



Tween Esterase Test Agar Base

M1912

For confirmation of *Yersinia enterocolitica*. The composition and performance criteria of this medium are as per the specifications laid down in ISO 10273:2003.

Composition**

Ingredients	Gms / Litre
Peptone	10.000
Sodium chloride	5.000
Calcium chloride	0.100
Agar	15.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 30.01 grams in 1000 ml distilled water containing 10ml of Tween 80. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 30 minutes. Mix well and distribute in tubes and allow the tubes to set in sloped form with a long slants and a minimal butt.

Principle And Interpretation

Yersinia is a genus of the family *Enterobacteriaceae* and are defined as rod-shaped to coccobacilli, Gram-negative bacteria(1). Tween Esterase Test Agar Base is recommended for differentiation of *Yersinia spp* by the ISO Committee for identification of *Yersinia species* (2). The method is applicable to products intended for human consumption or for the feeding animals, and to environmental samples in the area of food production and food handling. Yersiniosis caused by *Y. enterocolitica* and *Y. pseudotuberculosis* are characterized by acute diarrhea and fever. Transmission occurs via the oral-fecal route by contaminated water and foods, or by infected individuals or animals. Hospital transmission as well as through blood transfusion has also been reported. *Y. enterocolitica* is a psychrotrophic bacteria and multiplies in cold-stored foods(3).

Peptone provide nitrogenous and carbonaceous compounds, vitamin B complex, trace elements and other essential growth nutrients. Sodium chloride maintains the osmotic equilibrium

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Yellow coloured opalescent gel forms in tubes as slants

Reaction

Reaction of 3.0% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH

7.20-7.60

Cultural Response

Cultural characteristics observed after an incubation at 26-27°C for 5 days.

Cultural Response

Organism	Inoculum (CFU)	Growth	Tween esterase test
Cultural Response <i>Yersinia enterocolitica</i> ATCC 27729	50-100	good-luxuriant	Variable

Yersinia intermedia ATCC 50-100 good-luxuriant Opaque zone of precipitate

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. 2nd Edition Bergy's Manual of Systematic Bacteriology (Bottone et al., 2005)
2. International Organization for Standardization (ISO), 2003 Draft ISO/DIS 10273.
3. FDA/CFSAN (ed.) (2009) Foodborne Pathogenic Microorganisms and Natural Toxins Handbook "Bad Bug Book". College Park, Food and Drug Administration, Center for Food Safety & Applied Nutrition.

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