DMEM/F12

(Dulbecco's Modified Eagle's Medium/Ham's F12, 1:1 Mixture)

Cat. No. CPF002

With L-Glutamine
With 15 mM HEPES
With Sodium Bicarbonate

1. Product Description

DMEM/F12 Medium is a 1:1 mixture of DMEM and Ham's F12, combining high glucose, amino acids, and vitamins from DMEM with the rich components of Ham's F12. It is widely used for culturing various cell types such as MDCK, glial cells, fibroblasts, and human endothelial cells. Since Ham's F12 was originally developed as a serum-free medium, DMEM/F12 is extensively used as a basal medium to reduce serum requirements or support serum-free cultures. This product contains 15 mM HEPES for enhanced pH buffering.

2. Composition

Concentration: mg/L

Amino Acids	mg/L
L-Alanine	4.45
L-Arginine·HCl	147.50
L-Asparagine·H_2O	7.50
L-Aspartic Acid	6.65
L-Cysteine·HCl·H_2O	17.56
L-Cystine·2HCl	31.29
L-Glutamic Acid	7.35
L-Glutamine	365.00
Glycine	18.75
L-Histidine·HCl·H_2O	31.48
L-Isoleucine	54.47
L-Leucine	59.05
L-Lysine·HCl	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·2Na·$2H_2O$	55.79
L-Valine	52.85

Vitamins	mg/L
Biotin	0.0035
D-Ca Pantothenate	2.24
Choline Chloride	8.98
Folic Acid	2.65
i-Inositol	12.60
Niacinamide	2.02
Pyridoxine·HCl	2.00
Riboflavin	0.219
Thiamine·HCl	2.17
Vitamin B12	0.68

Others

Others	mg/L
D-Glucose	3151
HEPES	3574.5
Hypoxanthine, Na	2.39
Linoleic Acid	0.042
Lipoic Acid	0.105
Phenol Red	8.1
Putrescine·2HCl	0.081
Sodium Pyruvate	55
Thymidine	0.365

Inorganic Salts	mg/L
$CaCl_2$	116.60
$CuSO_4·5H_2O$	0.0013
$Fe(NO_3)_3·9H_2O$	0.05
$FeSO_4·7H_2O$	0.417
KCl	311.80
$MgCl_2$	28.64
$MgSO_4$	48.84
Na_2HPO_4	71.02
NaCl	6995.5
$NaH_2PO_4·H_2O$	62.50
$NaHCO_3$	1200.00
$ZnSO_4·7H_2O$	0.432

3. Product Quality Specifications

Appearance	pH	Osmolality	Endotoxin	Sterility
Red clear liquid	pH 7.3 ± 0.3	309 ± 15 mOsm/kg H_2O	< 1 EU/mL	Sterile

4. Storage Conditions and Precautions

Protect from direct light and store refrigerated (2–8°C). Product degradation may appear as precipitates, floating particles, turbidity, or color change; discard if any are observed. Storing against the inner walls of a refrigerator where temperatures may approach 0°C can cause degradation.

5. Usage Instructions and Precautions

This product is a sterile solution. Open the cap only in a sterile environment (e.g., a clean bench) using aseptic technique. It is recommended to use the entire contents after opening; otherwise, aliquot into a suitable sterile container and store refrigerated (2–8°C).