# 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** | | | |
| *Yersinia enterocolitica* 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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