

Acetamide Broth

Cat. 1211

For the confirmation of *Pseudomonas aeruginosa* in bottle water.

Practical information

Applications	Categories
Confirmation	<i>Pseudomonas</i>

Industry: Water

Principles and uses

Acetamide Broth contains acetamide which, as a sole source of carbon in the medium, is used for the confirmation and identification of *Pseudomonas aeruginosa*. It uses the ability of non fermenting Gram negative bacteria to deaminate the acetamide, the deamination of the acetamide produces ammonia which increases the pH of the medium, the resulting alkalization is shown by a color change of the Phenol red from orange-red to purple-red.

Acetamide is the single carbon source. Potassium salts have a high buffering capacity. Sodium chloride supplies essential electrolytes for transport and osmotic balance and Phenol red is a pH indicator.

Pseudomonas aeruginosa is an opportunist pathogen for humans which is 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.

Formula in g/L

Acetamide	10	Phenol red	0,012
Potassium dihydrogen phosphate	0,73	Sodium chloride	5
Potassium hydrogen phosphate	1,39		

Preparation

Suspend 17,2 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize by filtration. AVOID OVERHEATING. DO NOT AUTOCLAVE. Dispense into appropriate containers in a volume of 5 ml.

Instructions for use

- Inoculate with one or two loopfuls from a tube of presumptive fresh medium (Asparagine Broth Cat. 1207).
- Incubate at 35±2 °C for 2-4 days.

A positive reaction turns the medium an intense purple-red. *P. aeruginosa* is confirmed by a positive asparagine test and a positive acetamide test.

Acetamide deamination is accomplished by *P. aeruginosa*, *P. acidovorans*, Group III (*Achromobacter xylosoxidans*), and *Alcaligenes odorans*.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
W/o rests	Fine powder	Pink	Pink-orange	7,0 ± 0,2

Microbiological test

Incubation conditions: (35±2 °C/ 2-4 days)

Microorganisms	Specification	Characteristic reaction
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Escherichia coli ATCC 25922
Pseudomonas aeruginosa ATCC 27853
Proteus mirabilis ATCC 29906
Pseudomonas aeruginosa ATCC 9027

Inhibition
Good growth
Inhibition
Good growth

Color change to purple-red
Color change to purple-red

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

Kelly, N.M., C.T. Keans (1983) Acetamide Broth for Isolation of Pseudomonas aeruginosa from patients with cystic fibrosis. J. Clin. Microbiol 17:159-163.

CeNAN (1982) Técnicas para el Examen microbiológico de Alimentos y Bebidas. Madrid.