Technical Information

Pseudomonas Agar (For Fluorescein)

Product Code: DM 1120

Application: Pseudomonas Agar (For Fluorescein) is recommended for the detection of fluorescein production by *Pseudomonas* species.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Proteose peptone	10.000
Dipotassium phosphate	1.500
Magnesium sulphate	1.500
Agar	15.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Pseudomonas Agar (For Fluorescein) is based on the formula devised by King et al [1] and is a modification of U.S. Pharmacopeia [2] for the detection of fluorescein production a water soluble, chloroform insoluble fluorescent pigment by *Pseudomonas* species [3]. The 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* strains produce small amounts of pyocyanin resulting in a yellow-green colouration.

Casein enzymic hydrolysate and proteose peptone provide the essential nitrogenous nutrients, carbon, sulphur and trace elements for the growth of *Pseudomonas.* 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].

A pyocyanin-producing *Pseudomonas* strain will usually also produce fluorescein. It must, therefore, be differentiated from other simple fluorescent pseudomonads by other means. Temperature can be a determining factor as most of fluorescent strains fail to grow at 3 5°C. but grow well at 25-30°C [3].

Methodology

Suspend 38 grams of powder media in 1000 ml distilled water containing 10 ml glycerol. 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

Reaction
Reaction of 3.8% w/v aqueous solution (containing 1% v/v glycerol) at 25°C. pH : 7.0±0.2

pH Range 6.80-7.20

Cultural Response/Characteristics

DM 1120: Cultural characteristics observed with added 1% glycerol after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Pseudomonas aeruginosa ATCC 17934	50	Luxuriant	>=70%	greenish yellow
Pseudomonas aeruginosa ATCC 27853	50	Luxuriant	>=70%	greenish yellow
Pseudomonas aeruginosa ATCC 9027	50-100	Luxuriant	>=70%	greenish yellow

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. The United States Pharmacopoeia, 2006, USP29/NF24, The United States Pharmacopeial Convention, Rockville, MD.
3. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.

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