

73067 Tween Esterase Test Agar Base

For confirmation of *Yersinia enterocolitica*. The composition and performance criteria of this medium are as per the specifications laid down in ISO 10273:2017.

Composition:

Ingredients	Grams/Litre
Peptone	10.0
Sodium chloride	5.0
Calcium chloride	0.1
Agar	15.0

Final pH 7.4 +/- 0.2 at 25°C

Store granulated media between 10-30°C in tightly closed container and the prepared medium at 20-30°C. Avoid freezing and overheating. Once opened keep powdered medium closed to avoid hydration. Use before expiry date on the label.

Appearance(color): Faint yellow and Faint beige and Faint brown, free flowing powder

Gel strength: Firm, comparable with 1.5% agar gel

Color and Clarity: Yellow coloured opalescent gel forms in tubes as slants.

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.

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

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

Organisms (ATCC)	Inoculum (CFU)	Growth	Tween esterase test
<i>Yersinia enterocolitica</i> (27729/-)	50-100	++	Variable
<i>Yersinia intermedia</i> (25993/-)	50-100	++	Opaque zone of Precipitate



References:

1. 2nd Edition Bergy's Manual of Systematic Bacteriology(Bottone et al.,2005)
2. 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.
3. International Organization for Standardization (ISO), 2003 Draft ISO/DIS 10273.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
5. Jorgensen, J.H., Pfaffer, 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. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

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