



# Alpha MEM (With HEPES)

## For research use only

Catalogue number: BI-1009

### Product Description

Minimum Essential Medium Eagle - Alpha Modification (Alpha MEM) is recommended for a wide variety of cell culture applications. Selection of a suitable nutrient medium is dependent on the type of cell, culture conditions, and degree of chemical definition required for the cell culture application. Minimum Essential Medium (MEM) was primarily developed by Harry Eagle when Basal Media Eagle (BME) was found not adequate to support the growth of HeLa cells. However, additional supplementation to MEM (Alpha Modification) has expanded the applications of this medium. It was discovered that Basal Media Eagle (BME) could support the growth of a wider variety of cells with the addition of certain media supplements (e.g. higher concentrations of amino acids), which were incorporated into the MEM formulation. Alpha modification of MEM includes the addition of non-essential amino acids, sodium pyruvate, lipoic acid, ascorbic acid, biotin, L- glutamine and vitamin B12. This product (BI-1009) is an alpha modification of Minimum Essential Medium Eagle containing ribonucleosides, deoxyribonucleosides, sodium bicarbonate, and phenol red with HEPES buffering system. As a zwitterionic buffer, HEPES has a pKa of 7.3 at 37 °C, which is more compatible with most culture systems than that of sodium bicarbonate, which has a pKa of 6.2 under similar conditions. HEPES will reduce sudden drastic pH shifts, but as with other buffers, it will not prevent pH shifts entirely. This specification is produced in two different volumes of 100ml (BI-1009-01) and 500ml (BI-1009-05).

### Notes

- Respect storage conditions of the product.
- Do not use the product after the expiry date.
- Protect the product from light.
- Manipulate the product in aseptic conditions (e.g. under laminar air flow).
- Wear clothes adapted to the manipulation of the product to avoid contamination (e.g. gloves, mask, and hygiene cap).
- Supplements, such as antibiotics, should be added aseptically to the medium. Storage conditions and shelf-life of the supplemented product would be affected by the nature of the Supplements.
- The medium should be clear and free of particulate and flocculent material. Do not use, if the medium is cloudy or contains a precipitate.
- In the case of using the medium in several steps, notice that after the first discharge, the air-to-medium ratio will increase inside. So, the medium will become alkaline earlier than expected. It's recommended to fill the remaining medium in 50ml sterile tubes, close tightly and use until the expiry date.
- Users are advised to review the literature for recommendations regarding medium supplementations and physiological growth requirements specific for different cell lines.
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### Quality Control

- **Appearance:** Red, clear solution
- **pH:** 7.40 -7.60
- **Sterility:** tested
- **Storage:** 2-8° C; Protect from light
- **Shelf life:** 6 months

### References

1. Eagle, H., Media for Animal Cell Culture. Tissue Culture Association Manual, 517-520 (1976).
2. Eagle, H., Amino Acid Metabolism in Mammalian Cell Cultures. Science, 130, 432-437 (1959).
3. Eagle, H., Nutrition Needs of Mammalian Cells in Culture. Science, 122, 501 (1955).