



# Technical Data

## Tryptone Sucrose Tetrazolium Agar Base (TSTA)

M1217

### Intended Use:

This medium with addition of Triphenyl Tetrazolium Chloride is recommended for isolation of *Vibrio* species.

### Composition\*\*

Ingredients	g / L
Tryptone	15.000
Soya peptone	5.000
Sodium chloride	30.000
Saccharose	20.000
Bile salts	0.500
Agar	15.000
Final pH ( at 25°C)	7.1±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 85.5 grams in 1000 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add 3 ml of 1% 2,3,5 Triphenyl Tetrazolium Chloride (TTC) (FD057). Mix well before pouring into sterile Petri plates.

### Principle And Interpretation

The *Vibrionaceae* are straight or curved, gram-negative rods, motile by polar flagella. Many strains require 2-3% sodium chloride for growth and are primarily inhabitants of aquatic environments. Of the 3 *Vibrio* species recognized, 12 have been implicated in gastrointestinal and extra-intestinal infections in man; the most important of these is cholera. The species most frequently isolated from clinical specimens are strains of *Vibrio cholerae*, *Vibrio parahaemolyticus*, *Vibrio vulnificus*, *Vibrio mimicus* and *Vibrio alginolyticus* (1). Tryptone Sucrose Tetrazolium Agar is formulated in accordance with Kourany medium (2) and is approved by ISO Committee (3) for the isolation of *Vibrio* species, especially *V. parahaemolyticus*. Tryptone and soya peptone provide nitrogenous compounds and other essential growth nutrients. Saccharose (sucrose) is the energy source. High salt concentration imparts selectivity. Bile salts inhibit gram-positive organisms. TTC is reduced by *V. parahaemolyticus* to red formazan dyes, visualized as red colonies.

### Type of specimen

Clinical samples - faeces samples; food samples

### Specimen Collection and Handling:

Inoculate 25 grams of the test sample into 225ml of Salt Polymyxin Broth Base (M821I). Incubate at 35-37°C for 7 to 8 hours. After incubation, inoculate a loopful onto TCBS Agar (M189) & Tryptone Sucrose Tetrazolium Agar Base (M1217). Presumptive *V. parahaemolyticus* colonies are further confirmed by appropriate biochemical tests. After use, contaminated materials must be sterilized by autoclaving before discarding.

### Warning and Precautions :

In Vitro diagnostic Use. For professional use only. 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 clinical specimens. Safety guidelines may be referred in individual safety data sheets.

### Limitations :

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Presumptive *V. parahaemolyticus* colonies are further confirmed by appropriate biochemical tests.

### 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

### Gelling

Firm, comparable with 1.5% Agar gel

### Colour and Clarity of prepared medium

Light yellow coloured clear to slightly opalescent gel forms in petriplates.

### Reaction

Reaction of 8.55% w/v aqueous solution at 25°C. pH : 7.1±0.2

### pH

6.90-7.30

### Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
<i>Vibrio parahaemolyticus</i> ATCC 17802 (00037*)	50-100	good-luxuriant	≥50%
<i>Vibrio cholerae</i> ATCC 15748	50-100	good-luxuriant	≥50%

Key : \*Corresponding WDCM numbers.

## Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°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 (4,5).

## Reference

- Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone
- Kourany M., 1983, Appl. Environ. Microbiol., 45: 310.
- International Organization for Standardization (ISO) 1990, Draft, ISO/DIS 8914.
- Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
- 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.

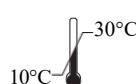
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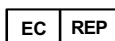
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