



Catalog Number: 1040120

## Ham's F-10 Medium, powder, with L-glutamine, without sodium bicarbonate

**Description:** Originally, Ham's Nutrient Mixtures were developed for the clonal growth of several Chinese hamster ovary (CHO) clone cells, Hela cells and mouse L-cells. Both F-10 and F-12 are formulated for use with or without serum, depending on the type of cells being cultured. F-10 has demonstrated satisfactory growth of human diploid cells, white blood cells for chromosomal analysis and primary rat, rabbit and chicken tissue explants. Ham's F-12 is well suited for the growth of primary rat hepatocytes and prostate epithelial cells. It is also the medium of choice for toxicity assays using CHO cells. MP also offers Ham's F-12 supplemented with 25 mM HEPES for improved buffering in the optimum pH range of 7.2-7.4.

F12K is a modification of Ham's F-12 and Coon's F-12 with increased amino acid and pyruvate concentrations. Additionally, the salts have been modified (Konigsbergs). F12K has been developed for culturing differentiated rat and chicken cells, as well as, primary human liver cells.  $MgCl_2$  has been substituted by  $MgSO_4$  containing an equivalent amount of Mg ion.

### Formulation:

<b>Components</b>	<b>mg/L</b>	<b>Mol. Wt.</b>	<b>Mol. (mM)</b>
<b>Amino Acids</b>			
L-Alanine	9.0000	89.1	0.10
L-Arginine HCl	211.0000	174.2	1.21
L-Asparagine H <sub>2</sub> O	15.0000	150.1	0.10
L-Aspartic Acid	13.0000	133.1	0.10
L-Cysteine HCl H <sub>2</sub> O	35.1000	175.6	0.20
L-Glutamic Acid	14.7000	147.1	0.10
L-Glutamine	146.2000	146.1	1.00
Glycine	7.5000	75.07	0.10
L-Histidine HCl H <sub>2</sub> O	23.0000	209.6	0.11
L-Isoleucine	2.6000	131.2	0.02
L-Leucine	13.0000	131.2	0.10
L-Lysine HCl	29.0000	182.6	0.16

L-Methionine	4.4800	149.2	0.03
L-Phenylalanine	5.0000	165.2	0.03
L-Proline	11.5000	115.1	0.10
L-Serine	10.5000	105.1	0.10
L-Threonine	3.5700	119.1	0.03
L-Tryptophan	0.6000	204.2	0.00
L-Tyrosine 2Na 2H <sub>2</sub> O	2.6100	261.2	0.01
L-Valine	3.5000	117.1	0.03
<b>Vitamins</b>			
Biotin	0.0240	244.3	0.0001
Choline Chloride	0.6980	139.6	0.0050
D-Calcium Pantothenate	0.7150	238.3	0.0030
Folic Acid	1.3200	441.4	0.0030
myo-Inositol	0.5410	180.2	0.0030
Nicotinamide	0.6150	122.13	0.0050
Pyridoxine HCl	0.2060	205.6	0.0010
Riboflavin	0.3760	376.4	0.0010
Thiamine HCl	1.0000	337.3	0.0030
Vitamin B12	1.3600	1355.4	0.0010
<b>Inorganic Salts</b>			
Calcium Chloride [CaCl <sub>2</sub> ]	33.3000	111	0.30
Cupric Sulfate [CuSO <sub>4</sub> ]	0.0016	159.68	0.00001
Ferrous Sulfate [FeSO <sub>4</sub> 7H <sub>2</sub> O] Heptahydrate	0.8340	278	0.0030
Magnesium Sulfate [MgSO <sub>4</sub> ]	74.6000	120.4	0.62
Potassium Chloride [KCl]	285.0000	74.55	3.82
Potassium Phosphate Monobasic [KH <sub>2</sub> PO <sub>4</sub> ]	83.0000	136.09	0.61
Sodium Chloride [NaCl]	7400.0000	58.44	126.63
Sodium Phosphate Dibasic [Na <sub>2</sub> HPO <sub>4</sub> ]	153.7000	141.96	1.08
Zinc Sulfate [ZnSO <sub>4</sub> 7H <sub>2</sub> O] Heptahydrate	0.0288	287.5	0.0001
<b>Other</b>			

Dextrose	1100.0000	180.2	6.10
Hypoxanthine Na	4.7700	159.08	0.03
Lipoic Acid	0.2000	206.3	0.0010
Phenol Red Sodium Salt	1.2000	376.4	0.0032
Sodium Pyruvate	110.0000	110	1.00
Thymidine	0.7300	242.2	0.0030
<b>Add</b>			
NaHCO <sub>3</sub> Powder (g/L)		1.2000	
NaHCO <sub>3</sub> 7.5% Solution (mL/L)		16.0300	

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