

# Dulbecco's Modified Eagle Medium/Ham's Nutrient Mixture F-12 (DMEM/F-12)

*with 15 mM HEPES Buffer and L-Glutamine  
without Phenol Red*

<b>Catalog Number:</b>	<b>Size:</b>
M23850	500 mL

## PRODUCT DESCRIPTION

Dulbecco's Modified Eagle's Medium/Ham's Nutrient Mixture F-12 (DMEM/F-12) is a 1:1 mixture of DMEM and F-12. The combination of DMEM's high concentration of amino acids, vitamins, and glucose, enriched with Ham's Nutrient Mixture F-12's additional components, was found to support the growth of a wide range of mammalian cells. DMEM/F-12 requires supplementation with serum, typically 10% Fetal Bovine Serum (FBS), since this medium does not contain proteins, lipids, or growth factors.

Each lot of DMEM/F-12 is prepared from a powdered base medium and tissue culture-grade water. Representative samples of each lot of DMEM/F-12 are tested to confirm the absence of bacterial or fungal contamination using methods adapted from the current U.S. Pharmacopeia. DMEM/F-12 is manufactured in our ISO 9001:2015 certified facility.

For the specific media formulation, please refer to the Media Formulation section of the datasheet.

## STORAGE AND HANDLING

DMEM/F-12 is supplied in gamma-irradiated, sterile PETG or PETE bottles. We recommend that DMEM/F-12 be stored at a temperature of 2-8 °C, and protected from strong light. Always use aseptic techniques when handling and supplementing DMEM/F-12.

## PRECAUTION

When handling bio-hazardous materials such as human cells, safe laboratory procedures should be followed, and personal protective equipment should be worn.

## LIMITATIONS

- FOR LABORATORY RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.
- The safety and efficacy of this product in diagnostic or other clinical uses has not been established.
- Results may vary due to variations among tissue/cells derived from different donors or sources.

# MEDIA FORMULATION

## INORGANIC SALTS

mg/L

Calcium Chloride • 2H <sub>2</sub> O	154.51
Cupric Sulfate • 5H <sub>2</sub> O	0.0012
Ferric Nitrate • 9H <sub>2</sub> O	0.05
Ferrous Sulfate • 7H <sub>2</sub> O	0.417
Magnesium Chloride • 6H <sub>2</sub> O	61.01
Magnesium Sulfate (Anhydr.)	48.84
Potassium Chloride	311.83
Sodium Chloride	6999.50
Sodium Phosphate, Dibasic (Anhydr.)	71.06
Sodium Phosphate, Monobasic (Anhydr.)	54.35
Zinc Sulfate • 7H <sub>2</sub> O	0.432

## AMINO ACIDS

mg/L

L-Alanine	4.46
L-Arginine • HCl	147.35
L-Asparagine • H <sub>2</sub> O	7.51
L-Aspartic Acid	6.66
L-Cysteine • HCl • H <sub>2</sub> O	17.56
L-Cystine • 2HCl	31.29
L-Glutamic Acid	7.35
L-Glutamine	365.10
Glycine	18.76
L-Histidine • HCl • H <sub>2</sub> O	31.48
L-Isoleucine	54.37
L-Leucine	58.96
L-Lysine • HCl	91.37
L-Methionine	17.24
L-Phenylalanine	35.48
L-Proline	17.27
L-Serine	26.26
L-Threonine	53.56
L-Tryptophan	9.02
L-Tyrosine • Na <sub>2</sub> • 2H <sub>2</sub> O	55.81
L-Valine	52.66

## VITAMINS

mg/L

D-Biotin	0.0037
Choline Chloride	8.98
Folic Acid	2.66
myo-Inositol	12.51
Nicotinamide	2.02
D-Pantothenic Acid, Hemicalcium Salt	2.12
Pyridoxal • HCl	2.00
Pyridoxine • HCl	0.031
Riboflavin	0.219
Thiamine • HCl	2.17
Vitamin B12	0.679

## OTHER COMPONENTS

mg/L

D-Glucose	3150.80
HEPES	3574.50
Hypoxanthine	2.02
Linoleic Acid	0.042
Lipoic Acid	0.103
Putrescine • 2HCl	0.081
Sodium Pyruvate	55.05
Thymidine	0.363
Sodium Bicarbonate	1200.00