# Enterobacteria Enrichment (EE) Broth Mossel (NCM0057)

**Intended Use**

Enterobacteria Enrichment (EE) Broth Mossel is used for the cultivation and enrichment of *Enterobacteriaceae* in food. Enterobacteria Enrichment (EE) Broth Mossel, conforms to Harmonized USP/EP/JP Requirements and is not intended for use in the diagnosis of disease or other conditions in humans.

**Description**

Enterobacteria Enrichment Broth Mossel was developed by Mossel, Visser, and Cornelissen to facilitate the growth of *Enterobacteriaceae*. This medium contains dextrose to enhance the growth of *E. coli* and *Salmonella* spp., particularly in food samples. Nuisance organisms are suppressed by the addition of Ox Bile and Brilliant Green.

Enterobacteria Enrichment Broth Mossel is used as an enrichment broth, providing a rich environment for the recovery of damaged or injured cells. *Enterobacteriaceae* organisms can be injured in food-processing procedures, including exposure to low temperature, sub-marginal heat, drying, radiation, preservatives, or sanitizers. The enumeration of *Enterobacteriaceae* is an important measure of the sanitary condition of food.

EE Broth, Mossel complies with the specifications of the Eiprodukte-Verodnung (German Egg Product Regulations) and conforms to Harmonized United States Pharmacopoeia (USP), European Pharmacopoeia (EU), and Japanese Pharmacopoeia (JP).

**Typical Formulation**

| | |
|---|---|
| Dehydrated Ox Bile | 20.0 g/L |
| Enzymatic Digest of Gelatin | 10.0 g/L |
| Disodium Hydrogen Phosphate Dihydrate | 8.0 g/L |
| Glucose Monohydrate | 5.0 g/L |
| Potassium DiHydrogen Phosphate, | 2.0 g/L |
| Brilliant Green | 0.015 g/L |

pH: 7.2 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

**Precaution**

Refer to SDS

**Preparation**

1. Suspend 45g of the medium in one liter of purified water.
2. Heat at 100°C for 30 minutes to completely dissolve the medium.
3. Cool rapidly in cold water.
4. DO NOT AUTOCLAVE.

**Test Procedure**

1. Inoculate prepared Enterobacteria Enrichment (EE) Broth Mossel with approximately 10 g of homogenized food or other material to be tested.
2. Shake the inoculated medium thoroughly for a few seconds to mix well.
3. Incubate for a total of 18 - 48 hours at 30 - 35°C. Shake tubes or flasks after the first 3 hours of incubation.

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4. Streak a loopful of the incubated enrichment culture of Enterobacteria Enrichment (EE) Broth - Mossel onto a prepared selective medium.
5. Incubate the plates for 18 - 24 hours at 30 - 35°C. Examine the incubated medium for the presence of the target organism.

**Quality Control Specifications**

**Dehydrated Appearance:** Powder is homogeneous, free-flowing, and light beige to light green.

**Prepared Appearance:** Prepared medium is clear to slightly hazy with no to trace precipitate and green to dark green in color.

**Expected Cultural Response and USP/EP/JP Growth Promotion:** Cultural response in Enterobacteria Enrichment Broth - Mossel at 30 - 35°C after 18 – 48 hours of incubation and subcultured onto Violet Red Bile Glucose Agar after 18-24 hours and 40-48hours. VRBGA plates were incubated at 30-35°C for 18-24 hours.

| Microorganism | Approx. Inoculum (CFU) | Expected Results Growth |
|---|---|---|
| *Escherichia coli* ATCC® 8739 | 10-100 | Recovered at >10 cfu |
| *Escherichia coli* ATCC® 25922 | 10-100 | Recovered at >10 cfu |
| *Enterococcus faecalis* ATCC® 29212 | ~10,000 | Complete inhibition |
| *Enterococcus faecalis* ATCC® 19433 | ~10,000 | Complete inhibition |
| *Pseudomonas aeruginosa* ATCC® 9027 | 10-100 | Recovered at >10 cfu |
| *Salmonella typhimurium* ATCC® 14028 | 10-100 | Recovered at >10 cfu |
| *Staphylococcus aureus* ATCC® 6538 | ~10,000 | Inhibited |
| *E.coli* ATCC® 8739 +<br>*E. faecalis* ATCC® 19433 | 10-100<br>~10,000 | Recovered at >10 cfu<br>Complete Inhibition |
| *E.coli* ATCC® 8739 +<br>*E. faecalis* ATCC® 29212 | 10-100<br>~10,000 | Recovered at >10 cfu<br>Complete Inhibition |

The organism listed are the minimum that should be used for quality control testing.

**Results**

Examine Enterobacteria Enrichment (EE) Broth Mossel for growth, indicated by turbidity.

**Expiration**

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color.

**Limitation of the Procedure**

Some strains may be encountered that grow poorly or fail to grow on this medium.

**Storage**

Store dehydrated culture media at 2 – 30°C away from direct sunlight. Once opened and recapped, place the container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

**References**

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2. United States Pharmacopeia National Formulary 2018: USP 41 NF 36
3. Japanese Pharmacopeia 17th Edition (2017)
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