Brilliant-green Bile Broth 2% (i23025)

For the detection of *coliform* organisms in foods, dairy products, water and wastewater, as well as in other materials of sanitary importance.

Industry: Water / Food

Principles & Uses

Brilliant Green Bile Broth 2% is a selective medium widely used to detect *coliform* bacteria in water, wastewater, various food products, and dairy items. It serves as a confirmation test following initial presumptive tests for the presence of *coliforms*.

This medium contains several components that play crucial roles in its selectivity and functionality. Peptone provides essential nutrients, while lactose serves as the fermentable carbohydrate, promoting the production of gas. Ox bile and brilliant green are key inhibitory agents. They prevent the growth of Gram-positive bacteria and most Gram-negative bacteria except *coliforms*, ensuring selectivity. This is especially important because it prevents false-positive reactions from anaerobic lactose-fermenters like *Clostridium perfringens*.

Brilliant Green Bile Broth 2% is recommended by various standards such as APHA and ISO for *coliform* confirmation. Gas production, typically at 30°C or 37°C, confirms the presence of *coliforms*, a critical indicator of water and food quality.

Composition (gr/L)

Peptone 10, Oxgall 20, Lactose 10, Brilliant Green 0.0133.

Final pH at 25°C 7.2 ± 0.2

Preparation from dehydrated Powder

Suspend 40 g of the powder in 1 Liter of purified water. Mix thoroughly. Dispense into tubes containing inverted fermentation vials (Durham). Autoclave at 121°C for 15 minutes. Cool the broth as quickly as possible.

Quality Control

Dehydrated Appearance: Beige to greenish-beige, free-flowing, homogeneous.

Prepared Appearance: Emerald green, clear with no precipitate.

Reaction of 4.0% Solution at 25°C: pH 7.2 ± 0.2

Cultural Response

Cultural characteristics were observed after incubation at 35 ± 2°C for 18-48 hours.

Organism (ATCC*)	Recovery	Gas
Escherichia coli (25922)	Moderate to heavy growth	+
Klebsiella aerogenes (13048)	Moderate to heavy growth	+
Enterococcus faecalis (19433)	Inhibition (partial to complete)	-
Staphylococcus aureus (25923)	Inhibition (complete)	no change

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

Prepared culture media (left). *E. coli* (middle). *K. aerogenes* (right)

Storage

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