

**Dulbecco's Modified Eagle's Medium / Ham's Nutrient Mixture F12  
(DMEM /F12)**

w/ L-Glutamine w/ 15mM HEPES w/o Sodium Bicarbonate

CAT N° : P0095

**Theoretical pH** : 5.8 ± 0.3**Osmolality** : 279 mOsm/kg ± 10%**Colour** : off-white powder**Storage conditions** : Store dry powder medium at +2°C to +8°C  
Store hydrated medium at +2°C to +8°C, protected from light**Shelf life** : 36 months**Endotoxin** : < 1 EU/ml**Composition** : Displayed on website and in catalogue; also available on request.**Recommended use :**

- Respect storage conditions of the product
- Do not use the product after its expiry date
- Store the product in a dry area
- Wear clothes adapted to the manipulation of the product to avoid contamination (e.g. : gloves, mask, hygiene cap, overall...)
- Protect the product from any form of humidity
- Use, in one time, after opening, the entire quantity of product of the container, without making a concentrated solution (to avoid the formation of precipitates). If it is not possible, close the container immediately after sampling the quantity of powder required.
- Supplements can be added prior to sterile filtration of the medium or aseptically introduced to sterile medium (respect the final concentration of the media). The nature of the supplements may affect storage conditions and shelf life of the medium.

The product is intended to be used in vitro, in laboratory only. Do not use it in therapy, human or veterinary applications.

**Application :**

DMEM-F12 contains 15mM HEPES to provide additional buffering capacity to the medium. A zwitterionic buffer, HEPES has a pKa of 7.3 at 37°C, which is more compatible with most culture systems than the pKa of sodium bicarbonate which is 6.2 under similar conditions. HEPES will reduce sudden, drastic pH shifts, but as with other buffers, it will not prevent pH shifts entirely.

**Preparation instructions :**

- 1) Measure 80 - 90% of final required volume of water. Water temperature should be 15-30°C.
- 2) While gently stirring the water, add slowly the powdered medium (15.601 g/litre). Stir until dissolved. Do not heat.
- 3) Rinse original package with a small amount of water to remove all traces of powder. Add to solution in step 2.
- 4) For each litre being prepared, add 1.20g sodium bicarbonate (CAT N° : P2060) or 16.0 ml of 7.5% sodium bicarbonate solution (CAT N° : L0680). Mix until completely dissolved.
- 5) While stirring the solution, adjust the pH of the medium to 6.9 – 7.1 using 1 N HCl or 1 N NaOH. The pH of bicarbonate buffered solutions usually rises 0.1 – 0.2 units during filtration.
- 6) Add additional water to bring the solution to final volume.
- 7) Sterilize immediately by filtration using a membrane with a porosity of 0.22 microns.
- 8) Aseptically dispense medium into sterile container.

**Indications of deterioration :**

Dry powder medium should be free flowing. Do not use if powder caked. Prepared medium should be cleared of particulates and flocculent material. Do not use if liquid medium is cloudy or contains precipitate. Other evidence of deterioration may include colour change or degradation of physical or performance characteristics.

**Product code : P0095**

**Product name : DMEM - F12 w/ L-Glutamine w/o Sodium Bicarbonate w/ 15 mM Hepes**

CAS Number	Components	Quantity in g/l
10035-04-8	Calcium Chloride Dihydrate	0.15450000
7786-30-3	Magnesium Chloride Anhydrous	0.02864000
7487-88-9	Magnesium Sulfate Anhydrous	0.04884000
7758-99-8	Cupric Sulfate Pentahydrate	0.00000130
7782-61-8	Ferric Nitrate Nonahydrate	0.00005000
7782-63-0	Ferrous Sulfate Heptahydrate	0.00041700
7447-40-7	Potassium Chloride	0.31180000
7647-14-5	Sodium Chloride	6.99600000
7558-79-4	Sodium Phosphate Dibasic Anhydrous	0.07102000
7558-80-7	Sodium Phosphate Monobasic Anhydrous	0.05430000
7446-20-0	Zinc Sulfate Heptahydrate	0.00043200
50-99-7	D-Glucose Anhydrous	3.15100000
56-40-6	Glycine	0.01875000
56-41-7	L-Alanine	0.00445000
1119-34-2	L-Arginine Monohydrochloride	0.14750000
5794-13-8	L-Asparagine Monohydrate	0.00750000
56-84-8	L-Aspartic acid	0.00665000
7048-04-6	L-Cysteine Monohydrochloride Monohydrate	0.01756000
30925-07-6	L-Cystine Dihydrochloride	0.03129000
56-86-0	L-Glutamic Acid	0.00735000
56-85-9	L-Glutamine	0.36500000
5934-29-2	L-Histidine Monohydrochloride Monohydrate	0.03148000
73-32-5	L-Isoleucine	0.05447000
61-90-5	L-Leucine	0.05905000
657-27-2	L-Lysine Monohydrochloride	0.09125000
63-68-3	L-Methionine	0.01724000
63-91-2	L-Phenylalanine	0.03548000
147-85-3	L-Proline	0.01725000
56-45-1	L-Serine	0.02625000
72-19-5	L-Threonine	0.05345000
73-22-3	L-Tryptophan	0.00902000
69847-45-6	L-Tyrosine Disodium Salt Dihydrate	0.05579000
72-18-4	L-Valine	0.05285000
67-48-1	Choline Chloride	0.00898000
58-85-5	D-Biotin	0.00000350
137-08-6	D-Ca Pantothenate	0.00224000
59-30-3	Folic Acid	0.00266000
87-89-8	Myo-Inositol	0.01260000
98-92-0	Nicotinamide (Nicotinic acid amide)	0.00202000
65-22-5	Pyridoxal Hydrochloride	0.00200000
58-56-0	Pyridoxine Hydrochloride	0.00003100
83-88-5	Riboflavin	0.00021900

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CAS Number	Components	Quantity in g/l
67-03-8	Thiamine Hydrochloride	0.00217000
68-19-9	Vitamine B12	0.00068000
7365-45-9	Hepes Free Acid	3.57450000
68-94-0	Hypoxanthine	0.00210000
60-33-3	Linoleic acid	0.00004200
34487-61-1	Phenol Red Sodium Salt	0.00863000
333-93-7	Putrescine+2HCL	0.00008100
113-24-6	Sodium Pyruvate	0.05500000
1077-28-7	Thioctic Acid	0.00010500
50-89-5	Thymidine	0.00036500
WATER		984.39894320