

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-Verordnung (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
<i>Escherichia coli</i> ATCC® 8739	10-100	Recovered at >10 cfu
<i>Escherichia coli</i> ATCC® 25922	10-100	Recovered at >10 cfu
<i>Enterococcus faecalis</i> ATCC® 29212	~10,000	Complete inhibition
<i>Enterococcus faecalis</i> ATCC® 19433	~10,000	Complete inhibition
<i>Pseudomonas aeruginosa</i> ATCC® 9027	10-100	Recovered at >10 cfu
<i>Salmonella typhimurium</i> ATCC® 14028	10-100	Recovered at >10 cfu
<i>Staphylococcus aureus</i> ATCC® 6538	~10,000	Inhibited
<i>E.coli</i> ATCC® 8739 + <i>E. faecalis</i> ATCC® 19433	10-100 ~10,000	Recovered at >10 cfu Complete Inhibition
<i>E.coli</i> ATCC® 8739 + <i>E. faecalis</i> ATCC® 29212	10-100 ~10,000	Recovered at >10 cfu 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

1. European Pharmacopoeia 9th Edition (2017)
2. United States Pharmacopeia National Formulary 2017: USP 40 NF 35
3. Japanese Pharmacopeia 17th Edition (2017)
4. Mossel, Vissar, and Cornellsen. 1963. J. Appl. Bacteriol. 26:444.
5. Hartman, P. A., and S. A. Minnich. 1981. Automation for rapid identification of salmonellae in foods. J. Food Prot. 44:385-386.



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Technical Specification Sheet



6. Sorrells, K. M., M. L. Speck, and J. A. Warren. 1970. Pathogenicity of *Salmonella gallinarum* after metabolic injury by freezing. *Appl. Microbiol.* 19:39-43.
7. Bundesminister für Jugend, Familie und Gesundheit: 1975. Verordnung über die gesundheitlichen Anforderungen an Eiprodukte und deren Kennzeichnung (Eiprodukte-Verordnung).

Effective Date: 12/5/2018

Revision: 0



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