



Acetamide Nutrient Broth

M1370

Acetamide Nutrient Broth is used for the detection of microbial utilization of acetamide.

Composition**

Ingredients	Gms / Litre
Part A	-
Magnesium sulphate	0.158
Sodium chloride	0.200
Sodium molybdate	0.005
Ferrous sulphate	0.0005
Dipotassium hydrogen phosphate	0.200
Part B	-
Acetamide	2.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 0.56 grams of Part A in 1000 ml distilled water. Add 2 grams of Part B. Heat if necessary, to dissolve the medium completely. Dispense in tubes or as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Ability of utilizing acetamide by a wide variety of organisms was shown by Gilardi and others (1, 2). They used a basal mineral medium for this purpose. However very few organisms are capable of deaminating acetamide by the acrylamidase activity (3, 4). The ability to deaminate acetamide is more pronounced in the case of *Pseudomonas aeruginosa* and *Alcaligenes faecalis* (5).

Acetamide Nutrient Broth contains various inorganic salts and acetamide as sources of carbon and nitrogen. Organisms growing in this medium metabolize acetamide, thereby liberating ammonia. This liberated ammonia can be detected by Nessler's reagent, which confirms *Pseudomonas aeruginosa*. Magnesium sulphate, ferrous sulphate and sodium molybdate are sources of ions that stimulate metabolism. Sodium chloride maintains osmotic equilibrium. Dipotassium hydrogen phosphate provides buffering to the medium.

Quality Control

Appearance

Part A : White to cream homogeneous free flowing powder Part B : White to cream deliquescent crystals

Colour and Clarity of prepared medium

Colourless clear solution in tubes with slight precipitate

Reaction

Reaction of the medium (mixture of 0.2% w/v Part B and 0.056% Part A) aqueous solution at 25°C. pH : 7.0±0.2

pH

6.80-7.20

Cultural Response

M1370: Cultural characteristics observed after an incubation at 35-37°C for 4-7 days.

Organism	Inoculum (CFU)	Growth	Deamination
Cultural Response <i>Pseudomonas aeruginosa</i> ATCC 27853	50-100	good-luxuriant	positive, yellow colour on addition of 1-2 drops Nessler's

<i>Strenophomonas maltophila</i> 50-100 ATCC 13637	good -luxuriant	reagent after incubation indicates presence of ammonia negative no colour change on addition of 1-2 drops Nessler's reagent after incubation indicates absence of ammonia
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Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2-8° C . Use before expiry date on the label.

Reference

1. Gilardi, 1974, Antonie Van Leewenhoek, J. Microbiol. Serol. 39:229.
2. Stainier Palleroni and Doudoroff, 1966, J. Ger. Microbiol., 43:159.
3. Pickett and Rederser, 1970, Car. J. Microbiol., 16:351.
4. Pickett and Rederser, 1970, Car. J. Microbiol., 16:401.
5. Oberhofer and Rower, 1974, Appl. Microbiol., 24:143.

Revision : 3 / 2015

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