NUTRIENT MIXTURE F-12 [HAM]

With L-Glutamine And Without Sodium Bicarbonate
Product Number **N6760**

Product Description

Ham's Nutrient Mixtures were originally developed to support clonal growth of several clones of Chinese Hamster Ovary (CHO) cells, as well as clones of HeLa and mouse L-cells. Ham's F-12 has been used for the growth of primary rat hepatocytes and rat prostate epithelial cells. A clonal toxicity assay using CHO cells has also been reported with Ham's F-12 as the medium of choice.

Components	g/L
Calcium Chloride (anhydrous)	0.0333
Cupric Sulfate•5H_2O	0.0000025
Ferrous Sulfate•7H_2O	0.000834
Magnesium Chloride [anhydrous]	0.0576
Potassium Chloride	0.224
Sodium Chloride	7.599
Sodium Phosphate Dibasic (anhydrous)	0.14204
Zinc Sulfate•7H_2O	0.000863
L-Alanine	0.009
L-Arginine•HCl	0.211
L-Asparagine•H_2O	0.01501
L-Aspartic Acid	0.0133
L-Cysteine•HCl•H_2O	0.035
L-Glutamic Acid	0.0147
L-Glutamine	0.146
Glycine	0.00751
L-Histidine•HCl•H_2O	0.02096
L-Isoleucine	0.00394
L-Leucine	0.0131
L-Lysine•HCl	0.0365
L-Methionine	0.00448
L-Phenylalanine	0.00496
L-Proline	0.0345
L-Serine	0.0105
L-Threonine	0.0119
L-Tryptophan	0.00204
L-Tyrosine 2Na•2H_2O	0.00778
L-Valine	0.0117
D-Biotin	0.0000073
Choline Chloride	0.01396
Folic Acid	0.00132
myo-Inositol	0.018
Niacinamide	0.000037
D-Pantothenic Acid (hemicalcium)	0.00048
Pyridoxine•HCl	0.000062
Riboflavin	0.000038
Thiamine•HCl	0.00034
Vitamin B-12	0.00136
D-Glucose	1.802
Hypoxanthine	0.00408
Linoleic Acid	0.000084
Phenol Red•Na	0.0013
Putrescine Dihydrochloride	0.000161
Pyruvic Acid•Na	0.11
Thioctic Acid	0.00021
Thymidine	0.00073

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 1.18 g sodium bicarbonate or 15.7 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. Ham, R.G., (1963). An Improved Nutrient Solution for Diploid Chinese Hamster and Human Cell Lines. Exp. Cell Res. 29, 515-526.

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