NUTRIENT MIXTURE F12 HAM KAIGHN'S MODIFICATION (F12K)
With L-Glutamine, Without Sodium Bicarbonate
Product Number **N3520**

Product Description
F12K is a modification of Ham's F12 and Coon's F12 with increased concentrations of amino acids, and pyruvate as well as modified salts (Konigsberg). This medium is designed to support the growth of differentiated rat and chicken cells, and primary human liver cells.

Components	g/L
L-Arginine	0.4214
L-Alanine	0.017818
L-Asparagine•H_2O	0.03002
L-Aspartic acid	0.02662
L-Cysteine•HCl•H_2O	0.07024
L-Glutamic acid	0.02942
L-Glutamine	0.2922
Glycine	0.015014
L-Histidine•HCl•H_2O	0.04192
L-Isoleucine	0.007872
L-Lysine•HCl	0.07304
L-Leucine	0.02624
L-Methionine	0.008952
L-Proline	0.06906
L-Phenylalanine	0.009912
L-Serine	0.02102
L-Tryptophan	0.004084
L-Tyrosine	0.010872
L-Threonine	0.02382
L-Valine	0.02342
D-Biotin	0.00007329
Choline chloride	0.01396
Folic acid	0.0013242
Hypoxanthine	0.004083
myo-Inositol	0.01802
Niacinamide	0.00003663
D-Pantothenic acid•1/2 Ca	0.000477
Putrescine•2HCl	0.0003222
Pyridoxine•HCl	0.00006168
Riboflavin	0.00003764
Thiamine•HCl	0.0003373
Thymidine	0.0007266
Vitamin B12	0.0013554
D+-Glucose	1.260
Pyruvic acid•Na	0.220
Phenol Red•Na	0.00331806
DL-6,8-Thioctic acid	0.00020630
Calcium chloride•Anhydrous	0.10207
Cupric sulfate•5H_2O	0.0000025
Ferrous sulfate•7H_2O	0.000834
Magnesium chloride [anhydrous]	0.0495092
Magnesium sulfate	0.19264
Potassium chloride	0.28329
Potassium phosphate monobasic	0.058523
Sodium phosphate dibasic	0.11502
Sodium chloride	7.5972
Zinc sulfate•7H_2O	0.00014375

Precautions and Disclaimer
REAGENT
For R&D use only. Not for drug, household or other uses.

Preparation Instructions
Powdered media are hygroscopic and should be protected from moisture. The entire contents of each package should be used immediately after opening. Preparing a concentrated solution of medium is not recommended as precipitates may form. Supplements can be added prior to filtration or introduced aseptically to sterile medium.

1. Measure out 90% of final required volume of water. Water temperature should be 15-20 °C.
2. While gently stirring the water, add the powdered medium. 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. To the solution in step 3, add 2.5 g sodium bicarbonate or 33.3 ml of sodium bicarbonate solution [7.5%w/v] for each liter of final volume of medium being prepared. Stir until dissolved.
5. While stirring, adjust the pH of the medium to 0.1-0.3 pH units below the desired pH since it may rise during filtration. The use of 1N HCl or 1N NaOH is recommended.
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.

Storage and Stability
Store the dry powdered medium at 2-8 °C under dry conditions and liquid medium at 2-8 °C in the dark. Deterioration of the powdered medium may be recognized by any or all of the following: [1] color change, [2] granulation/clumping, [3] insolubility. Deterioration of the liquid medium may be recognized by any or all of the following: [1] pH change, [2] precipitate or particulates, [3] cloudy appearance [4] color change. The nature of supplements added may affect storage conditions and shelf life of the medium. Product label bears expiration date.

Procedure

MATERIALS REQUIRED BUT NOT PROVIDED
Water for tissue culture use [W3500]
Sodium Bicarbonate [S5761] or
Sodium Bicarbonate Solution, 7.5% [S8761]
1N Hydrochloric Acid [H9892]
1N Sodium Hydroxide [S2770]
Medium additives as required

References

1. Kaighn M., J. Nat'l Cancer Inst., 53, 1437-1442, (1974)
2. Konigsberg I. R., Science, 140, 1273, (1963).N3520 04/01

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Sigma-Aldrich Inc.
3050 Spruce St. St. Louis, MO 63103 USA 314-771-5765
Technical Service: 800-325-5832 or call collect 314-771-5765
Or e-mail at techserv@sial.com
To order: 800-325-3010 or call collect 314-771-5750
www.sigma-aldrich.com