**BD™ Enterobacteriaceae Enrichment Broth (EE Broth Mossel)**

**INTENDED USE**

*BD Enterobacteriaceae Enrichment Broth* (EE Broth Mossel) is used for selectively enriching and detecting *Enterobacteriaceae*, particularly from foods.

**PRINCIPLES AND EXPLANATION OF THE PROCEDURE**

*BD Enterobacteriaceae Enrichment Broth* (EE Broth Mossel) is prepared according to the formula of Mossel, Visser and Cornelissen.¹ The formula contains glucose (=dextrose) to facilitate growth of most *Enterobacteriaceae*, thus insuring the detection of *Salmonella* and other lactose-negative organisms. EE Broth Mossel should be used as an enrichment broth, followed by a selective medium, e.g., Violet Red Bile Agar. The enumeration of *Enterobacteriaceae* is of great concern in monitoring the sanitary condition of food.²–⁴ *Enterobacteriaceae* can be injured in food-processing procedures, which include exposure to low temperatures, sub-marginal heat, drying, radiation, preservatives or sanitizers.⁵ Recovery relies on proper resuscitation of damaged cells.

EE Broth (Mossel) is mentioned in the European Pharmacopoeia (EP) and the United States Pharmacopoeia (USP) for the microbiological examination of non-sterile products.⁵,⁶ In *BD Enterobacteriaceae Enrichment Broth*, tryptose provides nitrogen, vitamins and amino acids. Glucose is a carbon source. Phosphates are buffering agents. Brilliant green and oxgall are selective agents.

**REAGENTS**

*BD Enterobacteriaceae Broth (EE Broth Mossel)*

Formula* Per Liter Purified Water

<table>
<thead>
<tr>
<th>Component</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pancreatic Digest of Gelatin</td>
<td>10.0 g</td>
</tr>
<tr>
<td>Glucose</td>
<td>5.0</td>
</tr>
<tr>
<td>Disodium Phosphate</td>
<td>8.0</td>
</tr>
<tr>
<td>Monopotassium Phosphate</td>
<td>2.0</td>
</tr>
<tr>
<td>Brilliant Green</td>
<td>0.015</td>
</tr>
<tr>
<td>Oxgall</td>
<td>20.0</td>
</tr>
</tbody>
</table>

pH 7.2 ± 0.2

*Adjusted and/or supplemented as required to meet performance criteria.

**PRECAUTIONS**

For laboratory use only.

Do not use containers if they show evidence of microbial contamination, discoloration, drying, cracking or other signs of deterioration.

Consult **GENERAL INSTRUCTIONS FOR USE** document for aseptic handling procedures, biohazards, and disposal of used product.

**STORAGE AND SHELF LIFE**

On receipt, store containers in the dark at +2 to +8° C until just prior to use. Avoid freezing and overheating. The containers may be inoculated up to the expiration date and incubated for the recommended incubation times.

**USER QUALITY CONTROL**

Inoculate samples of this medium with the test strains mentioned below. Following the EP and USP, inoculate each container with not more than 100 cfu. The inhibitory potential of the medium
may be challenged by using at least 100 cfu of S. aureus. Incubate for 24 to 48 h at 30 to 35°C. Eventually, subculture to suitable plated media such as Violet Red Bile Agar with glucose (VRBG Agar).

<table>
<thead>
<tr>
<th>Test strains</th>
<th>Growth results</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Escherichia coli</em> ATCC™ 8739</td>
<td>Good to excellent, acid production (yellow)</td>
</tr>
<tr>
<td><em>Pseudomonas aeruginosa</em> ATCC 9027</td>
<td>Good to excellent, no acid production (green)</td>
</tr>
<tr>
<td><em>Staphylococcus aureus</em> ATCC 6538</td>
<td>Inhibition (green)</td>
</tr>
<tr>
<td>Uninoculated</td>
<td>Emerald green, clear.</td>
</tr>
</tbody>
</table>

**PROCEDURE**

**Materials Provided**

**BD Enterobacteriaceae Enrichment Broth** (EE Broth Mossel), prepared bottled medium. Sterilized in its final container.

**Materials Not Provided**

Ancillary culture media, reagents and laboratory equipment as required.

**Test Procedure**

Inoculate containers of EE Broth Mossel with approximately 10 grams of homogenized food or other material to be tested. Shake the inoculated medium thoroughly for a few seconds to mix well.

Incubate for a total of 48 hours at 30-35°C. Provide sufficient aeration during incubation. For the EP and USP procedures, refer to the appropriate references.⁵,⁶

**Results**

Acid production from glucose causes the color of EE Broth Mossel to become yellow. A negative reaction results in no color change and the medium remains green. Subcultures must be inoculated onto appropriate media such as Violet Red Bile Agar or Violet Red Bile Glucose Agar. For a complete discussion on *Enterobacteriaceae* in food testing, refer to procedures in Standard Methods.³,⁴ For the EP and USP procedure, refer to the appropriate references.⁵,⁶

**LIMITATIONS OF THE PROCEDURE**

Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium. *Salmonella* Typhi and *S. Paratyphi* may be inhibited by the brilliant green dye contained in this medium.

Use of these media with clinical specimens has not been validated.

**REFERENCES**


**PACKAGING/AVAILABILITY**

**BD Enterobacteriaceae Enrichment Broth (EE Broth Mossel)**

Ref 254959: Ready-to-use Bottled Medium; 100 ml in a 125 ml Sirup bottle; 25 bottles

For details on the available products, contact your local BD representative.
FURTHER INFORMATION
For further information please contact your local BD representative.

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