# TM 048 – BRILLIANT GREEN BILE AGAR (BRILLIANT GREEN LACTOSE BILE AGAR)

## INTENDED USE

For enumeration of coliform bacteria in water and foods.

## PRODUCT SUMMARY AND EXPLANATION

Brilliant Green Bile Agar was originally formulated by Nobel and Ponney for enumeration of coliform bacteria from materials of sanitary importance. Subsequently APHA approved the medium for the estimation of coliforms in test samples of various materials

It is recommended that the medium be prepared just prior to use and if the medium has to be stored, it should be kept in dark. Brilliant Green Bile Agar medium is sensitive to light, particularly direct sunlight. Direct exposure may exhibit a decrease in the productivity of the medium and also the colour of the medium may change from deep blue to purple or red.

## COMPOSITION

| Ingredients | Gms / Ltr |
|---|---|
| **Peptone** | 8.250 |
| **Lactose** | 1.900 |
| **Sodium sulphite** | 0.205 |
| **Ferric chloride** | 0.0295 |
| **Monopotassium phosphate** | 0.0153 |
| **Erioglaucine** | 0.0649 |
| **Basic fuchsin** | 0.0776 |
| **Bile** | 0.00295 |
| **Brilliant green** | 0.0000295 |
| **Agar** | 10.150 |

## PRINCIPLE

The medium contains a combination of brilliant green and bile, which is highly selective for coliforms, inhibiting most of the gram-positive bacteria including lactose fermenting Clostridia and some gram-negative bacteria. Erioglaucine and basic fuchsin together form the indicator system of the medium. When the pH is neutral, colour of the medium is blue while acid production from lactose turns the medium pink and colonies appear pink to deep red depending on the pH change. Colonies of coliform bacteria are deep red surrounded by a pink halo against blue background of the medium.

## INSTRUCTION FOR USE

- Dissolve 20.7 grams in 1000 ml purified / distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to 45-50°C.
- Mix well and pour into sterile Petri plates.
- For plating 10 ml quantities of water samples, prepare the medium in double strength.

## QUALITY CONTROL SPECIFICATIONS

**Appearance of Powder** : Pinkish purple to light purple homogeneous free flowing powder.
**Appearance of prepared medium** : Bluish purple coloured, slightly opalescent gel forms in Petri plates.
**pH (at 25°C)** : 6.9±0.2

## INTERPRETATION

Cultural characteristics observed after incubation.

| Microorganism | ATCC | Inoculum (CFU/ml) | Growth | Recovery | Colour of colony | Incubation Temperature | Incubation Period |
|---|---|---|---|---|---|---|---|
| *Escherichia coli* | 25922 | 50-100 | Good-luxuriant | >=50% | Deep red (may have bile precipitate) | 35-37°C | 18-24 Hours |
| *Klebsiella aerogenes* | 13048 | 50-100 | Good-luxuriant | >=50% | Pink | 35-37°C | 18-24 Hours |
| *Salmonella Enteritidis* | 13076 | 50-100 | Good-luxuriant | >=50% | Colouress to light pink | 35-37°C | 18-24 Hours |
| *Staphylococcus aureus subsp. aureus* | 25923 | >=$10^3$ | Inhibited | 0% | - | 35-37°C | 18-24 Hours |

## PACKAGING:

In pack size of 100 gm and 500 gm bottles.

## STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

## DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

## REFERENCES

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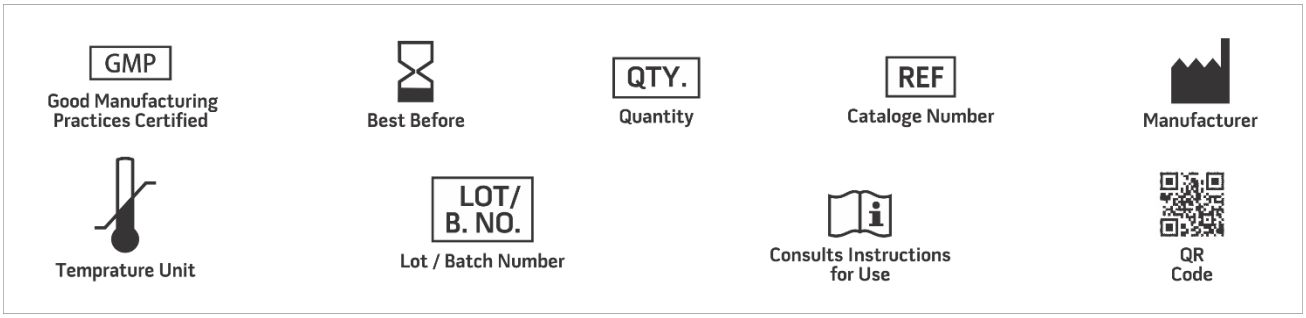
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
3. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
4. McCrady and Langerin, 1932, J. Dairy Science, 15:321
5. Noble and Tonney, 1935, J. Am. Waterworks Assoc., 27:108.
6. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.




**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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