

TECHNICAL DATA SHEET

Dextrose Tryptone Agar

Principle

Dextrose tryptone agar is use to enumerate and isolate Thermophilic Flat Sour Sporeformers organisms like *Bacillus coagulans* in canned food products. Media contains tryptone, dextrose and bromocresol purple dye. Tryptone provides essential amino acids such as peptides and peptones to the growing bacteria, carbohydrate source dextrose provides as an energy source and bromocresol purple is a pH indicator dye use to check carbohydrate fermentation. Thermophilic Flat Sour Sporeformers organisms ferment carbohydrate and produce yellow color colonies.

Use: For detection and enumeration of mesophilic and thermophilic aerobic organisms in food spoilage.

Contents*

Ingredients	Gram/Litre
Tryptone	10.000
Dextrose	5.000
Bromocresol Purple	0.040
Agar	15.000
pH at 25 °C	6.70 ±0.2

* Formula adjusted for optimum performance and parameters

Directions: Dissolve 30.04 grams in 1000 ml distilled water, boil to dissolve the medium completely and sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 min, cool it to 42-45°C. Mix well and pour into sterile petri plates. Ensure complete solidification and inoculate test sample aseptically.

Specimens types analyzed

Food samples etc.

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Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	Light greenish beige colored, free flowing, homogeneous powder
Reaction of 3.004% solution	6.70 $\pm$ 0.2 at 25°C
pH	6.50 – 6.90
Gelling	Firm comparable with 1.5% agar gel
Color and clarity of ready medium	Purple coloured, slightly opalescent gel forms in Petri plates
Growth Promotion properties	Best at $\leq$ 100 CFU at 55°C $\pm$ °C for 36-48 h
Indicative properties	Optimum at $\leq$ 100 CFU at 55°C $\pm$ °C for 24-36 h
Negative control	Performed using sterile distilled water

Different Microbial Response

Cultural characteristics observed after incubation at 55°C $\pm$ °C for 36-48 h. (Inoculum CFU: 50-100)

Organism	ATCC	Growth	Recovery	Color of colony	Dextrose fermentation
<i>Bacillus coagulans</i>	7050	Luxuriant	$\geq$ 60%	Yellow	Positive
<i>Bacillus stearothermophilus</i>	7953	Luxuriant	$\geq$ 60%	Yellow	Positive

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Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. Andrews W. (1995). Microbial methods. In Official methods of analysis of AOAC International, 16th Ed. AOAC International. Arlington, VA.
2. Atlas, R. M. (2005). *Handbook of media for environmental microbiology*. CRC press.
3. Downes, F. P. and K. Ito (eds). (2001). Compendium of methods for the microbiological examination of foods, 4th Ed. American Public Health Association, Washington, D.C.
4. Mossel, D. A. A., M. J. Koopman, and E. Jongerijs. (1967). Enumeration of *Bacillus cereus* in foods. *Appl. Microbiol.* 15:650-653.
5. www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalyticalmanualBAM/default.html

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