Pre-Enrichment Broth Base

M1178

Pre-Enrichment Broth Base is used for isolation and enrichment of *Yersinia enterocolitica* from foods.

Composition**

Ingredients	Gms / Litre
Peptone, special	10.000
Yeast extract	20.000
Disodium phosphate	7.100
Sodium chloride	1.000
Potassium chloride	1.000
Final pH (at 25°C)	8.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 39.1 grams in 980 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°C and aseptically add 10 ml each of filter sterilized magnesium sulphate and calcium chloride (0.1%) solution. Mix well and dispense into sterile tubes.

Principle And Interpretation

Yersinia enterocolitica , a small rod-shaped, gram-negative bacterium, is often isolated from clinical specimens such as wounds, faeces, sputum and mesenteric lymph nodes. It is a foodborne pathogen responsible for gastroenteritis. It is primarily a zoonotic and does not form normal human flora.

Y. enterocolitica have been isolated from meats (pork, beef, lamb, etc.), oysters, fish, and raw milk. Pre-Enrichment Broth is formulated as recommended by APHA (1) for the isolation and enrichment of *Y. enterocolitica* from foods (2).

Yeast extract and special peptone supply essential nutrients like vitamin B complex, nitrogen compounds and trace ingredients. Sodium chloride and disodium phosphate protects the medium against any osmotic and pH imbalance respectively. Magnesium sulphate, calcium chloride and potassium chloride provide the ions necessary for the growth of the organisms.

Prepare 1:10 homogenate of food sample by weighing 25 gram of food in 225 ml of Pre-Enrichment Broth. The homogenate is obtained by blending or using a stomacher. Incubate at 10°C for 3 days. Inoculate this pre-enrichment culture in selective enrichment broth and incubate at 25°C. Streak on a selective agar as MacConkey Agar (M081) or SS Agar (M108) after 3 and 5 days.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium
Yellow coloured clear solution with slight precipitate

Reaction
Reaction of 3.91% w/v aqueous solution at 25°C. pH : 8.3±0.2

pH
8.10-8.50

Cultural Response
M1178: Cultural characteristics observed with added 10ml each of filter sterilized magnesium sulphate and calcium chloride (0.1%) solution after an incubation at 10°C for 3 days

Organism	Growth
Cultural Response	

Yersinia enterocolitica luxuriant
ATCC 27729

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. Vanderzant C. and Splittstoesser D. F., (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd Ed., APHA, Washington, D.C.
2. Schiemann D. A., 1979, Can. J. Microbiol., 25: 1298.

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