



Bile Salts Brilliant Green Starch Agar

M1157

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

Directions

Suspend 45 grams in 1000 ml 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. 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 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 (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.

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

M1157: Cultural characteristics observed after an incubation at 25-30°C for 18- 24 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response			
<i>Aeromonas hydrophila</i> ATCC 7966	50-100	good-luxuriant	>=50%
<i>Escherichia coli</i> ATCC 25922	>=10 ³	inhibited	0%
<i>Staphylococcus aureus</i> ATCC 25923	>=10 ³	inhibited	0%

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

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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