TM 1357 - ITC BROTH BASE (TTC BROTH BASE) (IRGASAN TICARCILLIN AND POTASSIUM CHLORATE BROTH BASE)

INTENDED USE

For selective enrichment and enumeration of *Yersinia enterocolitica.*

PRODUCT SUMMARY AND EXPLANATION

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 and is recommended by ISO Committee as a selective enrichment medium for *Y. enterocolitica* from foods. ITC Broth was developed by Wauters et al as a new enrichment broth, derived from modified Rappaport Broth and based on the selective agents irgasan, ticarcillin and potassium chlorate.
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. 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.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone	10.000
Yeast extract	1.000
Magnesium chloride hexahydrate	60.000
Sodium chloride	5.000
Malachite green	0.010
Triclosan (Irgasan)	0.001

PRINCIPLE

Tryptone and yeast extract provide nitrogeneous and carbonaceous compounds, long chain amino acids and other 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.

INSTRUCTION FOR USE

- Dissolve 76.0 grams in 1000 ml purified / distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure(121°C) for 15 minutes.
- Cool to 45-50°C and Aseptically add rehydrated contents of 1 vial of Ticarcillin Supplement and Potassium Chlorate Supplement.
- Mix well before dispensing in sterile tubes or flasks as desired.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to light blue homogeneous free flowing powder.
Appearance of prepared medium : Peacock green coloured, clear solution with slight precipitate.
pH (at 25°C) : 6.9±0.2

INTERPRETATION

Cultural characteristics observed with added Ticarcillin Supplement and Potassium Chlorate Supplement after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
Escherichia coli	*25922*	>=10^3	Inhibited	10-25°C	24-48 Hours
Staphylococcus aureus subsp. aureus	*25923*	>=10^3	Inhibited	10-25°C	24-48 Hours
Yersinia enterocolitica	*27729*	50-100	Good-luxuriant	10-25°C	24-48 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

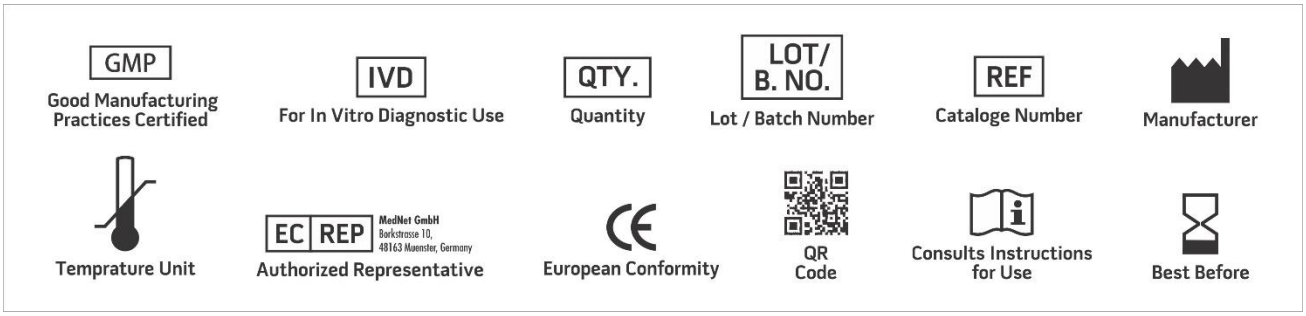
DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.
2. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
3. International Organization for Standardization (ISO), 1994, Draft ISO/DIS 10273.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
5. 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.
6. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
7. Vanderzant C. and Splittstoesser D. F., (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd Ed., APHA, Washington, D.C.
8. Wauters G., Goossens V., Janssens M. and Vandepitte J., 1988, In. J. Syst. Bacteriol., 38, 424-429.
9. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington,

D.C.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

Revision: 19 May., 2023