

DEXTROSE TRYPTONE AGAR (7340)

Intended Use

Dextrose Tryptone Agar is used for isolation of mesophilic or thermophilic spoilage microorganisms from food.

Product Summary and Explanation

Dextrose Tryptone Agar evolved from research by Williams, while studying the cultivation and enumeration of thermophilic bacteria caused by “flat-sour” spoilage of canned foods.¹ In the 1930’s, the National Canners Association specified the use of Dextrose Tryptone Agar for isolating “flat sour” organisms from food products.² “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, found in canned tomato products and dairy products. Conditions favorable for organism growth can result in spoilage of food products.³

Dextrose Tryptone Agar can be used to isolate other food spoilage bacteria including mesophilic, aerobic spore-formers and thermophilic “flat sour” spore-formers such as *B. stearothermophilus*.³

Principles of the Procedure

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

Formula / Liter

Enzymatic Digest of Casein	10 g
Dextrose.....	5 g
Bromcresol Purple	0.04 g
Agar	15 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. Suspend 30 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 green-beige.

Prepared Appearance: Prepared medium is purple and trace to slightly hazy.

Expected Cultural Response: Cultural response on Dextrose Tryptone Agar incubated aerobically at 55 ± 2°C and examined for growth after 18 - 24 hours.

Microorganism	Approx. Inoculum (CFU)	Expected Results
<i>Bacillus coagulans</i> ATCC® 7050	10 -300	Growth

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

Test Procedure

Refer to appropriate references for specific procedures.

Results

Acid-producing organisms, such as “flat-sour” thermophiles, form yellow colonies.

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 Agar	Code No.	7340A	500 g
		7340B	2 kg
		7340C	10 kg

References

1. **Williams, O. B.** 1936. Food Res. 1:217-221.
2. **National Canners Association.** 1933. Bacterial standards for sugar.
3. **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.

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.