TRYPTONE GLUCOSE EXTRACT AGAR (7242)

Intended Use

Tryptone Glucose Extract Agar is used for the cultivation and enumeration of microorganisms in dairy and bottled water products.

Product Summary and Explanation

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]

Tryptone Glucose Extract Agar is also known as Yeast Dextrose Agar.

Principles of the Procedure

Enzymatic Digest of Casein and Beef Extract provides nitrogen, minerals, vitamins, and amino acids in Tryptone Glucose Extract Agar. Dextrose supplies carbon as an energy source. Agar is the solidifying agent.

Formula / Liter

Beef Extract.....3 g
Enzymatic Digest of Casein.....5 g
Dextrose.....1 g
Agar.....15 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. Suspend 24 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 trace to slightly hazy, light to medium amber.

Expected Cultural Response: Cultural response on TGE Agar at 35°C after 18 - 24 hours incubation (test strains) or after 47 - 49 hours at 32 ± 1°C for the raw milk sample.

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 Samle	Response
Unpasteurized (raw) milk	Excellent growth and recovery w/ at-value < 2.70

Test Procedures

Pour Plate Method

1. Follow the pour plate method as described in Standard Methods or by laboratory policy.[4]
2. Incubate the inoculated medium in a humid atmosphere at 32 ± 1°C for 47 - 49 hours incubation for dairy samples or at 35 ± 0.5°C for at least 72 hours for water samples.

Results

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 its 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

Tryptone Glucose Extract Agar	**Code No.**	**7242A**	**500 g**
		7242B	**2 kg**
		7242C	**10 kg**

References

1. **Bowers and Hucker.** 1935.Tech. Bull. 228. NY State Agar. Exp. Sta.
2. **Prickett.** 1928. Tech. Bull. 147. NY State Agar. Exp. Sta.
3. **American Public Health Association.** 1948. Standard methods for the examination of dairy products, 9th ed. American Public Health Association, Washington, D.C.
4. **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.

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)372-9200.

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