

Dextrose Tryptone Agar - Instructions for Use

Intended Use

BACGro™ Dextrose Tryptone Agar is used for the recovery and isolation of thermophilic and mesophilic microorganisms from food. Dextrose Tryptone Agar is not intended for use in diagnosis, treatment, or prevention of disease in humans.

Product Summary

Flat-sour spoilage of canned foods is typically caused by the organism *Bacillus coagulans* (*Bacillus thermoacidurans*)¹. *B. coagulans* is ubiquitous in soil and can be found in spoilage of tomato and dairy products. Its growth in canned food products results in a decrease in the pH of the food products resulting in food spoilage, but unlike spoilage with other organisms, the ends of the can(s) remain flat.

Dextrose Tryptone Agar can be used to isolate *Bacillus coagulans* and other mesophilic or thermophilic microbes responsible for food spoilage. Casein peptone provides carbon, nitrogen, and necessary vitamins. Dextrose is included as the carbohydrate source. Agar serves as the solidification agent. The inclusion of Bromocresol Purple serves as a pH indicator. Recovered flat-sour thermophiles result in a decreased pH and form yellow colonies.

Formulation (per Liter)*

Casein Peptone	10.0 g
Dextrose	5.0 g
Bromocresol Purple	0.04 g
Agar	15.0 g
Total	30.04 g/L

*Formula may be supplemented and/or adjusted as required to meet performance criteria

Directions

1. Suspend 30 g of Dextrose Tryptone Agar powder in 1L purified water.
2. Stir while heating. Bring to a soft boil to completely dissolve.
3. Autoclave at 121° Celsius for 15 minutes.
4. Cool prior to use.

Precautions

This product is for laboratory use only and should only be used by qualified, trained laboratory personnel. Personnel should always use proper aseptic technique and observe all biohazardous precautions. All microbiological cultures should be presumed to be infectious.

Avoid ingestion, inhalation, or contact with skin and mucous membranes. If contact occurs, flush the area with clean water.

Quality Control Specifications

Gold Standard Diagnostics tests each lot of manufactured BACGro™ culture media utilizing appropriate control organisms and specifications as documented on the Certificate of Analysis. End users should perform quality control testing in accordance with government regulatory requirements and accreditation guidelines. The following specifications are routinely used for testing:

Appearance (dehydrated): Light green-beige, homogenous, free flowing powder, free of debris.

Appearance (prepared): Clear, purple medium with minimal haze, no precipitates or debris.

pH (prepared): 6.5 – 6.9 at 25°C

Organism Performance:

Strain ID	Incubation	Result
<i>Bacillus coagulans</i> (ATCC® 7050)	Aerobic, 55° C for 40 – 48 hrs.	Growth – Yellow colonies
<i>Geobacillus stearothermophilus</i> (ATCC® 7953)	Aerobic, 55° C for 40 – 48 hrs.	Growth – Yellow colonies

Limitations of the Procedure

This product is not labeled for use as a medical device, and is not intended to diagnose, treat, or prevent disease.

Due to variation in nutritional requirements, some strains may be encountered that grow poorly in this medium.

Storage and Expiration

BACGro™ Dextrose Tryptone Agar should be stored at 2 — 30 degrees Celsius. Because of the hygroscopic nature of dehydrated culture media, it should be stored in a dry place and the lid should remain tightly sealed. Media should be discarded if it is not free flowing or shows discoloration.

The expiration date printed on the label is applicable to media stored as directed.

Catalog Numbers

DCM2301- Dextrose Tryptone Agar, 500g

DCM2305- Dextrose Tryptone Agar, 5kg

DCM2310- Dextrose Tryptone Agar, 10kg

¹ Ito, K. A. (1981). Thermophilic Organisms in Food Spoilage: Flat-Sour Aerobes. *Journal of Food Protection*,44(2), 157-163. doi:10.4315/0362-028x-44.2.157

Revision History:

Revision	Description	Effective Date
03	Updated incubation time from 18 – 24 hr. to 40 – 48 hr. to match industry standard.	13-MAR-2024
02	Periodic Review. Added 7953 to the organism QC. Removed DCM2305 & DCM2310 from the Catalog Numbers as they are not offered.	14-JUL-2020
01	Document creation	09-OCT-2019