# Complete Medium

α-MEM (10% FBS)

## 1. Product Overview

Complete Medium α-MEM (10% FBS) is formulated with all essential nutrients required for adherent cell culture, enabling robust cell growth and proliferation without supplementation of additional basal components.

Employing advanced dynamic freeze-drying technology, this product lyophilizes a complex nutrient system comprising α -MEM basal culture medium, 10% fetal bovine serum (FBS), antibiotics (penicillin-streptomycin), L-glutamine and other essential additives into a homogeneous powder, while retaining the native structural integrity and biological activity of all constituents. It can be rapidly and conveniently reconstituted via gentle mixing and shaking, delivering sufficient energy and comprehensive nutritional support for highly metabolically active and fast-proliferating cells.

Supplemented with 10% FBS and 1% penicillin–streptomycin solution, and featuring a stable pH range of 7.00–7.40, this medium is suitable for the culture of a broad spectrum of mammalian cell lines. It features strong versatility and can support the culture of mammalian cells from different sources and in different states.

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## 2. Core Ingredients and Functions

The table below lists the major components of this complete culture medium and describes the role of each:

| Component | Function | Typical Concentration |
|---|---|---|
| *Basal Medium (Alpha-MEM)* | *Provides comprehensive nutrients and a suitable environment for cell growth, proliferation and metabolism.* | *89 %* |
| *Fetal Bovine Serum (FBS)* | *Supplements growth factors, hormones and adhesion factors to promote cell proliferation and adhesion.* | *10%* |
| *Penicillin-Streptomycin* | *Inhibits bacterial contamination (Penicillin: 100U/mL; Streptomycin: 100μg/mL)* | *1%* |
| *L-glutamine* | *A key substance for cellular energy metabolism.* | *2mM* |
| *D-glucose* | *Serves as a carbon source for metabolic energy and biosynthesis of in vitro cultured cells.* | *1.0g/L* |
| *Nucleosides* | *Basic raw material for RNA synthesis, supporting cell metabolism and proliferation.* | |
| *Deoxynucleosides* | *Basic raw material for DNA synthesis, supporting cell metabolism and proliferation.* | |

*Note: Actual component composition may vary by product variant. Refer to the Certificate of Analysis*

*(CoA) for lot-specific information.*

## 3. Storage Conditions

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| **Storage Temperature** | *2 – 8 °C (Refrigerate; do not freeze)* |
| **Protection from Light** | *Store in the dark or in amber/foil-wrapped containers to prevent photodegradation* |
| **Shelf Life (Unopened)** | *24 months from date of manufacture* |
| **Shelf Life (Opened)** | *Use within 3-4 weeks after opening; aliquot to minimize freeze-thaw or repeated warming* |
| **Container** | *Maintain in original sealed bottle or sterile, airtight container* |

## 4. Preparations Before Use

### 4.1 Visual inspection

- Confirm that the lyophilized culture medium powder has not dissolved, the vial is undamaged and leak-free, and the liquid is clear without turbidity or sediment. If any abnormalities are found, contact the supplier immediately for a replacement.

### 4.2 Equilibration

- Warm the medium to 37 °C in a water bath or incubator (15–30 minutes) before use.
- Do not warm more medium than needed for immediate use; discard any unused warmed medium at the end of the working day.

### 4.3 Sterility

- All components of this medium have been sterile-filtered (0.2 μm) by the manufacturer.
- Always handle medium under aseptic conditions using a certified biosafety cabinet (BSC).
- Inspect the bottle for leaks, damaged seals, or signs of contamination before use.

## 5. Product Specifications

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|---|---|
| **Product Name** | *Complete Medium α-MEM (10% FBS)* |
| **Product Code** | *HD6198-100; HD6198-500; HD6198A-100; HD6198A-500* |
| **Volume** | *100ml/bottle, 10*100ml/box; 500ml/bottle* |

## 6. Instructions for Use

### 6.1 Temperature Equilibration:

- Remove the reagent bottle from the 2–8℃ refrigerator before use, and let it stand for 10 minutes to equilibrate to room temperature.

### 6.2 Powder Settling:

- Press the top of the bottle cap to allow the powder inside to fall smoothly.

### 6.3 Dissolution & Mixing:

- Shake the bottle vigorously for 1 minute, and observe until the powder is completely dissolved.

### 6.4 Removal of Powder Cartridge:

- Remove the bottle cap, gently twist it to detach the powder cartridge, and discard it.

### 6.5 Ready for Use:

- The reagent is ready for normal use once fully dissolved, with a pH range of 7.00–7.40.

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## 7. Reminder

- For Research Use Only (RUO). This product is not intended for use in diagnostic procedures or therapeutic applications.
- Under ambient temperature conditions, the product can maintain its quality for up to one week. It is recommended to use ice packs for transportation; **do not use dry ice**. In northern regions where freezing may occur in winter, please thaw the product completely before storage. Store the product in a refrigerator at 2–8°C.
- Due to the physical effects of the freeze-drying process, trace amounts of slowly dissolving substances may be present. This phenomenon does not affect the performance of the culture medium, and these substances will be fully utilized during cell culture. It is not caused by product contamination, so the product can be used with confidence.
- Use appropriate personal protective equipment (PPE) including gloves, lab coat, and eye protection when handling cell culture media.
- All biological materials should be treated as potentially hazardous. Follow your institution's biosafety protocols.
- Dispose of spent medium, cell culture waste, and contaminated materials in compliance with local environmental and biosafety regulations.
- Do not use after the expiration date printed on the label.

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