Technical Information

Pseudomonas Agar Medium for Detection of Fluorescein

Product Code: DM 1120U

Application: Pseudomonas Agar Medium for Detection of Fluorescein is used for the detection of fluorescein production by *Pseudomonas* species, and is in accordance with United States Pharmacopoeia 2008.

Composition**

Ingredients	Gms / Litre
Pancreatic digest of casein	10.000
Peptic digest of animal tissue	10.000
Anhydrous dibasic potassium phosphate	1.500
Magnesium sulphate, $7H_2O$	1.500
Agar	15.000
pH after sterilization (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Pseudomonas is ubiquitous in environment and is a common causative agent of burn, skin and nosocomial infections. They are also common contaminant of pharmaceutical and cosmetics related preparations. Pseudomonas strains are reported to produce phenazine pigments like Pyocyanin- blue green redox-active secondary metabolite pigment, pyorubin-rust brown pigment, -oxyphenzine- a breakdown product of Pyocyanin, pyoverdin-a water soluble yellow green pigments also known as fluorescein. Pseudomonas Agar (For Fluorescein) is based on the formula described by King et al [(1)] and as modified in the U.S. Pharmacopeia [(2)] for the detection of fluorescein a water soluble, chloroform insoluble fluorescent pigment by *Pseudomonas* species [(3)].

This medium enhances the elaboration of fluorescein by *Pseudomonas* and inhibits the pyocyanin formation. The fluorescein pigment diffuses from the colonies of Pseudomonas into the agar and shows yellow fluorescent colouration. Some Pseudomonas species produce small amounts of pyocyanin resulting in a yellow-green colouration. Peptic digest of animal tissue provides the essential nitrogenous nutrients, carbon, sulfur and trace elements for the growth of *Pseudomonas.* These nutrients are also conducive to the production of fluroescein. Peptone and phosphorous in the medium enhance the production of pyoverdin/ fluorescein pigment. Dipotassium phosphate buffers the medium while magnesium sulphate provides necessary cations for the activation of fluorescein production.

Salt concentration exceeding 2% affects pigment production. UV illumination may be bactericidal, so make sure that there is good growth before placing culture under UV light [(3)].

Methodology

Suspend 37.23 grams of dehydrated medium in 1000 ml purified/distilled water, containing 10 ml glycerin. Shake well & heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm,comparable with 1.5% Agar gel

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

pH range 7.00-7.40
Growth Promotion is carried out in accordance with the harmonized method of USP. Cultural response was observed after an incubation at 33-37°C for not less than 3 days. Recovery rate is considered as 100% for bacteria growth on Soyabean Casein Digest Agar

Cultural Response/Characteristics

DM 1120U: Cultural characteristics observed after incubation at 33-37°C for 18-48 hours. Recovery rate is considered as 100% for bacteria growth on Soyabean Casein Digest Agar.

Organism	Inoculum(CFU)	Observed bserved Lot value (CFU)	Recovery	Characteristic colonial morphology	Characteristic colonial	Fluorescence Oxidase in UV light
Test for Pseudomonas aeruginosa	50-100		>=70 %	Generally	positive	positive
Pseudomonas aeruginosa ATCC 9027		35 -100		colourless to yellowish		
Additional Microbiological Testing	50-100		>=70 %	Generally	positive	positive
Pseudomonas aeruginosa ATCC 27853		35 -100		colourless to yellowish		

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. King, Ward and Raney, 1954, J.Lab. Clin. Med., 44: 301.
2. United States Pharmacopoeia, 2008 United States Pharmacopoeia Convention, Inc., Rockville, MD.
3. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification and Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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