹Sterility Testing (Bacterial and Fungal) carried out in accordance with < USP 71 >

²Bacterial endotoxin testing carried out in accordance with < USP 85 >

³Indicative cell line was seeded in complete control medium and complete test medium in a 96-well plate in triplicates and incubated at 37°C in a 5% CO₂ environment. Growth rates and viability of the cells in test medium must be comparable to the cultures grown in control medium.

⁴Mycoplasma test carried out using a real time PCR-based kit.

DMEM/F12

1:1 mixture

Dulbecco's Modified Eagle Medium /
Nutrient Mixture F-12 Ham's
w/ 17.5mM Glucose, 2.5mM L-alanyl-L-Glutamine
and Phenol red
w/o HEPES and Sodium pyruvate

Composition

Components	Concentration (mg/L)
Amino Acids	
Glycine	18.75
L-Alanine	4.45
L-Alanyl-L-Glutamine	542
L-Arginine hydrochloride	147.5
L-Asparagine monohydrate	7.5
L-Aspartic acid	6.65
L-Cysteine hydrochloride monohydrate	17.56
L-Cystine dihydrochloride	31.29
L-Glutamic acid	7.35
L-Histidine hydrochloride-monohydrate	31.48
L-Isoleucine	54.47
L-Leucine	59.05
L-Lysine hydrochloride	91.25
L-Methionine	17.24
L-Phenylalanine	35.48
L-Proline	17.25
L-Serine	26.25
L-Threonine	53.45
L-Tryptophan	9.02
L-Tyrosine disodium salt dihydrate	55.79
L-Valine	52.85
Vitamins	
Biotin	0.0035
Choline chloride	8.98
D-Calcium pantothenate	2.24
Folic acid	2.65
i-Inositol	12.6
Niacinamide	2.02
Pyridoxine hydrochloride	2.031
Riboflavin	0.219
Thiamine hydrochloride	2.17
Vitamin B12	0.68

Components	Concentration (mg/L)
Inorganic Salts	
Calcium chloride (anhyd.)	116.6
Cupric sulfate pentahydrate	0.0013
Ferric nitrate nonahydrate	0.05
Ferric sulfate heptahydrate	0.417
Magnesium chloride (anhyd.)	28.64
Magnesium sulfate (anhyd.)	48.84
Potassium chloride	311.8
Sodium bicarbonate	2438
Sodium chloride	6999.5
Sodium phosphate dibasic (anhyd.)	71.02
Sodium phosphate monobasic - monohydrate	62.5
Zinc sulfate heptahydrate	0.432
Other Components	
D-Glucose (Dextrose)	3151
Hypoxanthine sodium salt	2.39
Linoleic acid	0.042
Lipoic acid	0.105
Phenol red sodium salt	8.1
Putrescine dihydrochloride	0.081
Sodium pyruvate	55
Thymidine	0.365

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