DMEM/F12, 3:1

(Dulbecco's Modified Eagle's Medium/Ham's F12, 3:1 Mixture)

Cat. No. CPF003

With 2X L-Glutamine

With Sodium Bicarbonate

1. Product Description

DMEM/F12 Medium is a 3:1 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 Nutrient Mixture 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.

2. Composition

Concentration: mg/L

Amino Acids	mg/L
L-Alanine	2.225
L-Arginine·HCl	115.75
L-Asparagine·H_2O	3.75
L-Aspartic Acid	3.25
L-Cysteine·HCl·H_2O	8.75
L-Cystine·2HCl	47.25
L-Glutamic Acid	3.675
L-Glutamine	949.00
Glycine	24.375
L-Histidine·HCl·H_2O	36.75
L-Isoleucine	79.75
L-Leucine	82.00
L-Lysine·HCl	118.625
L-Methionine	23.625
L-Phenylalanine	50.75
L-Proline	8.625
L-Serine	34.125
L-Threonine	74.25
L-Tryptophan	12.50
L-Tyrosine·2Na·2H_2O	79.95
L-Valine	73.425

Vitamins	mg/L
Biotin	0.00175
D-Ca Pantothenate	3.125
Choline Chloride	6.50
Folic Acid	3.325
i-Inositol	9.90
Niacinamide	3.01
Pyridoxine·HCl	3.015
Riboflavin	0.31
Thiamine·HCl	3.075
Vitamin B12	0.35

Others

Others	mg/L
D-Glucose	3825.5
HEPES	—
Hypoxanthine, Na	1.1925
Linoleic Acid	0.02
Lipoic Acid	0.0525
Phenol Red	11.55
Putrescine·2HCl	0.04025
Sodium Pyruvate	110.00
Thymidine	0.175

Inorganic Salts	mg/L
$CaCl_2$	158.30
$CuSO_4·5H_2O$	0.000625
$Fe(NO_3)_3·9H_2O$	0.075
$FeSO_4·7H_2O$	0.2075
KCl	355.90
$MgCl_2$	14.305
$MgSO_4$	73.2525
Na_2HPO_4	35.50
NaCl	6699.75
$NaH_2PO_4·H_2O$	93.75
$NaHCO_3$	3069.00
$ZnSO_4·7H_2O$	0.215

3. Product Quality Specifications

Appearance	pH	Osmolality	Endotoxin	Sterility
Red clear liquid	pH 7.3 ± 0.3	322 ± 16 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).