

EE/Broth

(Bile, Brilliant Green and Glucose-buffered broth)

356-4794**DEFINITION**

EE broth is a selective enrichment medium for enterobacteria in food products.

STANDARDS**FOOD MICROBIOLOGY**

- **NF ISO 21528-1 (December 2004):** Food microbiology - Horizontal methods for the detection and enumeration of *Enterobacteriaceae* - Part 1: detection and enumeration by MPN technique with pre-enrichment.

PRINCIPLE

The principle of the medium relies on the ability of enterobacteria to ferment glucose. This permits detection of *Salmonella* and other lactose-negative bacteria.

The combination of bile and brilliant green partially or totally inhibits all micro-organisms other than enterobacteria.

PRESENTATION**Dehydrated**

500 g

code 356-4794

STORAGE

- Dehydrated: + 15°C to 25°C, in carefully-sealed bottles in a cool, dry place.
- Expiration date and batch number are shown on the package.
- Reconstituted medium can be conserved in sealed tubes or bottles for up to 3 months, at + 15°C to 25°C in a dark place.

THEORETICAL FORMULA

Peptone	10 g
Glucose	5 g
Disodium phosphate (Na ₂ HPO ₄)	6.45 g
Monopotassium phosphate (KH ₂ PO ₄)	2 g
Beef bile	20 g
Brilliant green	0.0135 g
Distilled water	1,000 ml

Final pH (25°C) = 7.2 ± 0.2

OTHER PRODUCTS REQUIRED (NOT SUPPLIED)

- Distilled water

EQUIPMENT REQUIRED (NOT SUPPLIED)

(non-exhaustive)

- Scales
- Sterile weighing bags
- Grinder
- Mixer-homogenizer
- Test tubes with autoclave-proof stoppers
- Sterile pipettes (1 ml, 10 ml, etc)
- Thermostatically-controlled incubator or incubation room precise to ± 1°C
- All usual laboratory equipment.

PREPARATION OF DEHYDRATED MEDIUM**Always shake well before use.**

Dissolve 43.5 g of powder in 1 liter of distilled water. Mix, heating gently if necessary, then pour the appropriate quantity into sterile tubes and heat to 100°C for a maximum of 30 minutes. Cool rapidly.

OVERHEATING ADVERSELY AFFECTS THE MEDIUM'S PERFORMANCE.

If necessary, adjust pH to 7.2 ± 0.2.

Reconstitution ratio: 43.5 g/l**500 g of powder makes 11.5 liters of medium****PROTOCOL****• Preparation of samples**

According to the standards applicable to the product concerned.

• Pre-enrichment

Incubate the initial suspension and following dilutions at 37°C for 18 h (± 2 h).

• Inoculation and incubation

- Transfer 1 ml of the culture obtained in a tube containing 10 ml of EE medium.
- Incubate at 37°C (± 1°C) for 24 hours (± 2 h).

• Interpretation

Turbidity and a change of color from light green (absence of enterobacteria) to yellow-green are presumptive indicators of the presence of *Enterobacteriaceae*.

• Confirmation

Using an inoculating loop, subculture samples from incubated, streak-inoculated tubes on selective VRBG medium (code 356-4584 and 355-4239)

See corresponding Technical Sheet(s)

PRECAUTIONS

Comply with Good Laboratory Practice.

PERFORMANCES / QUALITY CONTROL OF THE TEST

The growth performances of the media are verified with the following strains:

STRAINS	Results after 24 h incubation at 37°C
<i>Escherichia coli</i> ATCC 25922	>10 col. on VRBG
<i>Enterococcus faecalis</i> ATCC 19433	-

QUALITY CONTROL OF MANUFACTURER

Every product manufactured and marketed by Bio-Rad is subject to a quality-assurance procedure at all stages, from the reception of raw materials to the marketing of the end-product. Each batch of finished product undergoes quality control and is marketed only if it satisfies the acceptability criteria.

Documentation relative to the production and control of each batch is kept on file.

KEY WORDS

EE / *Enterobacteriaceae* / Coliforms / *Escherichia coli* / Thermotolerant / Food products / MPN / Broth.

BIBLIOGRAPHY

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