Technical Data Sheet

AEMA001 Eosin Methylene Blue Agar (EMB Agar)

For differential isolation of gram-negative enteric bacilli from clinical and non-clinical specimens.

Composition	Ingredients Gms / Litre
Peptic digest of animal tissue	10.000
Dipotassium phosphate	2.000
Lactose	5.000
Sucrose	5.000
Eosin - Y	0.400
Methylene blue	0.065
Agar-Agar	13.500

Appearance:

Reddish purple coloured, opalescent gel with greenish cast and finely dispersed precipitate forms Sterile Eosin Methylene Blue Agar in 90 mm Petri Plates

pH (at 25°C):

7.00 to 7.40

Principle:

Eosin Methylene Blue (EMB) Agar is a combination of the Levine and Holt-Harris and Teague formulae which contains peptic digest of animal tissue and phosphate as recommended by Levine and two carbohydrates as suggested by Holt-Harris and Teague. Methylene blue and Eosin-Y inhibit gram-positive bacteria to a limited degree. These dyes serve as differential indicators in response to the fermentation of carbohydrates. The ratio of eosin and methylene blue is adjusted approximately to 6:1. Sucrose is added to the medium as an alternative carbohydrate source for typically lactose fermenting, gram-negative bacilli, which on occasion do not ferment lactose or do so slowly. The coliforms produce purplish black colonies due to taking up of methylene blue-eosin dye complex, when the pH drops. The dye complex is absorbed into the colony. Nonfermenters probably raise the pH of surrounding medium by oxidative deamination of protein, which solubilizes the methylene blue-eosin complex resulting in colourless colonies. Some strains of Salmonella and Shigella species do not grow in the presence of eosin and methylene blue. Further tests are required to confirm the isolates. Peptic digest of animal tissue serves as source of carbon, nitrogen, and other essential growth nutrients. Lactose and sucrose are the sources of energy by being fermentable carbohydrates. Eosin-Y and methylene blue serve as differential indicators. Phosphate buffers the medium. The test sample can be directly streaked on the medium plates. Inoculated plates should be incubated, protected from light. However standard procedures should be followed to obtain isolated colonies. A non-selective medium should be inoculated in conjunction with EMB Agar. Confirmatory tests should be further carried out for identification of isolated colonies.

Quantity of Medium

30ml of medium in 90mm plates

Dose of Gamma irradiation

12to 17 KGy

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Cultural Response

Cultural characteristics observed by using standard ATCC cultures after an incubation 24 hours at 30-35°C and recovery should be greater than 70%.

Sterility Test:

Passes release criteria.

Shelf Life and Storage Conditions:

Use before expiry date on the label and store below 25°C.

Reference Pharmacopoeia:

USP/EP / BP / JP / IP