m-TGE BROTH (7451)

Intended Use
m-TGE Broth is used for the determination of bacterial counts using membrane filtration.

Product Summary and Explanation
m-TGE is an abbreviation for membrane Tryptone Glucose Extract. In the 1930's, Bower and Hucker developed a medium for detecting bacteria in milk and other dairy products.[1] Prickett used a glucose agar containing tryptone to study thermophilic bacteria in milk.[2] This medium is known as Yeast Dextrose Agar. In 1948, the American Public Health Association (APHA) adopted Tryptone Glucose Extract Agar for use in testing milk and dairy products.[3] Currently, APHA specifies Tryptone Glucose Extract Agar for the heterotrophic plate count procedure in testing bottled water.[4]

m-TGE Broth is a nonselective nutrient medium for the determination of bacterial counts by the membrane filtration method. This broth has the same formulation as Tryptone Glucose Extract Agar, except the agar has been omitted, and ingredients are at twice the concentration.

Principles of the Procedure
Enzymatic Digest of Casein and Beef Extract provide the nitrogen, minerals, vitamins, and amino acids in m-TGE Broth. Dextrose supplies carbon as an energy source.

Formula / Liter
Enzymatic Digest of Casein ..... 10 g
Beef Extract ..... 6 g
Dextrose..... 2 g
Final pH: 7.0 ± 0.2 at 25°C
Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precaution
1. For Laboratory Use.

Directions
1. Dissolve 18 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 medium tan.

Prepared Appearance: Prepared medium is clear and amber.

Expected Cultural Response: Cultural response in m-TGE Broth at 35°C after 18 - 24 hours incubation.

Microorganism	Response
Bacillus subtilis ATCC® 9372	growth
Micrococcus luteus ATCC® 9341	growth
Saccharomyces cerevisiae ATCC® 9763	growth
Staphylococcus aureus ATCC® 25923	growth

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

Test Procedures

Membrane filtration procedure

1. Follow the membrane filtration procedure as described in standard methods or by laboratory policy.[3]
2. Incubate the inoculated medium in a humid atmosphere at 35 ± 2°C for 18 - 24 hours incubation.

Results[3]

Count total colonies and record results.

Storage

Store sealed bottle containing 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 intact container when stored as directed.

Limitation of the Procedure

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

Packaging

m-TGE Broth	**Code No.**	**7451A**	**500 g**
		7451B	**2 kg**
		7451C	**10 kg**

References

1. **Slanetz, Bent, and Bartley.** 1955. Public Health Rep. **70**:67.
2. **Slanetz, and Bartley.** 1957. J. Bacteriol. **74**:591.
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.

Technical Information

Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (410)780-5120 or fax us at (410)780-5470.