

EE Broth (i23063)

For the selective enrichment and detection of *Enterobacteriaceae*, particularly from food and other materials.

Industry: Food

Principles & Uses

EE Broth, Mossel -also known as Enterobacteriaceae Enrichment Broth or Buffered Brilliant Green Bile Glucose Broth- developed by Mossel et al., serves as an enrichment medium for *Enterobacteriaceae*, particularly in the biological examination of food and animal feed samples. It's designed to detect and enumerate these bacteria, which can enter the food system through fecally contaminated water. Many of these microorganisms might become sublethally injured due to factors like pH changes, exposure to heat, or drying. Mossel Broth contains pancreatic digest of animal tissue and glucose to provide essential growth nutrients for *Enterobacteriaceae*. Ox bile and brilliant green prevent the growth of gram-positive bacteria, making this medium selective. In cases where cells are sublethally injured, they are resuscitated in well-aerated broths like Tryptone Soya Broth (2 hours at 25°C) or Buffered Peptone Water (16-20 hours at 30°C) before enrichment in Mossel Broth. It's commonly used for dried foods, animal feeds, and semi-preserved foods. Mossel Broth is often used with Violet Red Bile Glucose Agar, and colonies from this agar can be subcultured for biochemical confirmation. This medium is an integral part of the Most Probable Number (MPN) technique for detecting and enumerating *Enterobacteriaceae* in various food samples.

Note: The mentioned method can be applied in cases where the microorganisms require resuscitation before enrichment, and when their numbers are expected to be between 1 to 100 per milliliter or gram of the test sample, as per ISO 21528-1:2004.

Composition (gr/L)

Pancreatic Digest of Animal Tissue 10, Dextrose 5, Oxgall 20, Disodium Phosphate 6.45, Monopotassium Phosphate 2, Brilliant Green 13.5 mg.

Final pH at 25°C 7.2 ± 0.2

Preparation from dehydrated Powder

Suspend 45 g of the powder in 1 L of distilled water. Mix thoroughly. DO NOT OVERHEAT. Media is heat sensitive. Dispense into tubes or bottles as required. Heat at 100°C in water bath or flowing steam for 30 minutes or autoclave under mild conditions (5 min at 121°C).

Quality Control

Dehydrated Appearance: Blue green, free-flowing, homogeneous.

Prepared Appearance: Emerald green, clear.

Reaction of 4.5% Solution at 25°C: pH 7.2 ± 0.2

Cultural Response

Cultural response was observed after 18-48 hours of incubation at 35 ± 2°C.

Organism (ATCC*)	Recovery	Acid
<i>Escherichia coli</i> (25922)	Good	+ (Yellow)
<i>Enterobacter aerogenes</i> (13048)	Growth	+ (Yellow)
<i>Staphylococcus aureus</i> (25923)	Marked to complete inhibition	-
<i>Shigella boydii</i> (12030)	Good	-

*ATCC is a registered trade mark of the American Type Culture Collection.



A prepared culture medium with an emerald green appearance (left). *E. coli* causes the medium to turn yellow (middle). *E. aerogenes* also turns the medium yellow (right)

Storage

Keep the container at 15-30 °C. Store prepared medium at 2-8 °C.