Technical Information

Bile Salts Brilliant Green Starch Agar

Product Code: DM 2157

Application: - Bile Salts Brilliant Green Starch Agar is recommended for the selective isolation and identification of *Aeromonas hydrophila* from food and environmental specimens.

Composition**

Ingredients	Gms / Litre
Proteose peptone	10.000
Beef extract	5.000
Bile salts	5.000
Starch, soluble	10.000
Brilliant green	0.0005
Agar	15.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Aeromonas hydrophila is a facultative anaerobic gram-negative organism often found in the environment, specially in water and sewage. *Aeromonas* may not be truly adapted to the marine environment but may have a transient existence after entering salt water via rivers or sewage inputs [(1).] Foods that come in direct contact with water like fish and seafood products are most often contaminated with *Aeromonas* species. In humans, *Aeromonas hydrophila* is associated with extra-intestinal infections such as wound infections [(2),] septicemia [(3)] and meningitis [(2).] Bile Salts Brilliant Green Starch Agar, formulated by Nishikawa and Kishi [(4)] is recommended for the isolation and identification of *Aeromonas hydrophila* from food and environmental specimens. This medium is recommended by APHA [(5)]In which starch hydrolysis is used as the differential system and bile salts and brilliant green as inhibitory substances. Proteose peptone and beef extract supply essential growth nutrients.

Test food samples should be processed as soon as possible since *Aeromonas* are capable of growing at 5°C. Aseptically weigh 25 gram of the food sample and add 225 ml of sterile Alkaline Peptone Water (DM1618). Blend it for 2-3 minutes. Dilute further if required and surface plate 0.1 ml on SA Agar Base (DM2177) and Bile Salts Brilliant Green Starch Agar (DM2157). Incubate at 25-30°C for 18-24 hours. After incubation, flood the plates with 5 ml of Lugols Iodine solution (MS2019). *Aeromonas hydrophila* will exhibit a clear zone of hydrolyzed starch against a dark background.

Methodology

Suspend 45 grams of powder media in 1000 ml distilled water. Shake well and heat to boiling with occasional agitation to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates.

Quality Control

Physical Appearance
Light yellow to greenish yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium
Green coloured, slightly opalescent gel forms in Petri plates.

Reaction
Reaction of 4.5% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH Range: 7.00-7.40

Cultural Response/Characteristics
DM 2157: Cultural characteristics observed after an incubation at 25-30°C for 18- 24 hours.

Organism	Inoculum (CFU)	Growth	
Aeromonas hydrophila ATCC 7966	50-100	good-luxuriant	>=50%
Escherichia coli ATCC 25922	>=10^3	Inhibited	0%
Staphylococcus aureus ATCC 25923	>=10^3	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. Rippey S. R. and Cabelli V. J., 1979, Appl. Environ. Microbiol, 38:108
2. Ellison R. T. and Mostow, S. R., 1984, Arch. Intern. Med. 144:2078.
3. Davis W. A. III, Kane J. G., and Garagusi V. F. 1978, Human Aeromonas Infections: A Review of the Literature and a Case Report of Endocarditis, Medicine, 57:267.
4. Nishikawa. Y. and Kishi T., 1987, Epidem. Inf., 98:331.
5. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.

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