Technical Information

Glutamate Starch Phenol Red Agar Base

Product Code: DM 2089

Application: - Glutamate Starch Phenol Red Agar is used for detection of *Pseudomonas* and *Aeromonas* in foodstuffs, wastewater and equipment in food industry.

Composition**

Ingredients	Gms / Litre
L-Glutamate, sodium	10.000
Starch, soluble	20.000
Monopotassium phosphate	2.000
Magnesium sulphate	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

Principle & Interpretation

AS Aeromonas occur widely in aquatic environment they contaminate fish and related seafood products more commonly Motile aeromonads have also been found associated with refrigerated animal products such as chicken, beef, pork etc [1-3]. *Pseudomonas* species with the motile aeromonads present in low numbers are the predominant organisms found in these foods [4]. Glutamate Starch Phenol Red Agar Base is used for the detection of *Pseudomonas* and *Aeromonas* species in foodstuffs, waste water and equipment in the food industry which is a modification of Korths Medium [5], as described by Keilwein [6] in the literature.

Glutamate Starch Phenol Red Agar Base is based on the ability of *Aeromonas* to utilize starch with the subsequent production of acid, which chage colour of media from red to yellow under acidic conditions. Pseudomonas does not utilize starch and therefore does not form yellow colonies. The medium is designed to support the growth of both *Pseudomonas* and *Aeromonas* species. L-glutamate is a source of essential nutrients. Starch is the source of carbon. Phosphate buffers the medium whereas magnesium sulphate is a source of essential ions. Antibiotics help to improve the selectivity of the medium. The medium may be surface inoculated or used in membrane filtration technique.

Methodology

Suspend 44.86 grams of powder media in 1000 ml distilled water. Shake well & 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 and add 100 lU/ml Penicillin G, sodium salt and if desired 10 mcg/ ml Pimaricin. Mix well and pour into sterile Petri plates.

Quality Control

Physical Appearance

Light yellow to Orange 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 Range 7.00-7.40

Cultural Response/Characteristics

DM 2089: Cultural characteristics observed with added 100 IU Penicillin G, sodium salt and 10 mcg/ml Pimaricin after an incubation at 25-30°C for 48-72 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Esculine Hydrolysis
Aeromonas hydrophila *ATCC 7966*	50-100	good-luxuriant	>=50%	positive reaction, acid production, yellow colour
Pseudomonas aeruginosa *ATCC 27853*	50-100	good-luxuriant	>=50%	Negative reaction,no acid production

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

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