Bile Salts Brilliant Green Starch Agar

M1157

Intended Use:

Recommended for selective isolation and identification of *Aeromonas hydrophila* from food and environmental specimens.

Composition**

Ingredients	Gms / Litre
Proteose peptone	10.000
HM peptone B #	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
Equivalent to Beef extract

Directions

Suspend 45.0 grams in 1000 ml purified/distilled water. Heat to boiling with occasional agitation to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Aeromonas hydrophila is a facultative anaerobic gram-negative organism often found in the environment, particularly in water and sewage. *Aeromonas* may not be truly indigenous 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). Wound infections are associated with exposure to water or soil (3). Bile Salts Brilliant Green Starch Agar, formulated by Nishikawa and Kishi (4) is recommended for the selective isolation and identification of *Aeromonas hydrophila* from food and environmental specimens. This medium is recommended by APHA (5) employs starch hydrolysis as the differential system and bile salts and brilliant green as inhibitory substances. Proteose peptone and HM peptone B 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 (M618). Blend it for 2-3 minutes. Dilute further if required and surface plate 0.1 ml on SA Agar Base (M1177) and Bile Salts Brilliant Green Starch Agar (M1157). Incubate at 25-30°C for 18-24 hours. After incubation, flood the plates with 5 ml of Lugols Iodine solution (S019). *Aeromonas hydrophila* will exhibit a clear zone of hydrolyzed starch against a dark background.

Type of specimen

Food samples; Environmental spamles

Quality Control

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
7.00-7.40

Cultural Response
Cultural characteristics observed after an incubation at 25-30°C for 18- 24 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Aeromonas hydrophila ATCC 7966	50-100	good-luxuriant	>=50%
Escherichia coli ATCC 25922	>=10^4	inhibited	0%
Staphylococcus aureus ATCC 25923	>=10^4	inhibited	0%

Reference

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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