

NUTRIENT AGAR 1.5% (7286)

Intended Use

Nutrient Broth 1.5% is used for the cultivation of a wide variety of microorganisms.

Product Summary and Explanation

In the 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 Agar is specified in many standard method procedures.²⁻⁶ Nutrient Agar 1.5% is a modification of Nutrient Agar. Nutrient Agar 1.5% is a general purpose medium, with a slightly alkaline pH. This medium contains 0.8% sodium chloride and can be used as a base for enrichment with blood, ascitic fluid, or other supplements for cultivating fastidious microorganisms.

Principles of the Procedure

The nitrogen, carbon, vitamins, and amino acids are provided by Enzymatic Digest of Gelatin and Beef Extract. Sodium Chloride maintains the osmotic balance of the medium so red blood cells will not rupture when the medium is supplemented with blood.² Agar is the solidifying agent.

Formula / Liter

Beef Extract	3 g
Enzymatic Digest of Gelatin	5 g
Sodium Chloride	8 g
Agar	15 g

Final pH: 7.3 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precautions

1. For Laboratory Use.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 31 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and beige.

Prepared Appearance: Prepared medium is trace to slightly hazy and beige.

Expected Cultural Response: Cultural response on Nutrient Agar 1.5% incubated aerobically at 35 ± 2°C and examined for growth after 18 - 24 hours.

Microorganism	Approx. Inoculum (CFU)	Expected Results
<i>Bacillus subtilis</i> ATCC® 9372	10 - 300	Growth
<i>Escherichia coli</i> ATCC® 25922	10 - 300	Growth
<i>Salmonella typhimurium</i> ATCC® 14028	10 - 300	Growth
<i>Staphylococcus aureus</i> ATCC® 25923	10 - 300	Growth
<i>Streptococcus pneumoniae</i> ATCC® 6305	10 - 300	Growth
<i>Streptococcus pyogenes</i> ATCC® 19615	10 - 300	Growth

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

Test Procedure

For a complete discussion on the isolation and identification of aerobic and anaerobic microorganisms, refer to appropriate references.

Results

Refer to appropriate references and procedures for results.

Storage

Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

Expiration

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitation of the Procedure

Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

Packaging

Nutrient Agar 1.5%	Code No.	7286A	500 g
		7286B	2 kg
		7286C	10 kg

References

1. **American Public Health Association.** 1917. Standard methods of water analysis, 3rd ed. American Public Health Association, Washington, D.C.
2. **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.
3. **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.
4. **Marshall, R. T. (ed.).** 1993. Standard methods for the microbiological examination of dairy products, 16th ed. American Public Health Association, Washington, D.C.
5. **Association of Official Analytical Chemists.** 1995. Official methods of analysis of AOAC International, 16th ed. AOAC International, Arlington, VA.
6. **www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalyticalmanualBAM/default.htm.**

Technical Information

Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (517)372-9200 or fax us at (517)372-2006.