Technical Data

Tryptone Soya Yeast Extract Agar, Modified M1214F

Tryptone Soya Yeast Extract Agar, Modified is recommended for confirmation of *Listeria* and *Yersinia* in accordance with FDA BAM, 1998.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	15.000
Papaic digest of soyabean meal	5.000
Yeast extract	6.000
Sodium chloride	5.000
Agar	15.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 46 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Tryptone Soya Yeast Extract Agar,Modified is recommended for the isolation and cultivation of *L. monocytogenes* and *Yersinia* from foods in accordance with FDA BAM, 1998(1). Food samples with suspected Listerial or Yersinial contamination are processed for the bacterial isolation using respective selective agars. Purification of isolated colonies on this medium is a mandatory step in the conventional analysis because isolated colonies on selective agar media may still be in contact with an invisible weak background of partially inhibited competitors. ISO Committee has also recommended this medium for confirmation of *Listeria* species. (2).

This medium is nutritious containing Casein enzymic hydrolysate and papaic digest of soyabean meal which provide amino acids and other complex nitrogenous substances. Yeast extract is the rich source of vitamin B complex. Sodium chloride maintains osmotic balance of cells. Agar acts as solidifying agent.

According to FDAs enrichment procedure for isolation of *L. monocytogenes* from dairy products, the sample to be tested is inoculated in enrichment broth and incubated at 30°C for 24-48 hours(1). This culture is streaked on selective agar containing esculin and ferric citrate, such as Lithium-Phenylethanol-Moxalactam (LPM) Agar (M1228) or Oxford Listeria agar (M1145F/ M1145),PALCAM Agar (M1064) and incubated at 35°C for 48 hours. Presumptive Listeria colonies develop as black halo on esculin containing media. Transfer 5 or more typical colonies to Tryptone Soya Yeast Extract Agar , Modified (M 1214F) streaking for purity and typical isolated colonies.Incubate at 30° for 24-48 hours. The plates may be incubated at 35°C if colonies will not be used for wet mount motility studies.

Examine colonies with Henrys optical system which uses obliquely transmitted beamed white light powerful enough to illuminate the plate at a 45° angle. Colonies appear blue-gray to blue. The plate may be observed with the naked eye but use of a low power microscope or a dissecting microscope. is preferred. Other colonies tend to be yellowish or orange.

In case of Yersinia species, for biochemical characterization of Yersinia , growth of Lysine Arginine Iron Agar slant(M1230) is streak cultured on one plate of Tryptone Soya Yeast Extract Agar , Modified (M 1214F) and incubated at room temperature for 24-48 hours. This is further used for confirmation by biochemical tests.

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 clear to slightly opalescent gel forms in Petri plates.

Reaction
Reaction of 4.6% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH
7.10-7.50

Cultural Response
Cultural characteristics observed after an incubation at 30°C for 24-48 hours.

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response			
Listeria monocytogenes ATCC 19111	50-100	good-luxuriant	>=70%
Listeria monocytogenes ATCC 19118	50-100	good-luxuriant	>=70%
Yersinia enterocolitica ATCC 27729	50-100	good-luxuriant	>=70%

Storage and Shelf Life
Store below 30°C in tightly closed container and prepared medium at 2-8°C.Use before expiry date on the label.

Reference
1. FDA US. Bacteriological Analytical Manual. 8 ed. Gaithersburg, Md. : AOAC International; 1998.
2. International Organization for Standardization(ISO),1993,Draft ISO/DIS 10560.

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