Tryptone Soya Yeast Extract Agar

M1214

Tryptone Soya Yeast Extract Agar is recommended for confirmation of *Listeria* in Henry's light.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	17.000
Papaic digest of soyabean meal	3.000
Sodium chloride	5.000
Dipotassium hydrogen phosphate	2.500
Dextrose	2.500
Yeast extract	6.000
Agar	15.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 51 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 is formulated as per APHA (1) for the isolation and cultivation of *L. monocytogenes* from foods. ISO Committee (2) has recommended this medium for confirmation of *Listeria* species and can also be used for the cultivation and maintenance of a wide variety of heterotrophic microorganisms (3).

Casein enzymic hydrolysate and papaic digest of soyabean meal provide amino acids and other complex nitrogenous substances. Dextrose is the energy source. Dipotassium hydrogen phosphate buffers the medium. Yeast extract is the rich source of vitamin B complex.

According to FDAs enrichment procedure (4) 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. This culture is streaked on Modified McBride Listeria Agar (M891) with cycloheximide or Lithium-Phenylethanol-Moxalactam (LPM) Agar (M1228) and incubated at 35°C for 48 hours. Presumptive *Listeria* colonies are selected under 45° transillumination and colonies are further purified on Tryptone Soya Yeast Extract Agar under the light illumination. *Listeria* colonies are dense white to iridescent white appearing as crushed glass. Other colonies tend to be yellowish or orange.

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 5.1% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH
7.10-7.50

Cultural Response
M1214: Cultural characteristics observed after an incubation at 30-37°C for 24-48 hours.

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%

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. International Organization for Standardization (ISO), 1993, Draft, ISO/DIS 10560.
3. Atlas R. M. 2004, 3rd Ed., Handbook of Microbiological Media, Parks, L.C. (Ed.), CRC Press, Boca Raton.
4. FDA, Bacteriological Analytical Manual, 2005, 18th Ed., AOAC, Washington, DC.

Revision : 02 / 2015

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