SCHAEDLER AGAR (7153)

Intended Use
Schaedler Agar is used for the cultivation of anaerobic microorganisms.

Product Summary and Explanation
Anaerobic bacteria cause a variety of human infections including endocarditis, meningitis, wound infections following bowel surgery or trauma, and bacteremia.[1,2] Survival of anaerobic bacteria is dependent on their sensitivity to oxygen, nutritional requirements, appropriate collection, culture medium, and incubation time and temperature.[3] Schaedler Agar is suitable for standard procedures used in cultivating anaerobic bacteria.[3-5]

Schaedler Agar is prepared according to the formulation described by Schaedler, Dubos, and Costello,[6] and modified by Mata, Carrillo, and Villatoro.[7] Modifications include reduced dextrose to avoid interference with hemolytic reactions, reduced yeast extract to avoid darkening of the medium, and adjusted sodium chloride and nitrogen concentrations.

Principles of the Procedure
Tryptic Soy Broth, Enzymatic Digest of Casein, Enzymatic Digest of Animal Tissue, and Yeast Extract provide vitamins, nitrogen, and amino acids in Schaedler Agar. Dextrose is a carbon source. Tris (hydroxymethyl) Aminomethane is used to buffer the medium. Hemin (X factor) stimulates organism growth. L-Cystine is a reducing agent. Agar is the solidifying agent.

Formula / Liter
Tryptic Soy Broth.....10 g
Enzymatic Digest of Casein.....2.5 g
Enzymatic Digest of Animal Tissue.....2.5 g
Yeast Extract.....5 g
Dextrose.....5 g
Tris (hydroxymethyl) Aminomethane.....3 g
Hemin.....0.01 g
L-Cystine.....0.4 g
Agar.....13.5 g
Final pH: 7.6 ± 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 41.9 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 light tan.

Prepared Appearance: Prepared medium is light to medium yellow-beige and clear to trace hazy.

Expected Cultural Response: Cultural response on Schaedler Agar at 35°C after 48 - 72 hours incubation.

Microorganism	Response
Bacteroides fragilis ATCC® 25285	growth
Clostridium perfringens ATCC® 13124	growth

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

Test Procedure
For a complete discussion of aerobic and anaerobic bacteria from clinical specimens, refer to appropriate procedures outlined in the references.[3-5] Refer to standard methods for the examination of bacteria in food.[8,9]

Results
Refer to appropriate references 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 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.

Limitations of the Procedure
1. Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.
2. When supplemented with 5% blood, beta-hemolytic streptococci may produce a hemolytic reaction similar to alpha hemolysis because of the high dextrose concentration in Schaedler Agar.

Packaging

Schaedler Agar	**Code No.**	**7153A**	**500 g**
		7153B	**2 kg**
		7153C	**10 kg**

References

1. **Balows, A., W. J. Hausler, Jr., K. L. Herrmann, H. D. Isenberg, and H. J. Shadmony (eds.).** 1991. Manual of clinical microbiology, 5th ed. American Society for Microbiology, Washington, D.C.
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4. **Murray, P. R., E. J. Baron, M. A. Pfaller, F. C. Tenover, and R. H. Yolken (eds.).** 1995. Manual of clinical microbiology, 6th ed. American Society for Microbiology, Washington, D.C.
5. **Baron, E. J., L. R. Peterson, and S. M. Finegold.** 1994. Bailey & Scott's diagnostic microbiology, 9th ed. Mosby-Year Book, Inc., St. Louis, MO.
6. **Schaedler, R. W., R. Dubos, and R. Costello.** 1965. The development of the bacterial flora in the gastrointestinal tract of mice. J. Exp. Med. **122:**59.
7. **Mata, L. J., C. Carrillo, and E. Villatoro.** 1969. Fecal microflora in healthy persons in the preindustrial region. Appl. Microbiol. **17:**596.
8. **Association of Official Analytical Chemists.** 1995. Bacteriological analytical manual, 8th ed. AOAC International, Gaithersburg, MD.
9. **Vanderzant, C., and D. F. Splittstoesser (eds.).** 1992. Compendium of methods for the microbiological examination of food, 3rd ed. American Public Health Association, Washington, D.C.

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.

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