# Tryptone Soya -Tryptose Broth

**M1876**

Tryptone Soya Tryptose Broth is used for identification of *Salmonella* species in accordance with FDA BAM, 1998.

## Composition**

| Ingredients | Gms / Litre |
|---|---|
| Tryptone | 8.500 |
| Papaic digest of soybean meal | 1.500 |
| Sodium chloride | 5.100 |
| Dextrose | 1.770 |
| Dipotassium hydrogen phosphate | 1.250 |
| Tryptose | 10.380 |
| Yeast extract | 3.000 |
| Final pH ( at 25°C) | 7.2±0.2 |

**Formula adjusted, standardized to suit performance parameters

## Directions

Suspend 31.50 grams in 1000 ml purified/ distilled water. Heat if necessary to dissolve the medium completely. Dispense 5ml portions into 16×150mm test tube. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

## Principle And Interpretation

*Salmonella* is a genus of rod-shaped, Gram-negative, non-spore-forming, predominantly motile enterobacteria with peritrichous flagella. Most of the species are pathogenic, and the infections are mainly due to the ingestion of contaminated food (1). Tryptone Soya Tryptose Broth is used for serological identification of *Salmonella* species with respect to 'polyvalent flagellar (H) test' in accordance with FDA BAM, 1998 (2).

Add 25g of the food sample(s) suspected to be contaminated with *Salmonella* into 225ml culture broth (1:9 ratio) and incubate at 35 ± 2.0º C for 24 ± 2.0 hours in accordance with the BAM protocol. The incubated sample is processed for isolation of the species by inoculation into selective media such as Selenite broth (M052), Fluid Tetrathionate Medium w/o Iodine and BG, Modified (M032F) or Rappaport Vassiliadis Medium, Modified (M880F) and incubation for 24hrs at appropriate temperatures. Thoroughly mix and streak a 3 mm loopful of the incubated broth on Bismuth Sulphite Agar (M027), XLD agar (M031F), and Hektoen Enteric Agar, w/ 1.2% agar (M467F). Organism is identified by its colony characteristics in respective media. The organism can be confirmed through biochemical and serological tests. Serological tests include identification of polyvalent flagellar (H) antigen. Tryptone soya tryptose broth (M1876) is used for the initial inoculum preparation for this test (2,3).

Tryptone, Tryptose, Papaic digest of soyabean meal and Yeast extract provide necessary nitrogen compounds and vitamin source and Dextrose provide necessary carbon source to the medium. Sodium chloride maintains the osmotic equilibrium of the medium. Dipotassium hydrogen phosphate acts as the buffering agent.

## Quality Control

**Appearance**
Cream to yellow homogeneous free flowing powder

**Colour and Clarity of prepared medium**
Light yellow coloured clear solution without any precipitate.

**Reaction**
pH of 3.15% w/v aqueous solution at 25°C . pH : 7.2±0.2

**pH**
7.00-7.40

**Cultural Response**
Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

**Cultural Response**

| Organism | Inoculum (CFU) | Growth |
|---|---|---|
| **Cultural response** | | |
| *Staphylococcus aureus ATCC 25923* | | luxuriant |
| *Escherichia coli ATCC 8739* | 50 -100 | luxuriant |
| *Escherichia coli ATCC 25922* | 50 -100 | luxuriant |
| *Pseudomonas aeruginosa ATCC 27853* | 50 -100 | luxuriant |
| *Salmonella Typhi ATCC 6539* | 50 -100 | luxuriant |
| *Salmonella Enteritidis ATCC 13076* | 50 -100 | luxuriant |
| *Salmonella Typhimurium ATCC 14028* | 50 -100 | luxuriant |
| *Salmonella Abony NCTC 6017* | 50 -100 | luxuriant |

## Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

## Reference

1.MacFaddin, J. F. 1985. Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria vol. 1. Baltimore: Williams and Wilkins.
2.FDA, U.S. 1998. Bacteriological Analytical Manual. 8 ed. Gaithersburg, MD: AOAC International.
3.Forbes, B. A., Sahm, D. F . and Weissfield, A. S. 2002. Bailey and Scott's Diagnostic Microbiology. 11 ed. St Louis: The C.V. Mosby Co.

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