



## ITC Broth Base (TTC Broth Base)

M1220

ITC or TTC Broth Base (Irgasan/ Triclosan Ticarcillin Chlorate Broth Base) is recommended for selective enrichment and enumeration of *Yersinia enterocolitica*.

### Composition\*\*

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Yeast extract	1.000
Magnesium chloride. hexahydrate	60.000
Sodium chloride	5.000
Malachite green	0.010
Irgasan (Triclosan)	0.001
Final pH ( at 25°C)	6.9±0.2

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

### Directions

Suspend 44.11 grams (the equivalent weight of dehydrated medium per litre) in 988 ml 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. Aseptically add rehydrated contents of 1 vial of Ticarcillin Supplement (FD102) and Potassium Chlorate Supplement (FD103). Mix well before dispensing in sterile tubes.

### Principle And Interpretation

The genus *Yersinia* belongs to the family *Enterobacteriaceae*. They are usually nitrate reductase positive and show fermentative metabolism. The genus comprises of 11 species, of which *Yersinia enterocolitica* is most important as a causative agent of human foodborne illness. Variety of enrichment methods has been described for recovery of *Y. enterocolitica* from foods. The most efficient procedures for recovering enteropathogenic bacteria from foods have incorporated at least one and often two enrichment steps before plating onto selective differential agar media. ITC Broth is formulated in accordance with APHA (1) and is recommended by ISO Committee (2) as a selective enrichment medium for *Y. enterocolitica* from foods. ITC Broth was developed by Wauters et al (3) as a new enrichment broth, derived from modified Rappaport Broth and based on the selective agents irgasan, ticarcillin and potassium chlorate.

Casein enzymic hydrolysate and yeast extract provide essential growth nutrients. Ticarcillin has inhibitory action on both gram-positive and gram-negative organisms. Irgasan inhibits gram-positive organisms. Potassium chlorate has disinfecting properties.

For enrichment prepare 1: 10 homogenate of food sample by weighing 25 grams of food and adding it to 225 ml of primary enrichment medium. Prepare homogenate and carefully transfer the homogenate into sterile jar for incubation. After incubation, streak onto agar plates such as MacConkey Agar (M081). After incubation, observe for the colonies of *Yersinia*, which are pinkish coloured, smooth and have an entire edge. Colonies of *Yersinia* are larger on agar media when incubated at 25°C as *Y. enterocolitica* is more active biochemically at 25°C than at 35-37°C.

### Quality Control

#### Appearance

Light yellow to light blue homogeneous free flowing powder

#### Colour and Clarity of prepared medium

Peacock green coloured, clear solution without any precipitate

#### Reaction

Reaction of 4.41% w/v aqueous solution at 25°C. pH : 6.9±0.2

#### pH

6.70-7.10

### Cultural Response

M1220: Cultural characteristics observed with added Ticarcillin Supplement(FD102) and Potassium Chlorate Supplement (FD103) after an incubation at 25-30°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth
<b>Cultural Response</b>		
<i>Escherichia coli</i> ATCC 25922	$\geq 10^3$	inhibited
<i>Staphylococcus aureus</i> ATCC 25923	$\geq 10^3$	inhibited
<i>Yersinia enterocolitica</i> ATCC 27729	50-100	good-luxuriant

### Storage and Shelf Life

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

### Reference

1. Vanderzant C. and Splittstoesser D. F., (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd Ed., APHA, Washington, D.C.
2. International Organization for Standardization (ISO), 1994, Draft ISO/DIS 10273.
3. Wauters G., Goossens V., Janssens M. and Vandepitte J., 1988, In. J. Syst. Bacteriol., 38, 424-429.

Revision : 02 / 2015

### Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.