BRILLIANT GREEN AGAR, MODIFIED (as per USP)
(BRILLIANT GREEN AGAR MEDIUM) TM 951

For isolation of Salmonellae other than *Salmonella typhi* from faeces, foods and dairy products

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
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 58.09gms in 1000ml distilled water. Gently heat to boiling with gentle swirling and dissolve the medium completely. Sterilize by autoclaving at 15 psi (121° C) for 15 minutes. **AVOID OVERHEATING.** Mix well before pouring into sterile Petri plates.

Appearance: Green - brown, clear to slightly opalescent gel
pH (at 25°C): 6.9 ± 0.2

Principle

BRILLIANT GREEN AGAR, MODIFIED (as per USP) is a highly selective medium for the isolation of Salmonella other than *S. typhi* from feces and other materials**.** The medium contains Proteose peptone and Yeast extract as sources of carbon, nitrogen, vitamins, amino acids and essential nutrients. The two sugars namely Lactose and Sucrose serve as energy sources. Fermentation of Lactose and Sucrose in the medium results in the formation of acidic pH which is detected by Phenol red indicator. Brilliant green dye inhibits gram-positive bacteria and a majority of gram-negative bacilli. Phenol red serves as a pH indicator and yields a yellow color as a result of acid production on fermentation of the Lactose and Sucrose in the medium. Sodium chloride maintains the osmotic equilibrium. Clinical specimens can be directly plated on this medium. However, being highly selective, it is recommended that this medium should be used along with a less inhibitory medium to increase the chances of recovery.

Interpretation

Cultural characteristics observed after inoculating (10^3 - 10^5CFU / ml), on incubation at 35 ± 2°C for 18 – 24 hours.

Microorganisms	ATCC	Inoculum (CFU/ml)	Growth	Recovery rate %	Appearance of colony
Salmonella Typhimurium	14028	10^3 - 10^5	Good-luxuriant	>=50 %	Red colonies, surrounded by a diffused red halo

Salmonella Enteritidis	13076	10^3 - 10^5	Luxuriant	>=50 %	Red colonies, surrounded by a diffused red halo
Staphylococcus aureus	6538	10^5	Inhibited	0%	----------
Escherichia coli	25922	10^5	Inhibited – Moderate	0 -10 %	Yellow - Green

References

1. Andrews, W. H., and M. W. Presnell. Rapid recovery of *Escherichia coli* from estuarine water. Appl. Microbiol. 23:521-523. (1972).
2. Andrews, W. H., C. D. Diggs, and C. R. Wilson.. Evaluation of a medium for the rapid recovery of *Escherichia coli* from shellfish. Appl. Microbiol. 29:130-131. (1975).
3. Vanderzant, C., and D. F. Splittstoesser (eds.). Compendium of methods for the microbiological examination of food, 3rd ed. American Public Health Association, Washington, D.C. (1992).
4. Eaton, A. D., L. S. Clesceri, and A. E. Greenberg (eds.). Standard methods for the examination of water and wastewater, 19th ed. American Public Health Association, Washington, D.C. (1995).
5. Association of Official Analytical Chemists. Bacteriological analytical manual, 8th ed. AOAC International, Gaithersburg, M.D. (1995).