PSTA Enrichment Broth Base

M940

PSTA Enrichment Broth Base is recommended for secondary enrichment of *Yersinia enterocolitica* from foods.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	1.000
Sucrose	1.000
Tris hydroxymethyl aminomethane	3.000
Brilliant green	0.0125
Sodium azide	0.192
Final pH (at 25°C)	8.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 5.2 grams in 1000 ml distilled water. Heat if necessary 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 Ampicillin to a final concentration 0.005 gm per litre. Mix well and dispense as desired.

Principle And Interpretation

Yersinia enterocolitica are ubiquitous, being isolated frequently from soil, water, animals, and a variety of foods. They comprise a biochemically heterogeneous group that can grow at refrigeration temperatures. *Y. enterocolitica* has been detected in environmental and food sources, such as ponds, lakes, meats, ice cream, and milk. *Yersinia* species have the ability to grow at 4°C (1). Also they exhibit tolerance to dilute alkali (2, 3). PSTA Enrichment Broth Base formulated in accordance with APHA (4), is recommended for secondary or selective enrichment of *Y. enterocolitica* .

Secondary enrichment following primary enrichment is advantageous as it imparts higher selectivity, thereby increasing the chance of recovery or isolation of target organism.

Peptic digest of animal tissue in the medium provides nitrogen, vitamins and minerals necessary to support bacterial growth. Sucrose is the carbohydrate source. Brilliant green and sodium azide inhibits the growth of gram-negative organisms. About 25 grams of food sample is added to 225 ml of PSB Broth Base (M941) and incubated at 4°C for 14-28 days. 1 ml of this primary enrichment is inoculated in 100 ml of PSTA Enrichment Broth Base (M940) and incubated at 28°C for 48 hours. The secondary enrichment is then streaked on selective media such as SS Agar (M108), Yersinia Selective Agar Base (M843).

Quality Control

Appearance

Light yellow to greenish yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Green coloured clear to slightly opalescent solution

Reaction

Reaction of 0.52% w/v aqueous solution at 25°C. pH : 8.3±0.2

pH

8.10-8.50

Cultural Response

M940: Cultural characteristics observed after an incubation at 28°C for 48 hours .

Organism	Inoculum (CFU)	Growth
Yersinia enterocolitica ATCC 27729	50-100	good-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. Pai C. H. and Mors V., 1978, Infect. Immun., 19: 908-911
2. Aulisioc C. C. G., Mehlman I. J. and Sander A. C., 1980, Appl. Environ. Microbiol. 39: 135-140
3. Doyle M. P. and Hugdahl M. B., 1983, Appl. Environ. Microbiol., 45:127-135
4. Speck M. L., (Eds.), 1984, Compendium of Methods for the Microbiological Examination of Foods, 2nd Ed., APHA, Washington, D.C.

Revision : 2 / 2015