

## Product Name

Name: Ham's F-12K Medium (Kaighn's), with L-Alanyl-L-Glutamine

Cat. No.: C3138-0500

Size: 500 mL

## Product Description

Ham's F-12K (Kaighn's) medium is an improved version of Ham's F-12 nutrient mixture, specifically designed for primary human hepatocytes and rat and chicken hepatocytes that can grow under low serum conditions. Compared with traditional basal media, Ham's F-12K contains additional putrescine, thymidine, hypoxanthine, zinc, and higher concentrations of all amino acids and sodium pyruvate. These components enable certain cell types to support growth with only a minimal amount of serum or defined chemical additives.

The culture medium has been supplemented with L-Alanyl-L-Glutamine in place of L-Glutamine. Compared with L-Glutamine, L-Alanyl-L-Glutamine is much more stable, releases less ammonia in culture, and improves cell viability and growth.

This medium does not contain proteins or growth factors, so it is usually necessary to supplement it with fetal bovine serum (FBS) and growth factors. The concentration of FBS required varies among different cell lines, and it is recommended to optimize it for specific cell types. Additionally, Ham's F-12K uses a sodium bicarbonate buffer system (2.5 g/L), and it should be used in an environment with 5 - 10% CO<sub>2</sub> to maintain physiological pH.

## Composition:

Ingredients mg/L

### Inorganic salts

Calcium Chloride (CaCl <sub>2</sub> ) (anhyd.)	102.000
Cupric sulfate (CuSO <sub>4</sub> ·5H <sub>2</sub> O)	0.002
Ferric sulfate (FeSO <sub>4</sub> ·7H <sub>2</sub> O)	0.800
Magnesium Chloride (anhydrous)	49.700
Magnesium Sulfate (MgSO <sub>4</sub> ) (anhyd.)	192.000
Potassium Chloride (KCl)	285.000
Sodium Bicarbonate (NaHCO <sub>3</sub> )	2500.000
Sodium Chloride (NaCl)	7530.000
Sodium Phosphate dibasic (Na <sub>2</sub> HPO <sub>4</sub> ) anhydrous	115.500
Sodium Phosphate monobasic (NaH <sub>2</sub> PO <sub>4</sub> ) anhydrous	50.920
Zinc sulfate (ZnSO <sub>4</sub> ·7H <sub>2</sub> O)	0.144

### Amino acids

Glycine	15.000
L-Alanine	18.000
L-Arginine hydrochloride	422.000
L-Asparagine-H <sub>2</sub> O	30.000
L-Aspartic acid	26.600



L-Cysteine hydrochloride-H <sub>2</sub> O	70.000	Pyridoxine hydrochloride	0.060
L-Glutamic Acid	29.000	Riboflavin	0.040
L-Alanyl-L-Glutamine	434.000	Thiamine hydrochloride	0.300
L-Histidine hydrochloride-H <sub>2</sub> O	45.800	Vitamin B12	1.400
L-Isoleucine	7.880	i-Inositol	18.000
L-Leucine	26.200	<b>Others</b>	
L-Lysine hydrochloride	73.000	D-Glucose (Dextrose)	1260.000
L-Methionine	8.960	Hypoxanthine Na	4.000
L-Phenylalanine	9.920	Lipoic Acid	0.210
L-Proline	69.000	Phenol Red	3.0
L-Serine	21.000	Putrescine 2HCl	0.320
L-Threonine	23.000	Sodium Pyruvate	220.000
L-Tryptophan	4.100	Thymidine	0.700
L-Tyrosine disodium salt dihydrate	13.500		
L-Valine	23.000		
<b>Vitamins</b>			
Biotin	0.070		
Choline chloride	14.000		
D-Calcium pantothenate	0.500		
Folic Acid	1.300		
Niacinamide	0.037		

**Procedure**

- Take a bottle from the refrigerator at 2 - 8°C and read the label.
- Wipe the outside of the bottle with a disinfectant solution such as 70% ethanol.
- Pipette out appropriate volume using an aseptic/sterile technique under a laminar-flow culture hood.
- Add antibiotics or other nutrients if desired.

**Storage and Stability**

The product should be kept at 2 - 8° C.

The product is light-sensitive and therefore should be protected from light.

Shelf life: 12 months from the date of manufacture..



## Precautions

- Do not use it if the packaging is broken or dripping.
- Avoid contamination during operation.
- Rinse immediately with tap water, if the solution contacts the skin and mucous membrane.
- Use before expiry date .

## Quality Control

Ham's F-12K Medium (Kaighn's) with L-Alanyl-L-Glutamine is tested for sterility, pH, osmolality, and endotoxin concentration. In addition, each batch is tested for cell growth performance.

## Manufacturer

Shanghai XP Biomed Ltd.

## Issue Date

Mar. 2026

## Precaution and Disclaimer

For research use only, not for clinical diagnosis, and treatment.

