HAMS F12K

Ham's F-12K (Kaighn's) Medium
w/ 6.9mM Glucose, 1.5mM L-Glutamine, 1.9mM Sodium pyruvate, Earle's salt, Phenol red and 2.5g/L Sodium bicarbonate
w/o HEPES

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Technical data sheet |Catalog No-RBHMF1201

Product information

Ham's F-12K (Kaighn's) Medium is a modified version of Ham's F-12 and Coon's F-12 media, designed to support the growth of certain cell types under low-serum or defined conditions. It features increased concentrations of amino acids and sodium pyruvate, as well as an altered salt composition based on Konigsberg's formulation. Unique to F-12K are components like putrescine, thymidine, hypoxanthine, zinc, and elevated levels of all amino acids and pyruvate, which enhance its nutritional profile. Since it lacks proteins and growth factors, it is commonly supplemented with Fetal Bovine Serum (FBS) and specific growth factors, with the optimal FBS concentration varying by cell line. The medium uses a sodium bicarbonate buffering system (2.5 g/L) and should be maintained in a 5–10% CO_2 incubator to ensure physiological pH stability.

RBHMF1201 is a medium of Ham's F-12 variant supplemented with Earle's salt and 1.26gm/L glucose, L-Glutamine, Sodium pyruvate, Phenol red and Sodium bicarbonate The media is formulated without HEPES.

Storage Temperature	2-8°C, protect from light
Shelf life	12 months from manufacturing

Applications

Ham's Nutrient Mixtures were originally developed for single cell plating of near diploid Chinese hamster ovary (CHO) 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. This medium is designed to support the growth of differentiated rat and chicken cells, and primary human liver cells.

Quality Control

Physical Appearance	Clear liquid
pH	7.5-7.9
Osmolarity 1X	310–350 mOsm/kg
Sterility[1]	Sterile
Endotoxin[2] at 1X	≤ 0.04 EU/ml
Cell culture test[3]	Meets the requirements

Note:

[1]Sterility Testing (Bacterial and Fungal) carried out in accordance with < USP 71 >

[2]Bacterial Endotoxin Testing carried out in accordance with < USP 85 >

[3]Indicative cell line was seeded in complete control medium and complete test medium in a 96-well plate in triplicates and incubated at 37°C in a 5% CO_2 environment. Growth rates and viability of the cells in test medium must be comparable to the cultures grown in control medium

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Composition

Components	Concentration (mg/L)
Amino Acids	
Glycine	15
L-Alanine	18
L-Arginine hydrochloride	422
L-Asparagine monohydrate	30
L-Aspartic acid	26.6
L-Cysteine hydrochloride monohydrate	70
L-Glutamic Acid	29
L-Glutamine	292
L-Histidine hydrochloride monohydrate	45.8
L-Isoleucine	7.88
L-Leucine	26.2
L-Lysine hydrochloride	73
L-Methionine	8.96
L-Phenylalanine	9.92
L-Proline	69
L-Serine	21
L-Threonine	23
L-Tryptophan	4.1
L-Tyrosine disodium salt dihydrate	13.5
L-Valine	23
Vitamins	
Biotin	0.07
Choline chloride	14
D-Calcium pantothenate	0.5
Folic Acid	1.3
Niacinamide	0.037
Pyridoxine hydrochloride	0.06
Riboflavin	0.04
Thiamine hydrochloride	0.3
Vitamin B12	1.4
i-Inositol	18

Components	Concentration (mg/L)
Inorganic Salts	
Calcium chloride (anhyd.)	102
Cupric sulfate pentahydrate	0.002
Ferric sulfate heptahydrate	0.8
Magnesium chloride (anhydrous)	49.7
Magnesium sulfate (anhyd.)	192
Potassium chloride	285
Sodium bicarbonate	2500
Sodium chloride	7530
Sodium Phosphate dibasic anhydrous	115.5
Sodium Phosphate monobasic anhydrous	59
Zinc sulfate heptahydrate	0.144
Other Components	
D-Glucose (Dextrose)	4500
Phenol red sodium salt	15
Sodium pyruvate	110

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