PRODUCT SPECIFICATION SHEET

Pseudomonas Agar Base (DM1853)

Intended Use
Pseudomonas Agar Base (DM1853) is recommended for selective isolation of *Pseudomonas* species.

Product Summary and Explanation
Pseudomononas Agar Base is a modification of Kings A medium[1] which contains magnesium chloride and potassium sulphate to enhance pigment production and was developed to be supplemented with CN (Cetrimide & Sodium Nalidixate) or CFC (Cetrimide, Fucidin, & Cephaloridine). Goto and Enomoto[2] formulated CetriNix supplement for the selective isolation of *Pseudomonas aeruginosa* from clinical specimens. Lowbury and Collins[3] studied cetrimide as a selective agent. The CN Supplement is recommended for the isolation of *Pseudomonas aeruginosa*, where the addition of Sodium Nalidixate and the reduction of Cetrimide improved recovery.[2,3] CetriNix supplement suppresses *Klebsiella*, *Proteus* and *Providencia* species.
C-F-C Supplement was formulated by Mead and Adams[4] making the medium specific for selective isolation of *Pseudomonas* spp. from chilled foods and processing plants, environmental samples and water.[5,6] Mead and Adams[4] reduced Cetrimide, permitting growth of all pigmented and non-pigmented psychrophilic pseudomonads. The antimicrobics, Fucidin and Cephaloridine, were added to increase the selectivity of the medium. Pseudomonas Agar Base is recommended by ISO for the enumeration of *Pseudomonas* spp. from meat and meat products.[7]

Principles of the Procedure
Pseudomonas Agar Base contains pancreatic digest of gelatin and casein enzymic hydrolysate provides nitrogen, vitamins, and carbon in Pseudomonas Agar Base. Magnesium Chloride, anhydrous and Potassium Sulfate promote pigment production. Glycerol is supplemented as a source of carbon. For CetriNix Supplement (MS199) or CFC Supplement (MS200), Cetrimide acts as a quaternary ammonium cationic detergent causing nitrogen and phosphorous to be released from bacterial cells other than *Pseudomonas aeruginosa*. The antimicrobial agents, Sodium Nalidixate, Fucidin, and Cephaloridine are selective agents used to inhibit Gram-positive organisms and certain Gram-negative bacteria.

Formula / Liter

Ingredients	Gms / Liter
Casein enzymic hydrolysate	10.00
Pancreatic digest of gelatin	16.00
Potassium sulphate	10.00
Magnesium chloride, anhydrous	1.40
Agar	11.00
Final pH: 7.1 ± 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.
3. Do not keep the molten agar for longer than 4 hours.

Directions
1. Suspend 24.20 grams of the medium in 500 mL of distilled water containing 5 mL glycerol.
2. Heat to boiling, to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
4. Cool to 50°C and aseptically add sterile rehydrated contents of either CetriNix Supplement (MS199) or CFC Supplement (MS200) as desired.
5. Mix well and pour into sterile petri plates.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Yellow coloured clear to slightly opalescent gel forms in Petri plates
Reaction of 4.084% Solution	pH : 7.1 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.1% Agar gel

Expected Cultural Response: Cultural characteristics observed after an incubation at different temperatures for 24-48 hours.

Sr. No.	Organisms	Results to be achieved				
		Inoculum (CFU)	Growth 35-37°C (with MS199)	Recovery 35-37°C (with MS199)	Growth 35-37°C (with MS200)	Recovery 35-37°C (with MS200)
1.	*Proteus vulgaris* ATCC 13315	>=10^3	inhibited	0%	-	-
2.	*Pseudomonas aeruginosa* ATCC 27853	50 -100	good-luxuriant	>=50 %	-	-
3.	*Pseudomonas cepacia* ATCC 10661	50-100	--	--	good-luxuriant	>=50 %
4.	*Staphylococcus aureus* ATCC 25923	>=10^3	inhibited	0%	-	-

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

Test Procedure

Refer to appropriate references for procedures for selective isolation of *Pseudomonas* species.

Results

1. The presence of blue-green colonies or brown pigmentation and fluorescence is presumptive evidence of *Pseudomonas aeruginosa*.
2. Other *Pseudomonas* spp. colonies may show brown or pink colonies with and without fluorescence on the medium.
3. Further tests are necessary for confirmation of *Pseudomonas aeruginosa* and *Pseudomonas* spp.

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.

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. Some strains of *Pseudomonas aeruginosa* may fail to produce pyocyanin.
2. It is not expected, but Enterobacteriaceae may also grow on this medium.
3. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Pseudomonas Agar Base.
Product Code : DM1853
Available Pack sizes : 100gm / 500gm

References

1. King E.O., Ward M.K. and Raney D.E., 1954, J.Lab and Clin. Med., 44:301.
2. Goto S. and Entomoto S., 1970, Jap. J. Microbiol., 14:65.
3. Lowbury E.J. and Collins A.G., 1955, Clin. Path., 8:47.
4. Mead G.C. and Adams B.W., 1977, Br. Poult. Sci., 18:661
5. Coenye, T., P. Vandamme, J. Govan, and J. LiPuma. 2001. J. Clin. Micro. 39: No. 10. P. 3427-3436.
6. Parke, J. L. 2005. Burkholderia cepacia: Friend or Foe? The Plant Health. DOI: 10: 1094.
7. International Organization for Standardization. 1995. Draft ISO/DIS 13720.

Further Information

For further information please contact your local MICROMASTER Representative.

MICROMASTER LABORATORIES PRIVATE LIMITED
Unit 38/39, Kalpataru Industrial Estate,
Off G.B. Road, Near 'R-Mall' , Thane (W) – 400607. M.S. INDIA.
Ph: +91-9320126789/9833630009/9819991103
Email: sales@micromasterlab.com

DM1853PSS, QAD/FR/024,Rev.00