TM 033 – BRILLIANT GREEN SULPHA AGAR (BG SULPHA AGAR)

INTENDED USE

For isolation and detection of *Salmonella* species from foods.

PRODUCT SUMMARY AND EXPLANATION

Salmonella species are ubiquitous in the environment. These enter the gastrointestinal tract of animals due to consumption of contaminated feed. Stringent animal husbandry practices are used in the meat (food) industry and inedible raw materials are recycled and discarded. Thus the organisms are further returned to the environment and stay in the global food chain. Eggshell and its contents are usually sterile at the time of oviposition. Subsequently it gets contaminated on contact with the nest, the floor and litter of other birds. *Salmonella* species are usually the causative agents of a self-limiting gastroenteritis. In some cases they may also cause typhoid fever. *Salmonella* contamination is most frequently encountered in the poultry industry. Brilliant Green Sulpha Agar is used for the selective isolation and detection of *Salmonella* species in foods especially from eggs and egg products. Brilliant Green Agar was first formulated by Kristensen, Lester and Jargens. This was further modified by Osborne and Stokes by the addition of 0.1% sodium sulphapyridine to the original formulation. This addition helped to increase the selective properties of the medium. Colonies of *Salmonella* may sometimes vary from red to pink to white depending upon the time and length of incubation and the strain of *Salmonella*. Do not autoclave the medium for more than 15 minutes as it decreases the selectivity of the medium.

COMPOSITION

Ingredients	Gms / Ltr
Yeast extract	3.000
Proteose peptone	10.000
Lactose	10.000
Sucrose	10.000
Sodium sulphapyridine	1.000
Sodium chloride	5.000
Brilliant green	0.0125
Phenol red	0.080
Agar	20.000

PRINCIPLE

Yeast extract and proteose peptone provide essential growth nutrients, amino acids and vitamins. Brilliant green used in the medium is inhibitory to gram-positive and most gram-negative lactose/sucrose fermenting bacilli. Sulphapyridine enhances the selectivity of the medium. The medium does not support luxuriant growth of *Salmonella* Typhi. *Shigella* species also fail to grow on Brilliant Green Sulpha Agar. Since Brilliant Green Sulpha Agar is highly selective, a less inhibitory medium should be simultaneously used to recover organisms from the pre-enriched culture (Selenite Cystine Medium).

INSTRUCTION FOR USE

- Dissolve 59.09 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- To maintain selectivity of the medium, DO NOT OVER STERILIZE OR OVERHEAT the medium.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to light pink homogeneous free flowing powder.
Appearance of prepared medium : Greenish brown coloured, clear to 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
Enterococcus faecalis	29212	>=10^3	Inhibited	0%	-	35-37°C	24-48 Hours
Escherichia coli	25922	50-100	None-poor	0-10%	Yellow green surrounded by intense yellow green zone	35-37°C	24-48 Hours
Proteus vulgaris	13315	>=10^3	Inhibited	0%	-	35-37°C	24-48 Hours
Salmonella Enteritidis	13076	50-100	Good	40-50%	Pink-white, surrounded by a brilliant red zone	35-37°C	24-48 Hours
Salmonella Typhimurium	14028	50-100	Good	40-50%	Pink - white	35-37°C	24-48 Hours
Staphylococcus aureus	25923	>=10^3	Inhibited	0%	-	35-37°C	24-48 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.

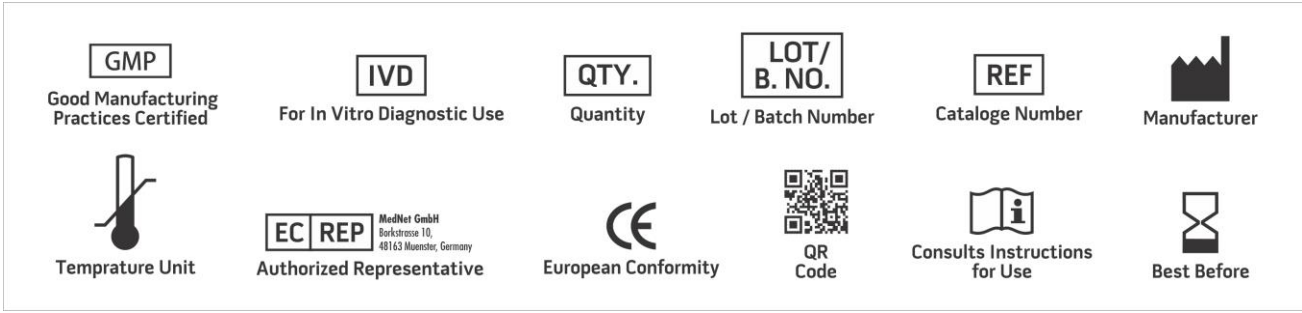
DISPOSAL

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

REFERENCES

1. Doyle M. P., (Ed.), 1989, Foodborne Bacterial Pathogens, Marcel Dekker, Inc., New York. 327- 445

2. DAoust J. Y., 1994, Int. J. Food Microbiol. 24: 11-31.
3. Kristensen M., Lester V., and Jargens A., 1925, Brit. J. Exp. Pathol. , 6:291.
4. Osborne W. W. and Stokes J. L., 1955, Ottawa; Food and Drug Laboratories, 1962.
5. Brooks and Taylor, 1955, Rep. Rd. Invest. Bd. 60, H. M. S. O., London, England.
6. Forsythe, Ayres and Radlo, 1953, Food Technol., 7:49.
7. Stadelman, Ikeme, Roop and Simmons, 1982, Poultry Sci., 61:388.
8. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams & Wilkins, Baltimore, MD.



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

***For Lab Use Only**

Revision: 08 Nov., 2019