Technical Information

M-Aeromonas Selective Agar Base (Havelaar)

Product Code: DM 2283

Application: - M-Aeromonas Selective Agar Base (Havelaar) is recommended for the detection of *Aeromonas* species in water and other liquid samples by membrane filter technique

Composition**

Ingredients	Gms / Litre
Tryptose	5.000
Yeast extract	2.000
Dextrin	11.400
Sodium chloride	3.000
Potassium chloride	2.000
Magnesium sulphate	0.100
Ferric chloride	0.060
Sodium deoxycholate	0.100
Bromothymol blue	0.080
Agar	13.000
Final pH (at 25°C)	8.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

M-Aeromonas Selective Agar Base is recommended for the detection of *Aeromonas* species in water sample by the membrane filter technique. This medium was formulated by Havelaar et al (2, 3) and also complies with the recommendations of USEPA Approved Method 1605 (2001) which describes Ampicillin Dextrin Agar with Vancomycin (4). *Aeromonas* utilize Dextrin in the medium to form acids which are detected by the pH indicator bromothymol blue by changing the colour from blue to yellow.

Aeromonas species are natural inhabitants of aquatic environments worldwide. Procedures to isolate, enumerate and identify *Aeromonas* from water and waste water sources is of significance, because of their role in causing human and animal disease, their ability to colonize treatment plants and distribution systems and their presence and distribution as an alternative indicator of the trophic state of water (1).

Tryptose and yeast extract provide nitrogenous compounds along with other essential nutrients for growth of *Aeromonas* . Sodium chloride helps to maintain the osmotic balance of the medium. *Aeromonas* forms acid from dextrin, which is indicated by change in colour from blue to yellow. Selectivity of the medium is increased by the addition of ampicillin. The effectiveness of ampicillin as a selective agent has been reported by several workers (5-8).

Membrane filters through which water samples have been passed are aseptically placed on M-Aeromonas Selective Agar Base plates. After an incubation at 35-37°C for 24 hours *Aeromonas* species appear as large, yellow colonies with a purple periphery.

Methodology

Suspend 36.74 grams of dehydrated powder media in 1000 ml distilled water. Mix thoroughly & 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 (MS2082). Shake well before pour into sterile Petri plates.

Quality Control

Appearance
Light yellow to greenish yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.3% Agar gel.

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

Reaction
Reaction of 3.67% w/v aqueous solution at 25°C. pH : 8.0±0.2

pH Range
7.80-8.20

Cultural Response
DM2283: Cultural characteristics observed after an incubation at 35-37°C for 24 hours with added Ampicillin Supplement (MS2082).

Organism	Inoculum (CFU)	Growth
Aeromonas hydrophila ATCC 7966	50-100	good-luxuriant
Escherichia coli ATCC 25922	>=10^3	inhibited
Staphylococcus aureus ATCC 25923	>=10^3	inhibited

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and the prepared medium at 2 8°C. Use before expiry date on the label.
Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Eaton A. D., Clesceri L. S. and Greenberg A. E., (Ed.), 1998, Standard Methods for the Examination of water and Wastewater, 19th Ed., American Public Health Association, Washington, D.C.
2. Havelaar A. H., During M. and Versteegh J. F. M., 1987, J. Appl. Micro. 62:279-287.
3. Havelaar A. H., Vonk M., 1988, Lett. Appl. Microbiol. 7:169
4. United States Environmental Protection Agency (USEPA), Method 1605: Aeromonas in Finished Water by Membrane Filtration using Ampicillin Dextrin Agar with Vancomycin (ADA-V) October 2001.
5. Richardson C. J., Robinson J. O., Wagerer L. B., Burker V. J., 1982,Antimicrob., Chemother., 9:267.
6. Moulsdale M. T., 1983, The Lancet, 1:351.
7. Rogol M., Sechter 1., Grenber L., Gerichter Ch. B., 1979, J. Med. Microbiol., 12:229.
8. Atkinson M., 1986 Culture; Vol. 7, No. 2.

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