Technical Information

PL Agar

Product Code: DM 2173

Application: - PL Agar is recommended for the isolation and cultivation of *Plesiomonas shigelloides* from food.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	5.000
Yeast extract	2.000
Sodium chloride	5.000
Mannitol	7.500
L-Arabinose	5.000
Inositol	1.000
L-Lysine	2.000
Bile salts	1.000
Phenol red	0.080
Agar	15.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Plesiomonas shigelloides is an opportunistic pathogen while its role as an enteropathogen is a controversial [1, 2] and infection is mainly associated with the consumption of uncooked molluscus or with foreign travel [3]. It does not grow on media like Thiosulphate Citrate Bile Salts Sucrose Agar (TCBS, DM1189) but grows well on PL Agar. PL Agar is formulated as per APHA [4] for isolation and cultivation of *P. shigelloides* from foods.

Peptic digest of animal tissue and yeast extract supply the nitrogenous compounds, vitamin B complex and trace ingredients. L - lysine is the amino acid source while arabinose, inositol and mannitol are the fermentable carbohydrate sources in the medium. Bile salts inhibit gram-positive bacteria. Phenol red is the pH indicator, which turns yellow at acidic pH.

Food samples are diluted and directly streaked on PL Agar (DM2173) and on Inositol Brilliant Green Bile Agar (DM1574) [5]. The samples are also inoculated into 90 ml Tetrathionate Broth (DM1032) for enrichment. Plates are incubated at 35°C and the broth at 40°C. Following incubation, suspected colonies from plates are inoculated into Triple Sugar Iron Agar slants (DM1021) and Inositol Gelatin Medium (DM2161) [5]. The enrichment broth cultures are streaked on (DM2173) and M574 and incubated at 35°C for 24 hours. Isolates that are alkaline over acid without gas or hydrogen sulphide on TSI, produce acid but no gas from inositol and do not hydrolyze gelatin are tested for oxidase. If the organism is oxidase positive and a gram-negative rod, it is Plesiomonas [4].

Methodology

Suspend 43.58 grams of powder media in 1000 ml distilled water. Shake well and heat to dissolve the medium completely. Sterilize by autoclaving at 115°C for 15 minutes. Mix well and pour 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 4.36% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH Range 7.20-7.60

Cultural Response/Characteristics
DM 2173: Cultural characteristics observed after an incubation at 35-37°C for 18- 24 hours.

Organism	Growth
Plesiomonas shigelloides ATCC 14029	luxuriant

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. Ingram C. W., Morrison A. J. and Levitz R. E., 1987, J. Clin. Microbiol., 25 : 1791.
2. Holmberg S. D. and Farmer J. J., 1984, Rev. Infect. Dis., 6: 633.
3. Holmberg S. D., Wachsmith K., Hickman, Brenner F. W., Blake P. A., Farmer J. J., 1986, Ann. Intern. Med., 105: 690.
4. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.
5. Miller M. L., and Koburger J. A., 1986, J. Food Prot., 49: 274

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