BRILLIANT GREEN SULPHA AGAR (BG SULPHA AGAR) TM 033

For isolation and detection of *Salmonella* species from foods

Composition

Ingredients	Gms/Ltr.
Agar	20.00
Proteose peptone	10.00
Lactose	10.00
Sucrose	10.00
Sodium chloride	5.00
Yeast extract	3.00
Sodium sulphapyridine	1.00
Phenol red	0.08
Brilliant green	0.0125

* Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct sunlight.

Instructions for Use

Dissolve 59.09gms in 1000ml distilled water. Gently heat to boiling with gentle swirling and dissolve the medium completely. **AVOID OVERHEATING**. Sterilize by autoclaving at 15 psi (121ºC) for 15 minutes. Cool to 45 - 50°C and dispense into sterile Petri plates.

Appearance: Greenish brown in colour, clear to slightly opalescent gel
pH at 25°C: 6.9 ± 0.2

Principle

BRILLIANT GREEN SULPHA AGAR (BG SULPHA AGR) is used for selective isolation and detection of *Salmonella* species from foods. Salmonellosis continues to be an important public health problem worldwide. Infection with non-typhi *Salmonella* often causes mild, self-limiting illness. The illness results from consumption of raw, undercooked or improperly processed foods contaminated with *Salmonella*. This is highly selective medium containing sulphapyridine which inhibits gram positive bacteria as well as gram negative bacilli other than *Salmonella* group. For food testing, BG Sulfa Agar has been used for detection of *Salmonella* in low and high moisture foods. It has also been used for detecting *Salmonella* in foods and feed ingredients. This medium is recommended when testing foods for *Salmonella* following USDA guidelines. In this medium, Proteose peptone and Yeast extract provide nitrogen, vitamins and minerals. Lactose and Sucrose are the sources of carbohydrates in the medium. Brilliant green inhibits gram-positive bacteria and most gram-negative bacilli other than *Salmonella* spp. Phenol red is the pH indicator that turns the medium yellow due to lactose/sucrose fermentation. Agar is the solidifying agent. Sodium chloride maintains the osmotic equilibrium as well as provides essential ions for bacteria. *Salmonella* colonies appear as pink-white to red opaque colonies surrounded by a brilliant red medium. The bacteria that ferment Lactose and Sucrose form yellow green colony surrounded by an intense yellow-green zone.

Interpretation

Cultural characteristics observed after inoculation (10^3CFU / ml), on incubation at temperature of 35ºC ± 2ºC for 24 ± 3 hours.

Microorganisms	ATCC	Inoculum (cfu/ml)	Growth	Appearance of colony
Salmonella enteritidis	13076	10^3	Good	Pink -white red colonies surrounded by brilliant red zone
Salmonella typhimurium	14028	10^3	Good	Pink –white colonies
Escherichia coli	25922	10^3	Poor-none	Yellow to green surrounded by yellow green zone
Staphylococcus aureus	25923	10^3	Inhibited	------

References

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4. Osborn and Stokes. 1955. Appl. Microbiol. 3:295.