PRODUCT SPECIFICATION SHEET

Nutrient Agar Plate-pack of 10 (RP013)

Intended Use

Nutrient Agar Plate -pack of 10 (RP013) is a medium for general cultivation of a wide variety of microorganisms.

Product Summary and Explanation

In early 1900's, the American Public Health Association (APHA) suggested the formula of Nutrient Agar as a standard culture medium used in water testing.[1] Nutrient media are basic culture media used for maintaining microorganisms, cultivating fastidious organisms by enriching with serum or blood and are also used for purity checking prior to biochemical or serological testing.[6,7] This relatively simple formula has been retained and is still widely used in the microbiological examination of variety of materials and is also recommended by standard methods. It is one of the several non-selective media useful in routine cultivation of microorganisms. [8,9] It can be used for the cultivation and enumeration of bacteria which are not particularly fastidious. Addition of different biological fluids such as horse or sheep blood, serum, egg yolk etc. makes it suitable for the cultivation of related fastidious organisms. If required, enrichments can be added to this medium. Nutrient Agar, modified by incorporating 4-methylumbelliferyl-β-D-glucuronide (MUG), is used for fluorogenic detection of Escherichia coli. [2] Nutrient Agar meets APHA and Association of Official Analytical Chemists (AOAC) standard methods. [2,3] Nutrient Agar is specified in many standard methods procedures for the examination of food, dairy products, water, and other materials. [2-5]

Principles of the Procedure

Nutrient Agar is prepared using specially selected raw materials to support good growth of a wide variety of microorganisms. Peptic digest of animal tissue, beef extract and yeast extract provide the necessary nitrogen compounds, carbon, vitamins and some trace ingredients necessary for the growth of bacteria. Sodium chloride maintains the osmotic equilibrium of the medium.

Formula / Liter

Ingredients	**g/ L**
Peptic digest of animal tissue	5.00
Beef extract	1.50
Yeast extract	1.50
Sodium chloride	5.00
Agar	15.00
Final pH: 7.4 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. Prepared plated media are For in vitro Diagnostic Use or For Laboratory Use as labelled.
2. Directions for use should be read and followed carefully.
3. If excessive moisture is observed, invert the bottom over an off-set lid and allow to air dry in order to prevent formation of a seal between the top and bottom of the plate during incubation.
4. Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures, since it must be assumed that all specimens/samples collected might contain infectious microorganisms.

Product Deterioration

Do not use plates if they show evidence of microbial contamination, discoloration, drying, cracking or other signs of deterioration.

Directions

Either streak, inoculate or surface spread the test inoculum (50-100 CFU) aseptically on the plate.

Quality Control Specifications

Appearance	Sterile Nutrient Agar in 90mm disposable plates
Colour	Light Amber coloured medium
pH	7.20- 7.60
Quantity of medium	25ml of medium in disposable plate

Sterility Check: Passes release criteria.

Expected Cultural Response: Cultural characteristics observed after incubation at 35-37°C for 18-24 hours.

Sr. No.	Organisms	Results to be achieved
		Growth
1.	*Escherichia coli* ATCC 25922	good-luxuriant
2.	*Staphylococcus aureus* ATCC 25923	good-luxuriant
3.	*Pseudomonas aeruginosa* ATCC27853	good-luxuriant
4.	*Streptococcus pyogenes* ATCC 19615	good-luxuriant

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

Test Procedure
Refer appropriate references for standard test procedures.

Results
Refer appropriate references and procedures for interpretation of results.

Storage
On receipt, store plates at 15-25°C. Media containing dyes should be protected from light.

Expiration
Refer to the expiration date stamped on the pack. Prepared plates stored in their original sleeve wrapping at 20-25°C until just prior to use may be inoculated up to the expiration date and incubated for recommended incubation times.

Product Disposal
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

Limitations of the Procedure
1. Some diagnostic tests may be performed with the primary plate. However, a pure culture is recommended for the majority of biochemical tests and other identification procedures.
2. Consult appropriate references for further information.

Packaging
Product Name: Nutrient Agar Plate
Product Code: RP013
Available Pack sizes: Pack of 10 plates

References

1. American Public Health Association. 1917. Standard methods of water analysis, 3rd ed. American Public Health Association, Washington, D.C.
2. Eaton, A. D., L. S. Clesceri, and A. E. Greenberg (eds.). 1995. Standard methods for the examination of water and wastewater, 19th ed. American Public Health Association, Washington, D.C.
3. Marshall, R. T. (ed.). 1993. Standard methods for the microbiological examination of dairy products, 16th ed. American Public Health Association, Washington, D.C.
4. Association of Official Analytical Chemists. 1995. Official methods of analysis of AOAC International, 16th ed. AOAC International, Arlington, VA.
5. Vanderzant, C., and D. F. Splittstoesser (eds.). 1992. Compendium of methods for the microbiological examination of foods, 3rd ed. American Public Health Association, Washington, D.C.
6. Lapage S., Shelton J. and Mitchell T., 1970, Methods in Microbiology', Norris J. and Ribbons D., (Eds.), Vol. 3A, Academic Press, London.
7. MacFaddin J. F., 2000, Biochemical Tests for Identification of Medical Bacteria, 3rd Ed., Lippincott, Williams and Wilkins, Baltimore.
8. Downes F. P. and Ito K., (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., American Public Health Association, Washington, D.C.
9. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.

Further Information

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