

## Dextrose Tryptone Broth, DTB (i23055)

Used for the bacteriological examination of canned foods, etc.

Industry: Food

### Principles & Uses

Dextrose Tryptone Broth (DTB) stands out as a liquid medium designed for the identification and cultivation of spoilage-causing organisms in foods, aligning with the microbiological examination standards for low and medium-acid canned foods. Tryptone plays a pivotal role by offering essential nitrogen, vitamins, minerals, and amino acids crucial for the growth of organisms. Acting as the fermentable carbohydrate, Dextrose provides the necessary carbon and energy. The pH indicator, Bromocresol purple, aids in monitoring the medium's acidity.

The cultivation process involves inoculating the broth with solid or liquid samples, followed by incubation at different temperatures. This approach facilitates the detection of spoilage-causing organisms, a critical step in food quality assessment. It is recommended to conduct aerobic cultivation in DTB concurrently with anaerobic cultivation in alternative media like Liver Broth or Cooked Meat Medium.

Dextrose Tryptone Broth finds particular relevance in canned foods, especially for addressing flat-sour spoilage caused by mesophilic or thermophilic aerobic spore-formers. *Bacillus stearothermophilus* is a common culprit, and the medium's composition, akin to Dextrose Tryptone Agar, makes it versatile for studying both thermophiles and mesophiles. The inclusion of Tryptone, Dextrose, and the pH indicator in the broth ensures its efficacy in identifying acid-producing organisms, crucial for assessing spoilage in various food products.

### Composition (gr/L)

Tryptone 10 g, Dextrose 5 g, Bromocresol Purple 0.04 g.  
Final pH at 25°C 6.9 ± 0.2

### Preparation from dehydrated Powder

Suspend 15 g of the powder in one liter of distilled water. Mix thoroughly and distribute into final containers. Autoclave at 121°C for 15 minutes.

### Quality Control

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

Prepared Appearance: Dark burgundy and brilliant to clear with none to light precipitate.

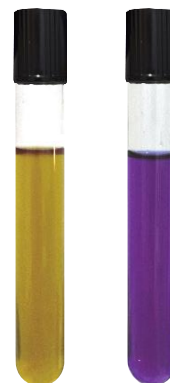
Reaction of 1.5% Solution at 25°C: pH 6.9 ± 0.2

### Cultural Response

Cultural response was observed after incubation at 55 ± 2°C for 36 - 48 hours.

Organism (ATCC*)	Recovery	Color change to yellow
<i>Bacillus stearothermophilus</i> (12980)	Growth	+

\*ATCC is a registered trade mark of the American Type Culture Collection.



*Bacillus stearothermophilus* (left). Prepared Culture Media (right).

### Storage

Keep the container at 15-30 °C. Store prepared medium at 2-8 °C.