Technical Information

Rippey-Cabelli Agar Base

Product Code: DM 1859

Application: - Rippey-Cabelli Agar Base is recommended for differential and selective isolation of *Aeromonas hydrophila* from water samples using membrane filter technique.

Composition**

Ingredients	Gms / Litre
Tryptose	5.000
Trehalose	5.000
Yeast extract	2.000
Sodium chloride	3.000
Potassium chloride	2.000
Magnesium sulphate	0.200
Iron (III) Chloride	0.100
Bromo thymol blue	0.040
Agar	15.000
Final pH (at 25°C)	8.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Aeromonas species are natural inhabitants of aquatic environments around the world. Their populations are seasonal in all natural waters. Aeromonads cause serious diseases of aquatic animals and poses an economic threat to the aquaculture industry [1]. The motile aeromonads have come out as a serious microbial threat to human populations, especially the immunocompromised [2]. Aeromonads can be isolated from water samples by using the membrane filter technique. Rippey- Cabelli (RC) Agar, formulated by Rippey and Cabelli [3] is used for this purpose. The medium is differential as it depends on the ability of organisms to ferment trehalose and selective due to the addition of selective agents.

Tryptose and yeast extract support the growth of *Aeromonas* species. Bromothymol blue is the pH indicator, which changes colour from blue to yellow under acidic conditions, due to fermentation of trehalose. Sodium chloride maintains the osmotic equilibrium whereas potassium chloride, magnesium sulphate and ferric chloride provide essential ions. Ampicillin, sodium deoxycholate and ethanol are the selective agents inhibiting growth of gram-positive bacteria, coliforms, *Shigella* species, *Proteus mirabilis* and *Actinomyces* . Ethanol inhibits overgrowth of *Klebsiella* species on the filter [4]. Most of the *Enterobacteriaceae* ferment trehalose, therefore it is difficult to distinguish *Aeromonas* from *Enterobacteriaceae*. The medium gives higher specificity and sensitivity when pure cultures are used [4, 5]. However, ampicillin is also unsuitable as a selective agent with Plesiomonas [6].

Methodology

Suspend 16.17 grams of powder media in 500 ml distilled water. Shake well & heat to dissolve the medium completely and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50°C and aseptically add 5 ml ethanol and rehydrated contents of 1 vial of Rippey Cabelli Selective Supplement (MS2107). Mix well before pouring into sterile Petri plates.

Quality Control

Physical Appearance
Light yellow to pale green 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 3.23% w/v aqueous solution at 25°C. pH : 8.0±0.2
pH range
7.80-8.20
Cultural Response/Characteristics
DM 1859: Cultural characteristics observed with added Rippey-Cabelli Suplement(MS2107) after an incubation at 35-37°C for 24 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Trehalose fermentation
Aeromonas hydrophila ATCC 7966	50-100	good-luxuriant	>=50%	positive reaction, yellow colour
Escherichia coli ATCC 25922	50-100	none-poor	<=10%	negative
Shigella flexneri ATCC 12022	>=10	inhibited	0%	reaction,blue green colour
Staphylococcus aureus ATCC 25923	>=10	inhibited	0%	

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. Eaton A. D., Clesceri L. S. and Greenberg A. E., (Eds.), 1995, Standard Methods for the Examination of Water and Wastewater, 19th Ed., American Public Health Association, Washington, D.C.
2. Austin B., Altwegg M., Gosling P. and Joseph S. W., (Eds.), 1996, The Genus Aeromonas, John Wiley and Sons, Chichester , U.K.
3. Rippey S. R. and Cabelli V. J., 1979, Appl. Environ. Microbiol., 38(1): 108.
4. MacFaddin J. F., 1985, Media for Isolation-Identification-Cultivation-Maintenance of Medical Bacteria, Vol. I Williams and Wilkins, Baltimore.
5. Roland, F. P., 1977, Med. Microbiol. Immunol., 163:241.
6. Von Graevenitz A. and Bucher C., 1983, J. Clin. Microbiol., 17(1): 16.

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