PRODUCT SPECIFICATION SHEET

Pseudomonas Agar - For Fluorescein
Pseudomonas F Agar (DM218)

Intended Use
Pseudomonas Agar-For Fluorescein (DM218) is used for the detection and differentiation of *Pseudomonas aeruginosa* on the basis of fluorescein production.

Product Summary and Explanation
Pseudomonas aeruginosa is one of the most commonly isolated pathogens, and is the most frequently isolated non-fermentative bacillus in clinical specimens.[1] This organism is a significant cause of burn and nosocomial infections[2] The ability of *Pseudomonas aeruginosa* to destroy tissue may be related to the production of various extracellular enzymes.[1] *Pseudomonas aeruginosa* produces a number of water-soluble pigments, including yellow-green or yellow-brown fluorescent pigment pyoverdin.[2] When pyoverdin combines with the blue water-soluble pigment pyocyanin, the bright green color characteristic of *Pseudomonas aeruginosa* is created.[2] Pseudomonas F Agar, enhances the production of fluorescein by *Pseudomonas* and inhibits the formation of pyocyanin. Both pigments diffuse from *Pseudomonas* colonies into the medium when they grow. Fluorescein elaborated on Pseudomonas F Agar is a fluorescent yellow color. Pseudomonas F Agar is patterned after the formulations described by King, Ward, and Raney,[3] and modified to United States Pharmacopeia (USP) specifications.[4]

Principles of the Procedure
Enzymatic Digest of Casein and Enzymatic Digest of Animal Tissue provide nitrogen, vitamins, and amino acids in Pseudomonas F Agar. Dipotassium Phosphate stimulates fluorescein production and has an inhibitory effect on pyocyanin, along with increasing the phosphorus content. Magnesium Sulphate provides necessary cations for the activation of fluorescein production. Agar is the solidifying agent. Glycerol is supplemented as a source of carbon.

Formula / Liter

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.00
Proteose peptone	10.00
Dipotassium Phosphate	1.50
Magnesium Sulphate	1.50
Agar	15.00
Final pH: 7.0 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions
1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions
1. Suspend 38 g of the medium in one liter of distilled water containing 10 grams of glycerol.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C, 15 lbs pressure for 15 minutes / validated cycle.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow colored, homogeneous, free flowing powder
Prepared Medium	Yellow colored, clear to slightly opalescent gel forms in Petri-plates
Reaction of 3.8% Solution	pH 7.0 ± 0.2 at 25°C

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(containing 1% v/v glycerol)	
Gel Strength	Firm, compared to 1.5% agar gel

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

Sr. No.	Organisms	Results to be achieved			
		Inoculum (CFU)	Growth	Recovery	Colour of colony
1.	*Pseudomonas aeruginosa* ATCC 27853	50-100	Luxuriant	>=70%	green-yellow
2.	*Pseudomonas aeruginosa* ATCC 9027	50-100	Luxuriant	>=70%	green-yellow
3.	*Pseudomonas aeruginosa ATCC 17934*	50-100	Luxuriant	>=70%	green-yellow

The organisms listed are the minimum that should be used for quality control testing.

Pseudomonas aeruginosa ATCC 9027

Test Procedure

1. Obtain inoculum from a pure 18 – 24 hour culture of organism to be tested.
2. Inoculate plates or agar slants by streaking the surface.
3. Incubate at 32 - 35°C for 18 – 24 hours.

Results

Examine colonies under ultraviolet light (Wood's lamp).[5] Take care when using UV illumination because it may have a bactericidal effect. Be sure there is good growth before placing the culture under UV light. A positive result is indicated by a light, bright green-yellow color diffusing into the agar with a fluorescent zone surrounding growth.

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

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Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.
2. The formation of non-pigmented colonies does not completely rule out *Pseudomonas aeruginosa*.
3. Further tests are necessary for confirmation of *Pseudomonas aeruginosa*.

Packaging

Product Name : Pseudomonas Agar - For Fluorescein
Product Code : DM218
Available Pack sizes : 100gm / 500gm

References

1. Baron, E. J., L. R. Peterson, and S. M. Finegold. 1994. Nonfermentative gram-negative bacilli and coccobacilli, p. 386-405. Bailey & Scott's diagnostic microbiology, 9th ed. Mosby-Year Book, Inc. St. Louis, MO.
2. Gilligan, P. H. 1995. *Pseudomonas* and *Burkholderia*, p. 509-519. *In* P. R. Murray, E. J. Baron, M. A. Pfaller, F. C. Tenover, and R. H. Yolken (eds.)., Manual of clinical microbiology, 6th ed. American Society of Microbiology, Washington, D.C.
3. King, E. O., M. K. Ward, and E. E. Raney. 1954. Two simple media for the demonstration of pyocyanin and fluorescein. J. Lab. Clin. Med. 44:301.
4. United States Pharmacopeial Convention. 1995. The United States pharmacopeia, 23rd ed. The United States Pharmacopeial Convention, Rockville, MD.
5. MacFaddin, J. F. 1985. Media for isolation-cultivation-identification-maintenance medical bacteria, vol. 1. Williams & Wilkins, Baltimore, MD.

Further Information

For further information please contact your local MICROMASTER Representative.

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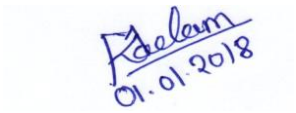		
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