DEXTROSE TRYPTONE BROTH (7338)

Intended Use

Dextrose Tryptone Broth is used for cultivation of mesophilic or thermophilic spoilage microorganisms from food.

Product Summary and Explanation

In the 1930's, the National Canners Association specified use of Dextrose Tryptone Agar for isolating "flat sour" organisms from food products.[1] "Flat sour" spoilage of canned foods is caused by *Bacillus coagulans* (*Bacillus thermoacidurans*). Bacterial growth results in a 0.3 – 0.5 drop in pH, while ends of the can remain flat. *B. coagulans* is a soil microorganism, and found in canned tomato products and dairy products. Conditions favorable for multiplication of the bacterium can result in spoilage of the food product.[2]

Dextrose Tryptone Broth is similar to Dextrose Tryptone Agar, except the concentration of Tryptone and Dextrose has been doubled and Agar is removed. The American Public Health Association[2] and Baumgartner and Herson[3] recommended this formulation for the bacteriological examination of low and medium-acid canned foods (pH 4.5 and above).

Principles of the Procedure

Enzymatic Digest of Casein is the carbon, nitrogen, and vitamin sources used for general growth requirements in Dextrose Tryptone Broth. Dextrose is the carbohydrate source. Bromcresol Purple is the pH indicator.

Formula / Liter

Enzymatic Digest of Casein ..... 20 g
Dextrose..... 10 g
Bromcresol Purple ..... 0.04 g
Final pH: 6.7 ± 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 30 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

Quality Control Specifications

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

Prepared Appearance: Prepared medium is dark burgundy and brilliant to clear with none to light precipitate.

Expected Cultural Response: Cultural response in Dextrose Tryptone Broth incubated aerobically at 55 ±2°C and examined for growth after 18 – 24 hours and appropriate reaction at 18 – 48 hours.

Microorganism	Approx. Inoculum (CFU)	Expected Results	
		Response	Reaction
Bacillus stearothermophilus ATCC® 12980	10 - 300	Growth	Yellow

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

Test Procedure
Refer to appropriate references for specific procedures.

Results
Organisms that produce acid from dextrose, such as *Bacillus stearothermophilus* and other "flat-sour" organisms, are detected by the color change of the medium from dark burgundy to yellow.

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

Packaging

Dextrose Tryptone Broth	**Code No.**	**7338A**	**500 g**
		7338B	**2 kg**
		7338C	**10 kg**

References

1. **National Canners Association.** 1933. Bacterial standards for sugar.
2. **Vanderzant, C. and D. F. Splittstoesser (eds.).** Compendium of methods for the microbiological examination of foods, 3rd ed. American Public Health Association, Washington, D.C.
3. **Baumgartner, J. G. and A. C. Herson.** 1956. Canned foods. 4th ed. Churchill Ltd. London, England.

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.

NEOGEN CORPORATION
620 Lesher Place, Lansing MI 48912
517/372-9200 • 800/783-3212 • fax: 800/875-8563
neogen-info@neogen.com • www.neogen.com