



Ampicillin Dextrin Agar Base

M1262

Intended Use:

Recommended for selective isolation and differentiation of *Aeromonas* species from water samples using membrane filter technique.

Composition**

Ingredients	Gms / Litre
Tryptose	5.000
Dextrin	10.000
Yeast extract	2.000
Sodium chloride	3.000
Potassium chloride	2.000
Magnesium sulphate	0.200
Iron (III) chloride	0.100
Bromothymol blue	0.080
Agar	15.000
Final pH (at 25°C)	8.0±0.1

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 37.38 grams in 1000 ml purified / 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 and aseptically add rehydrated contents of one vial of Ampicillin Dextrin Selective Supplement (FD107A). Mix well and pour into sterile Petri plates.

Principle And Interpretation

Aeromonas is a genus of bacteria that is ubiquitous in the environment. It is present in all types of water worldwide, as well as in food and soil. There are approximately 16 different species in this genus, the best known of which is *Aeromonas hydrophila*. Physiologically, *Aeromonas* are similar to bacteria in the coliform group and can be isolated from similar environments. *Aeromonas* are commonly isolated from a variety of aquatic environments, including freshwater, estuarine, brackish, and salt waters. Some members of this group of bacteria have been implicated in human disease, although not all strains appear to be pathogenic to humans (1). *Aeromonas* species can cause various enteric symptoms in children and adults (2, 3). Ampicillin Dextrin Agar Base is used for isolation and differentiation of *Aeromonas* species from other gram-negative rods such as *Pseudomonas* and *Enterobacteriaceae* from water samples by membrane filter technique (4).

Tryptose and yeast extract provide nitrogenous compounds along with other essential nutrients for growth of *Aeromonas*. Sodium chloride maintains the osmotic balance of the medium. *Aeromonas* forms acid from dextrin, which is indicated by colour change from blue to yellow by the pH indicator, bromothymol blue. The selectivity of the medium is increased by the addition of Ampicillin. The effectiveness of Ampicillin as selective agent has been reported by several workers (5,6,7).

After 24 hours of growth on this agar, colonies are sprayed with Nadi reagent (1% solution of N,N,N,N'-tetramethyl-p-phenylene-diammonium dichloride). A positive Nadi reaction (dextrin degradation) is indicated by a purple colour at the periphery of the colony. Dextrin fermentation is also indicated by yellow colonies. *Aeromonas* species appear as large, convex yellow colonies with a purple periphery.

Type of specimen

Water samples

Specimen Collection and Handling

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards.(2) After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

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

Dark green coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 3.74% w/v aqueous solution at 25°C. pH : 8.0±0.1

pH

7.90-8.10

Cultural Response

Cultural characteristics observed with added Ampicillin Dextrin Selective Supplement (FD107A), after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Recovery
<i>Aeromonas hydrophila</i> ATCC 7966	50-100	luxuriant	≥50%
<i>Escherichia coli</i> ATCC 25922	50-100	none-poor	≤10%
<i>Staphylococcus aureus</i> ATCC 25923	≥10 ⁴	inhibited	0%

Reference

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