PRODUCT SPECIFICATION SHEET

Pseudomonas Aspargine Broth (DM587)

Intended Use
Pseudomonas Aspargine Broth (DM587) is recommended for presumptive determination of *Pseudomonas aeruginosa* from recreational or natural water as per APHA.

Product Summary and Explanation
Pseudomonas Asparagine Broth is formulated as recommended by APHA[1] for presumptive detection of *P. aeruginosa* from recreational or natural waters. Recreational water like from swimming pool is a body of water in a holding structure. Microorganisms of concern are those causing infections of ear, skin and upper respiratory tract etc. *Pseudomonas aeruginosa* is an opportunist pathogen for humans, capable of growing in water with a low concentration of nutrients. This is why natural mineral water and spring water are *Pseudomonas aeruginosa* free at the time of their commercialization. This microorganism can also be found in swimming pool water and account for a large percentage of swimming pool associated illness. Asparagine Medium is recommended for the microbiological analysis of water. Pseudomonas Aspargine Broth is an excellent enrichment medium for *P. aeruginosa*, since it is composed of a mineral base and the only carbon source is asparagine. It is also used in the multiple-tube technique for microbiological analysis of recreational waters.

Principles of the Procedure
Pseudomonas Asparagine Broth medium is a relatively simple medium containing an amino acid DL-asparagine and two salts dipotassium phosphate and magnesium sulphate. Asparagine is the amino acid and carbon source while phosphate and sulphate provide the ions for the growth of *P. aeruginosa*. Dipotassium phosphate acts as buffering agent.

Formula / Liter

Ingredients	Gms / Liter
DL-Asparagine	3.00
Dipotassium phosphate	1.00
Magnesium sulphate	0.50
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 4.5 grams of the medium in one liter of distilled water.
2. Gently boil to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle. Mix well and dispense as desired.

Quality Control Specifications

Dehydrated Appearance	White to cream homogeneous free flowing powder
Prepared Medium	Colourless clear solution with slight precipitate
Reaction of 0.45% Solution	pH : 7.0 ± 0.2 at 25°C
Gel Strength	Not Applicable

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Expected Cultural Response: Cultural characteristics observed after an incubation at 35-37°C for 20 - 24 hours.

Sr. No.	Organisms	Results to be achieved	
		Inoculum (CFU)	Growth
1.	*Pseudomonas aeruginosa ATCC 27853*	50 -100	good-luxuriant

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

Test Procedure

1. For five tubes multiple tube test, use 10 ml of single strength Aspargine Broth for inocula of 1 ml or less and 10 ml double strength Aspargine Broth for 10 ml inocula. For swimming pools, higher dilutions may be necessary.
2. Incubate inoculated tubes at 35-37°C.
3. Examine after 24 hours and again after 48 hours of incubation.
4. Refer to appropriate references for standard test procedures.

Results

1. *P. aeruginosa* hydrolyze asparagine to aspartic acid. Examine the tubes under long water ultraviolet light in a darkened room. Production of a green fluorescent pigment constitutes a positive presumptive test.
2. Confirmation is performed by subculturing a loop from each tube in Acetamide Medium (DM445).
3. Development of purple colour within 24-36 hours of incubation at 35-37°C is a positive confirmed test for *P. aeruginosa*.
4. Refer to appropriate references and test procedures for interpretation of results.

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. This medium is only a presumptive medium for *P. aeruginosa*, and further confirmatory tests are necessary for the identification.
2. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
3. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Pseudomonas Aspargine Broth
Product Code : DM587
Available Pack sizes : 100gm / 500gm

References

1. Eaton A. D., Clesceri L. S. and Greenberg A W., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st ed., APHA, Washington, D.C.

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Further Information

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