Aero Pseudo Selective Agar

M1620

Aero Pseudo Selective Agar is used for detecting *Pseudomonas* and *Aeromonas* in food stuffs as well as in waste water and equipment of the food industry.

Composition**

Ingredients	Gms / Litre
Sodium glutamate	10.000
Starch, soluble	20.000
Potassium dihydrogen phosphate	2.000
Magnesium sulfate	0.500
Phenol red	0.360
Agar	12.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 44.86 grams in 1000 ml 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. Add 100,000 IU Penicillin G sodium salt, 0.01 g Pimaricin, if desired. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Aeromonas may not be truly indigenous to the marine environment, but may have a transient existence after entering salt water via rivers or sewage inputs (1). Foods that come in direct contact with water are likely sources of motile aeromonads, with fish and seafood products most often contaminated (2). Motile aeromonads can survive at low temperatures and therefore have been associated with refrigerated animal products such as chicken, dairy products, raw milk and vegetables (3, 4). The predominant organism found in these foods is *Pseudomonas* species with the motile aeromonads present in lower numbers. *Pseudomonas* are capable of causing spoilage because they are psychrotrophic and thus multiply at refrigeration temperatures (2). Also they attack various substances in the food to produce compounds associated with off-flavour and off-odours. Aero Pseudo Selective Agar medium has been proposed by Kielwein for detecting *Pseudomonas* and *Aeromonas* in foodstuffs, waste water and equipments used in the food industry (5, 6, 7, 8).

The medium contains sodium glutamate and starch as the only sources of nutrients. Organisms other than *Aeromonas* and *Pseudomonas* are unable to metabolize these nutrients sources (9). *Aeromonas* degrades starch, producing acid. The acid produced causes the phenol red indicator to change from red to yellow. This reaction is not exhibited by *Pseudomonas* . Added Penicillin G improves the selectivity of the medium. The medium is made more selective by the addition of antimycotic agent namely Pimaricin.

Quality Control

Appearance
Light yellow to pink homogeneous free flowing powder

Gelling
Firm comparable with 1.2% Agar gel.

Colour and Clarity of prepared medium
Red coloured, clear to slightly opalescent gel forms in Petri plates.

Reaction
Reaction of 4.5% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH
7.00-7.40

Cultural Response

M1620: Cultural characteristics observed with added Penicillin G sodium salt, after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum	Growth	Recovery	Colour of colony
Cultural Response				
Escherichia coli ATCC 25922	50-100	none-poor	<=10%	
Staphylococcus aureus ATCC 25923	>=10^3	inhibited	0%	
Pseudomonas aeruginosa ATCC 27853	50-100	good-luxuriant	>=50%	red-violet surrounded by a red violet zone
Pseudomonas aeruginosa ATCC 9027	50-100	good-luxuriant	>=50%	red-violet surrounded by a red violet zone
Pseudomonas aeruginosa ATCC 10145	50-100	fair-good	30-40%	red-violet surrounded by a red violet zone
Aeromonas hydrophila ATCC 7966	50-100	good-luxuriant	>=50%	yellow surrounded by a yellow zone
Aeromonas caviae ATCC 15467	50-100	good-luxuriant	>=50%	yellow surrounded by yellow zone

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

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