BRILLIANT GREEN 2% BILE BROTH (w/ DURHAM)

- For in vitro use only - Catalogue No. TB81

Our Brilliant Green 2% Bile Broth is a selective broth for the detection of coliform organisms from a variety of samples (i.e. food, wastewater).

The American Public Health Association (APHA) approves of using Brilliant Green 2% Bile Broth as a confirmation step for presumptive coliforms. Our formulation contains pancreatic digest of gelatin, which provides the organism with nitrogen, amino acids, and vitamins. Lactose provides a fermentable carbohydrate source, while brilliant green and oxgall are the selective components. The dye brilliant green inhibits gram-positive organisms and some gram-negative bacteria, while oxgall, which is a mixture of bile salts, provides an added suppressive effect on gram-positive organisms. Coliforms are generally resistant to the inhibitory effects of both brilliant green and oxgall, and grow unabated.

Formula per Litre of Medium

Pancreatic Digest of Gelatin	10.0 g
Lactose	10.0 g
Oxgall	20.0 g
Brilliant Green	0.0133 g

pH 7.2 ± 0.2

Recommended Procedure

There are numerous uses for Brilliant Green 2% Bile Broth please refer to the appropriate references which may be found in American Public Health Association (APHA) and Canadian Health Protection Branch (HPB) publications.

1. Allow medium to reach room temperature.
2. Transfer a sample from a positive presumptive coliform specimen in Lauryl Tryptose Broth (Dalynn TL35) or from typical coliform-type colonies on Violet Red Bile Agar to tubes of Brilliant Green 2% Bile Broth.
3. Incubate tubes with loose caps at 35°C.
4. Examine tubes for turbidity and gas production after 24 hours, and if negative again at 48 hours.

Interpretation of Results

In Brilliant Green 2% Bile Broth, lactose fermentation results in the production of gaseous end products such as carbon dioxide and hydrogen, which collect in the durham tube. A positive confirmatory test for coliforms is a turbid broth, and gas within the durham tube after 48 hours. A negative test is no gas production after 48 hours.

- *Ensure that the durham tube is empty before inoculating, if air is present in the durham tube invert the tube several times to remove the air*

- *Turbidity alone is not indicative of a positive test*

Quality Control

After checking for correct pH, colour, depth, and sterility, the following organisms are used to determine the growth performance of the completed medium.

Organism	Expected Result
Escherichia coli ATCC 25922	Turbid with gas in durham tube
Enterobacter aerogenes ATCC 13048	Turbid with gas in durham tube
Staphylococcus aureus ATCC 25923	Inhibition with no gas in durham tube

Storage and Shelf Life

Our Brilliant Green 2% Bile Broth should be stored in an upright position at 4 to 8°C and protected from light. Under these conditions this medium has a shelf life of 26 weeks from the date of manufacture.

References

1. Clesceri, LS., Greenberg AE, and Eaton AD, Eds. Standard methods for the examination of water and wastewater. 20th ed. Washington. D.C.: APHA, 1998.
2. Marshall R, Ed. Standard methods for the examination of dairy products. 16th ed. Washington, D.C.: APHA, 1997.
3. Health Protection Branch Determination of coliforms in foods using violet red bile agar. In Government of Canada: Compendium of analytical methods, Vol 2. Morin Heights, Quebec: Polyscience Publications, 1997.
4. Health Protection Branch. Determination of coliforms, faecal coliforms and of *E. coli* in foods. Government of Canada: Compendium of analytical methods, Vol 2. Morin Heights, Quebec: Polyscience Publications, 1997.

Original: January 2006
Reviewed: January 2012