



Technical Data

Thermoacidurans Broth

M1911

Intended Use:

Recommended for detection of thermophilic/ mesophilic aerobic and anaerobic aciduric spore formers and sterility testing of acid food.

Composition**

Ingredients	Gms / Litre
Proteose peptone	5.000
Yeast extract	5.000
Dextrose (Glucose)	5.000
Dipotassium hydrogen phosphate	4.000
Final pH (at 25°C)	5.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 19 grams in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and dispense into tubes or flasks as desired.

Principle And Interpretation

B. coagulans is a soil microorganism that can also be found in canned tomato products and dairy products. Conditions favorable to multiplication of the organism can result in spoilage of the food product (5). *B. coagulans* is also referred to as *B. thermoacidurans* (2). *B. coagulans* is described as a facultative thermophile, that can grow at 20°C to 55°C and can also grow at pH levels between 5.0 to 7.0.

Proteose peptone and yeast extract provide nitrogenous, carbonaceous compounds, vitamin B complex and other essential growth nutrients. Dipotassium phosphate buffers the medium. Dextrose acts as an energy source.

Type of specimen

Food and dairy samples; Soil samples

Specimen Collection and Handling:

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (1,5,7). For soil samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (6). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Some strains may show poor growth due to nutritional variations
2. Further biochemical and serological test must be carried out for complete identification.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Yellow coloured clear to slightly opalescent solution

Reaction

Reaction of 1.9% w/v aqueous solution at 25°C. pH : 5.0±0.2

pH

4.80-5.20

Cultural Response

Cultural characteristics observed after an incubation at 55°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth
<i>Bacillus thermoacidurans</i> ATCC 8038	50-100	luxuriant

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use.

Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

Reference

1. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.
2. Becker M. E., Pederson C. S., 1950, J. Bacteriol., 459:717
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
5. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
6. Subba Rao N. S., 1977, Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., New Delhi.
7. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.

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