

# MEM $\alpha$ (Without Phenol Red) Complete Medium Product manual

## Basic Information

| Cat.NO  | Size  | Shelf    | Form   | Storage                           | Transportation |
|---------|-------|----------|--------|-----------------------------------|----------------|
| CMC0050 | 500mL | 6 months | Liquid | Store at 2-8°C<br>away from light | 2-8°C          |

## Product Introduction

|                                  |                                                                          |
|----------------------------------|--------------------------------------------------------------------------|
| <b>Components</b>                | MEM $\alpha$ (Without Phenol Red)(CMB0091)+10%<br>Nutrient+1% Supplement |
| <b>Concentration</b>             | Ready-to-use                                                             |
| <b>Bacteria Detection</b>        | Negative                                                                 |
| <b>Fungi Detection</b>           | Negative                                                                 |
| <b>Mycoplasma Detection</b>      | Negative                                                                 |
| <b>Endotoxin Content (EU/mL)</b> | < 3                                                                      |

## Background

MEM medium (Minimum Essential Medium) is also called the minimum essential medium, minimum basic medium or low-limit Eagle medium. It was developed by Harry Eagle based on Eagle Basic Medium (BEM). It is the most basic and widely applicable medium and one of the most commonly used mediums in animal cell culture. MEM medium contains only 12 essential amino acids, glutamine and 8 vitamins. It has simple ingredients and is mainly used for the culture of adherent cells. It can also be used for other types of cell culture after the formula is modified. MEM medium containing NEAA (non-essential amino acids) is based on MEM medium and adds 7 NEAAs: L-alanine, L-glutamic acid, L-asparagine, L-aspartic acid, L-proline, L-serine and glycine. It can reduce the side effects of the production of non-essential amino acids by cells themselves during cell culture and effectively promote cell proliferation and metabolism.

Phenol red is used as a pH indicator in culture media to continuously monitor the pH of the culture medium. At low pH values, phenol red makes the culture medium yellow, while at higher pH values, the culture medium turns purple. It turns red at pH 7.2-7.4, which is most suitable for cell culture. However, phenol red also has some disadvantages. Studies have shown that phenol red can simulate the effects of steroid hormones (especially estrogen). Therefore, when using estrogen-sensitive cells (such as breast tissue), it is best to use a culture medium that does not contain phenol red. Phenol red can interfere with detection during flow cytometry analysis. In addition, the presence of phenol red in some serum-free culture medium formulas can interfere with sodium-potassium balance.

## Precautions

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1. During the entire process, be sure to pay attention to aseptic operation to avoid contamination;
  2. To maintain the best use effect of this product, please do not perform freeze-thaw treatment;
  3. This product is only used for research or further research, not for diagnosis and treatment.
  4. It is not suitable for long time storage at room temperature.
  5. This product is a ready-to-use medium. If there is no special need, don't add serum, penicillin and streptomycin. It can be used directly.