Dehydrated Culture Media
Bases / Media Supplements

Technical Information

SA Agar Base

Product Code: DM 2177

Application: - 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

Principle & Interpretation

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

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

Only a few bacteria in food are capable of hydrolyzing starch which 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.

Methodology

Suspend 31.018 grams of powder media in 1000 ml distilled water. Shake well & heat 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 (MS2082). Mix well before pouring into sterile Petri plates.

Quality Control

Physical 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 Range:-
7.20-7.60

Cultural Response/Characteristics
DM 2177: Cultural characteristics observed after an incubation at 30°C for 24-48 hours with added Ampicillin Supplement (MS2082).

Organism	Inoculum (CFU)	Growth	Starch hydrolysis
Aeromonas hydrophila ATCC 7966	50-100	luxuriant	positive, clearing around the colony
Escherichia coli ATCC 25922	50-100	Poor-fair	negative, no clearing
Staphylococcus aureus ATCC 25923	>=10^3	inhibited	

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. 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 Pu blic Health Association, Washington, D.C.
3. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.

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