

TRYPTIC SOY AGAR W/ LECITHIN & TWEEN 80 (7163)

Intended Use

Tryptic Soy Agar W/ Lecithin & Tween 80 is used for the isolation of microorganisms from surfaces sanitized with quaternary ammonium compounds.

Product Summary and Explanation

In 1955, Leavitt et al. discovered Tryptic Soy Agar supported excellent growth of aerobic and anaerobic microorganisms.¹ Tryptic Soy Agar is a nutritious base and a variety of supplements are added to enhance the medium, including Lecithin and Tween 80. The Lecithin and Tween 80 inactivate some preservatives that may inhibit bacterial growth, reducing “preservative carryover”.² Tryptic Soy Agar W/ Lecithin & Tween 80 is recommended for determining the sanitation efficiency of containers, equipment, and work area (environmental monitoring).

Principles of the Procedure

Enzymatic Digest of Casein and Enzymatic Digest of Soybean Meal provide nitrogen, vitamins, and carbon in Tryptic Soy Agar W/Lecithin & Tween 80. Sodium Chloride maintains osmotic balance in the medium. Lecithin and Tween 80 are added to neutralize surface disinfectants.^{2,3,4} Lecithin is added to neutralize quaternary ammonium compounds. Tween 80 is incorporated to neutralize phenols, hexachlorophene, formalin and, with lecithin, ethanol.⁵ Agar is the solidifying agent.

Formula / Liter

Enzymatic Digest of Casein	15 g
Enzymatic Digest of Soybean Meal	5 g
Sodium Chloride	5 g
Lecithin.....	0.7 g
Tween 80	5 g
Agar	20.5 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 51.2 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, lumpy, and beige.

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

Expected Cultural Response: Cultural response on Tryptic Soy Agar W/ Lecithin & Tween 80 incubated aerobically at 35 ± 2°C and examined for growth after 18 - 48 hours.

Microorganism	Approx. Inoculum (CFU)	Expected Results
<i>Bacillus subtilis</i> ATCC® 6633	10 - 300	Good growth
<i>Candida albicans</i> ATCC® 10231	10 - 300	Good growth
<i>Clostridium sporogenes</i> ATCC® 11437	10 - 300	Good growth
<i>Enterococcus faecalis</i> ATCC® 19433	10 - 300	Good growth
<i>Escherichia coli</i> ATCC® 25922	10 - 300	Good growth
<i>Salmonella typhimurium</i> ATCC® 14028	10 - 300	Good growth
<i>Staphylococcus aureus</i> ATCC® 25923	10 - 300	Good growth
<i>Staphylococcus epidermidis</i> ATCC® 12228	10 - 300	Good growth

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

Test Procedure

Refer to appropriate references for specific procedures using Tryptic Soy Agar W/ Lecithin & Tween 80 or environmental monitoring.

Results

Refer to appropriate references for test results.

Storage

Store sealed bottle containing the dehydrated medium at 2 - 8°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.

Limitations of the Procedure

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

Packaging

Tryptic Soy Agar W/ Lecithin & Tween 80	Code No.	7163A	500 g
		7163B	2 kg
		7163C	10 kg

References

1. Leavitt, J. M., I. J. Naidorf and P. Shugaevsky. 1955. The undetected anaerobe in endodontics: a sensitive medium for detection of both aerobes and anaerobes. The NY J. Dentist. **25**:377-382.
2. Orth, D. S. 1993. Handbook of cosmetic microbiology. Marcel Dekker, Inc., New York, NY.
3. Quisno, R., I. W. Gibby, and M. J. Foter. 1946. A neutralizing medium for evaluating the germicidal potency of the quaternary ammonium salts. Am. J. Pharm. **118**:320-323.
4. Erlandson, A. L., Jr., and C. A. Lawrence. 1953. Inactivating medium for hexachlorophene (G-11) types of compounds and some substituted phenolic disinfectants. Science **118**:274-276.
5. Brummer, B. 1976. Influence of possible disinfectant transfer on *Staphylococcus aureus* plate counts after contact sampling. App. Environ. Microbiol. **32**:80-84.
6. Favero (chm.). 1967. Microbiological sampling of surfaces – a state of the art report. Biological Contamination Control Committee, American Association of Contamination Control.

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.