Technical Information

B.G. Sulpha MiVeg Agar (Brilliant Green Sulpha MiVeg Agar)

Product Code : VM1492

Application:- Brilliant Green Sulpha MiVeg Agar is a selective media, used for isolation and detection of *Salmonella* species in foods especially from eggs and egg products.

Composition

Ingredients	Gms / Litre
Yeast extract	3.000
MiVeg peptone No. 3	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
Final pH (at 25°C)	6.9±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Brilliant Green Sulpha MiVeg Agar is prepared by using MiVeg peptone No. 3 inplace of proteose peptone there by making the medium BSE/TSE risks free.

Brilliant Green Sulpha Agar is used for the selective isolation and detection of *Salmonella* species in foods especially from eggs and egg products. It was first formulated by Kristensen, Lester and Jargens (1). This was further modified by Osborne and Stokes (2) by the addition of 0.1% sodium sulphapyridine which increased the selectivity of the medium. This medium is the modification of B. G. Sulpha Agar which serves the same purpose. Colonies of *Salmonella* may sometimes vary from red to pink to white depending upon the strain and time of incubation. Autoclaving the medium for more than 15 minutes as it decreases the selectivity of the medium (3).

Salmonella species are ubiquitous in the environment. They enter the gastrointestinal tract of animals due to the consumption of contaminated feed. Meat and meat products , eggshell and its contents from these infected animals stands to be the major cause of salmonella pathogenesis (4-8).

Salmonella species are usually the causative agents of a self-limiting gastroenteritis. In some cases they may also cause typhoid fever. Contamination with *Salmonella* is most frequently encountered in the poultry industry.

This medium contains Yeast extract and MiVeg peptone No. 3 which supplies all essential growth nutrients, amino acids and vitamins. Brilliant green used in the medium to inhibit gram-positive and most gram-negative lactose/sucrose fermenting bacilli. Sulphapyridine enhances the selectivity of the medium. The medium does not support the growth of *Salmonella* Typhi as well as *Shigella.* This medium is highly selective, so a less inhibitory medium should be simultaneously used to recover organisms from the pre-enriched culture like selenite cystine Miveg media (VM1025).

Methodology

Suspend 59.09 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. To maintain selectivity of the medium, DO NOT OVER STERILIZE OR OVERHEAT the medium. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Quality Control

Physical Appearance

Light yellow to pinkish purple Homogeneous Free flowing powder

Gelling

Firm, comparable with 2.0% agar gel.

Colour and Clarity of prepared medium

Greenish brown clear to slightly opalescent

Reaction

Reaction of 5.91 % w/v aqueous solution pH: 6.9±0.2 at 25°C

pH range

6.70-7.10

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of colony
Enterococcus faecalis ATCC 29212	100-1000	inhibited	0%	
Escherichia coli ATCC 25922	100-1000	None-poor	<20%	Yellow green surrounded by intense yellow-green zone
Proteus vulgaris ATCC 13315	100-1000	inhibited	0%	
Salmonella Enteritidis ATCC 13076	100-1000	good	<50%	
Salmonella Typhimurium ATCC 14028	100-1000	good	<50%	Pink-white, surrounded by brilliant red zone.
Staphylococcus aureus ATCC 25923	100-1000	inhibited	0%	

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

1.Kristensen M, Lester V, Jargens A. Brit J Exp Pathol. 1925;6.
2.Osborne W. W. and Stokes J. L., Ottawa; Food and Drug Laboratories.
3.MacFaddin JF. Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria Baltimore: Williams and Wlkins; 1985.
4.Doyle M. P. E, 1989, Foodborne Bacterial Pathogens, Marcel Dekker, Inc., New York. 327- 445.
5.D'Aoust J. Y., Int. J. Food Microbiol. 24:11-31.
6.Brooks and Taylor, Rep. Rd. Invest., Bd. 60, H. M. S. O., London, England.
7.Forsythe AaR, 1953, Food Technol., 7:49.
8.Stadelman I, Roop and Simmons, 1982, Poultry Sci., 61:388.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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