

DATA SHEET

Rev.ver: 01

1. Identification

Product name **Dulbecco's Modified Eagle Medium / Nutrient Mixture F-12 Ham (DMEM / F12, 1:1 Mixture) w/ 15mM HEPES buffer and Trace elements w/o L-Glutamine and Sodium bicarbonate**

Catalog.no **CCMP031**

2. Description

Dulbecco's Modified Eagle Medium/Nutrient Mixture F-12 (DMEM/F12, 1:1 mixture) was originally formulated for the culture of rat neuroblastoma and MDCK cells. Owing to its balanced formulation, the medium provides a highly nutritious environment that supports the proliferation of a wide range of cell types, including epithelial, endothelial, and granulosa cells.

DMEM/F12 formulation supplemented with L-glutamine, sodium bicarbonate, and trace elements, while excluding HEPES buffer. It is recommended that users consult published literature for appropriate supplementation strategies and to optimize conditions for the physiological requirements of specific cell lines.

3. Product Specifications

Appearance	White to light pink, homogenous powder
Solubility	Clear solution at 15.3 g/l
Storage and shelf life	Store at +2°C to +8°C protected from light.
Shipping conditions	+2°C to +8°C

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4. Formulation

Components	Concentration mg/L
Amino Acids:	
Glycine	18.750
L-Alanine	4.450
L-Arginine hydrochloride	147.500
L-Asparagine monohydrate	7.500
L-Aspartic acid	6.650
L-Cysteine hydrochloride monohydrate	17.560
L-Cystine dihydrochloride	31.290
L-Glutamic acid	7.350
L-Histidine hydrochloride monohydrate	31.480
L-Isoleucine	54.470
L-Leucine	59.050
L-Lysine hydrochloride	91.250
L-Methionine	17.240
L-Phenylalanine	35.480
L-Proline	17.250
L-Serine	26.250
L-Threonine	53.450
L-Tryptophan	9.020
L-Tyrosine disodium salt	48.100
L-Valine	52.850
Inorganic Salts	
Ammonium metavanadate	0.00058
Ammonium molybdate tetrahydrate	0.00618
Calcium chloride dihydrate	154.500
Copper sulphate pentahydrate	0.0013
Sodium hydrogen phosphate	71.020
Ferric nitrate nonahydrate	0.050
Ferrous sulphate heptahydrate	0.417
Magnesium chloride hexahydrate	61.200

Components	Concentration mg/L
Magnesium sulphate anhydrous	48.840
Manganese sulphate	0.000151
Nickel chloride	0.00012
Potassium chloride	311.800
Sodium chloride	6996.000
Sodium dihydrogen phosphate	54.300
Sodium metasilicate nonhydrate	0.0142
Sodium selenite	0.00519
Stannous chloride dihydrate	0.00011
Zinc sulphate heptahydrate	0.432
Vitamins	
Choline chloride	8.980
D-Biotin	0.0035
D-Ca-Pantothenate	2.240
Folic acid	2.660
Niacinamide	2.020
Pyridoxal hydrochloride	2.000
Pyridoxine hydrochloride	0.031
Riboflavin	0.219
Thiamine hydrochloride	2.170
Vitamin B12	0.680
myo-Inositol	12.600
Others	
D-Glucose	3151.000
DL-Thioctic acid	0.105
HEPES buffer	3574.500
Hypoxanthine sodium salt	2.400
Linoleic acid	0.042
Phenol red sodium salt	8.630
Putrescine hydrochloride	0.081
Sodium pyruvate	110.000
Thymidine	0.365

Directions:

1. Suspend 15.3 gms in 900ml tissue culture-grade water with constant, gentle stirring until the powder is completely dissolved. Do not heat the water.
2. Add 1.2 gms of Sodium bicarbonate powder or 16.0 ml of 7.5% Sodium bicarbonate solution and 12.5ml of 200mM L-Glutamine solution for 1 liter of medium and stir until dissolved.
3. Adjust the pH to 0.2 - 0.3 pH units below the desired pH using 1N HCl or 1N NaOH since the pH tends to rise during filtration.
4. Make up the final volume to 1000ml with tissue culture grade water.
5. Sterilize the medium immediately by filtering through a sterile membrane filter with a porosity of 0.22 micron or less, using positive pressure rather than vacuum to minimize the loss of carbon dioxide.
6. Aseptically add sterile supplements as required and dispense the desired amount of sterile medium into sterile containers.

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7. Store liquid medium at 2-8°C and in dark till use.

5. Precautions and Disclaimer

This product is for research use only. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.