NUTRIENT BASE MEDIA

PRODUCT:

Plate and Tube Media:

Nutrient Broth, item no. T7105
Nutrient Agar , item no. P3889 (plate), T7100 (tube)

PURPOSE:

Nutrient Agar and Broth are general-purpose growth media used for the cultivation of nonfastidious microorganisms and for the enumeration of microorganisms in water, sewage, dairy products, and various foods.

PRINCIPLE:

Nutrient Agar/Broth supply the basic ingredients, preformed food supplies, necessary for nonfastidious microorganisms to replicate and grow. Pancreatic enzymes digest gelatin, providing the preformed food supply of peptone and vitamins. Meat extract, a growth supplement, provides additional nitrogenous compounds, carbohydrates, minerals, and vitamins.

FORMULAS:

Approximate, per liter deionized filtered water.

(1) Nutrient Broth:

Pancreatic Digest of Gelatin ..... 5.0 g
Beef Extract 3.0
Final pH 6.9 ± 0.2 at 25°C

(2) Nutrient Agar:

Same as (1) above except it also contains 15.0 g of Agar.
Final pH 6.8 ± 0.2 at 25°C

PRECAUTIONS:*

For in vitro diagnostic use. Observe approved biohazard precautions.

Storage: Upon receipt store at 2-8°C away from direct light. Media should not be used if there are signs of contamination, deterioration (cracking, shrinking, evaporation, or discoloration), or if the expiration date has passed.

Limitations: Nutrient media will not support the growth of some microorganisms; the addition of enrichments may be necessary for microorganisms with greater nutritional requirements.

PROCEDURE:*

Specimen Collection: Information on specimen collection and transport is found in standard reference material on the subject. In general, specimens should be protected from extremes of heat and cold and should be delivered to the laboratory without delay.

Method of Use: Prior to inoculation, the medium should be brought to room temperature. For the plated medium, directly inoculate the specimen or inoculate a sampling from a transport medium onto the agar using standard microbiological procedures; streak the inoculum so as to obtain isolated colonies. Incubate aerobically at 35°C for 18-24 hours and examine for growth.

The agar medium in a tube is used primarily for the cultivation and maintenance of pure cultures. It should be inoculated with an inoculating loop and incubated under the same conditions as the plated medium.

The broth medium is inoculated with the test samples. Incubate aerobically for 18-48 hours at 35°C. After incubation, growth is evidenced by the appearance of turbidity. Aliquots of the broth can be used for subculturing to solid media for identification purposes. See references for collection, dilution, plating, and counting methods.

Interpretation: Generally, examine medium for the appearance of growth. Subculture to appropriate media and perform specific biochemical and/or serological tests to confirm an identification of the microorganisms isolated. For interpretive guidelines of environmental samples, refer to standard references on the subject.[4]

Material Required but Not Provided: Standard microbiological supplies and equipment such as loops, needles, and incubator are not provided.

QUALITY CONTROL:*

Microorganisms Used (ATCC #):	Expected Results:
Staphylococcus aureus (25923)	Growth
Escherichia coli (25922)	Growth

User Quality Control: Check for signs of contamination and deterioration.

BIBLIOGRAPHY:

1. Harris, A. H., et al., *Diagnostic Procedures and Reagents*, 4th ed., American Public Health Association, Washington, D. C., 1963.
2. Lennette, E. H., et al., *Manual of Clinical Microbiology*, 4th ed., American Society for Microbiology, Washington, D. C., 1985.
3. MacFaddin, J. F., *Biochemical Tests for Identification of Medical Bacteria*, 1st ed., Williams and Wilkins, Baltimore, 1976.
4. Taras, M. J., et al., *Standard Methods for Examination of Water and Wastewater*, 13th ed., American Public Health Association, Washington, D. C., 1971.

*For more detailed information, consult appropriate references and/or details in the preface of the PML Technical Manual.

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