

Technical Information

Lachicas Medium Base

Product Code: DM 2244

Application: - Lachicas Medium Base is recommended for isolation and cultivation of *Aeromonas hydrophila* from foods stored under different temperature conditions.

Composition**

Ingredients	Gms / Litre
Beef heart, infusion from	10.000
Tryptose	10.000
Sodium chloride	5.000
Amylose azure	3.000
Agar	15.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Lachicas Medium Base, recommended by APHA is used for the isolation and cultivation of *Aeromonas hydrophila* (2). This medium is a modification of SA Agar as per Lachica, formulated by Palumbo et al (3), and found to be useful in studying *A. hydrophila* in foods held under different temperature conditions. Lachicas Medium is therefore also known as Modified SA Agar where SA stands for Starch and Ampicillin respectively. The original SA Medium is a differential medium, which utilizes starch hydrolysis as the differential trait and ampicillin to suppress the accompanying microflora.

Aeromonas, a heterotrophic gram-negative bacterium (1) is found worldwide in all types of water, food and soil. Wound infections caused by *Aeromonas* usually occur when abraded mucosal surface come into contact with contaminated water, soil or marine products (fish fins or hooks) during recreational or occupational activities (1).

In Modified SA Agar i.e. Lachicas Medium the starch has been replaced with amylose azure. This gives better and faster growth of *A. hydrophila*. *A. hydrophila* colonies are surrounded by a light halo on blue background and the external addition of iodine to the plate is not necessary. Beef heart infusion and tryptose provide the essential nitrogenous nutrients while sodium chloride maintains osmotic balance of the medium.

Methodology

Suspend 43 grams of dehydrated powder media in 1000 ml distilled water. Mix thoroughly & heat gently to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Aseptically add sterile rehydrated contents of 1 vial of Lachicas Supplement (MS2209). Shake well before pour into sterile Petri plates.

Quality Control

Appearance

Light yellow to bluish grey homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity

Dark blue coloured, clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 4.3% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH Range

7.20-7.60

Cultural Response

DM2244: Cultural characteristics observed with added Lachica's Supplement (MS2209), after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response			
<i>Aeromonas hydrophila</i> ATCC 7966	50-100	luxuriant	≥50%
<i>Salmonella Typhi</i> ATCC 6539	≥10 ³	inhibited	0%
<i>Escherichia coli</i> ATCC 25922	≥10 ³	inhibited	0%

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

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