



SA Agar Base

M1177

SA Agar Base with Ampicillin Supplement is used for isolation, cultivation and differentiation of *Aeromonas hydrophila* from foods based on starch hydrolysis in accordance with APHA.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Sodium chloride	5.000
Starch, soluble	1.000
Phenol red	0.018
Agar	15.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 31.02 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Aseptically add rehydrated contents of 1 vial of Ampicillin Supplement (FD082). Mix well before pouring into sterile Petri plates.

Principle And Interpretation

The isolation of *Aeromonas hydrophila* group has been extensively studied by clinical microbiologists and many media have been developed for their isolation. It was found that clinical media were not suitable because of lower recovery percentage and difficulties in distinguishing the *A. hydrophila* group from the background microflora.

To overcome these difficulties, Starch Ampicillin (SA) Agar was formulated as described by Palumbo et al (1) and is a slight modification of SA Agar recommended by APHA (2) for isolation and cultivation of *A. hydrophila* from foods.

Very few bacteria in food are capable of hydrolyzing starch. Starch hydrolysis is a differentiating character for *A. hydrophila*. SA Agar is also used for the quantitative detection of *Aeromonas hydrophila*, *A. sobria* and *A. caviae* in fresh foods of animal origin (2) and fresh vegetable (3). *A. sobria* and *A. caviae* are further identified by biochemical tests. Starch hydrolysis is determined by flooding 5 ml of Lugols Iodine solution per plate.

Casein enzymic hydrolysate in the medium provides essential growth nutrients. Sodium chloride maintains osmotic equilibrium. Ampicillin suppresses the contaminating microflora. Phenol red is the pH indicator.

Quality Control

Appearance

Light yellow to pink homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Red coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 3.1% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH

7.20-7.60

Cultural Response

M1177: Cultural characteristics observed after an incubation at 30°C for 24-48 hours with added Ampicillin Supplement (FD082).

Organism	Inoculum (CFU)	Growth	Starch hydrolysis
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Cultural Response

<i>Aeromonas hydrophila</i> ATCC 7966	50-100	luxuriant	positive, clearing around the colony
<i>Escherichia coli</i> ATCC 25922	50-100	poor-fair	negative, no clearing
<i>Staphylococcus aureus</i> ATCC 25923	$\geq 10^3$	inhibited	

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. Polumbo S. A., Maxino F., Williams A. C., Buchanan R. L., Thayer D. W., 1985, Appl. Environ. Microbiol., 50:1027.
2. Downes F. P. and Ito K., (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed. American Public Health Association, Washington, D.C.
3. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.

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