Selective Lysine Agar

M986

Selective Lysine Agar is used for selective isolation and identification of *Salmonella* in accordance with AOAC.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	5.000
Yeast extract	3.000
L-Lysine hydrochloride	10.000
Bile salts mixture	1.500
Dextrose	3.500
Crystal violet	0.001
Bromo cresol purple	0.030
Sulfapyridine	0.300
Agar	15.000
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 38.33 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. DO NOT OVERHEAT. Mix well befor pouring in sterile Petri plates.

Principle And Interpretation

Selective Lysine Agar is recommended by AOAC (1), APHA (2) and FDA (3) for the isolation and identification of Salmonellae in foods. As per AOAC (The hydrophobic grid membrane filter method), membrane filters are used containing hydrophobic lines, printed in a grid pattern, that serve as barrier to the spread of colonies from one area of the filter to another.

Peptic digest of animal tissue, yeast extract provide nitrogenous compounds, sulphur, vitamin B complex and other essential growth nutrients. Dextrose serves as an energy source. Bromo cresol purple is the pH indicator that changes from purple to yellow at acidic pH. Organisms such as *Salmonella* , which are able to decarboxylate lysine reverse this acid reaction and form bluegreen, blue or purple colonies. Bile salts mixture and Sulphapyridine inhibit gram-positive organisms. Food sample is processed and suspended in a general enrichment broth and incubated for 18 to 24 hours at 35-37°C and then subjected to selective enrichment procedures in broth media. Following a 6-8 hours incubation period at 35-37°C, aliquots of the broth are filtered through a selective hydrophobic grid membrane filter. The filter is then placed on the surface of a plate of Selective Lysine Agar, which has been pre-dried to eliminate excess surface moisture. The trapping of air bubbles between the filter and agar surfaces must be avoided. A second filter is similarly placed onto a plate of Hektoen Enteric Agar (M467). The plates of Selective Lysine Agar are incubated for 24 ± 2 hours at 43°±0.5°C.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium
Dark purple coloured clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 3.83% w/v aqueous solution at 25°C. pH : 6.8±0.2

pH
6.60-7.00

Cultural Response

M986: Cultural characteristics observed after an incubation at 35 - 37°C f or 18 - 24 hours .

Organism	Inoculum (CFU)	Growth	Colour of colony
Salmonella Typhimurium ATCC 14028	50-100	luxuriant	blue-green
Shigella dysenteriae ATCC 9361	50-100	none - poor	yellow-green (if any)
Staphylococcus aureus ATCC 25923	>=10^3	inhibited	-

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.Williams. (Ed.), 2005, Official Methods of Analysis of the Association of Official Analytical Chemists, 19th ed., AOAC, Washington, D.C
2.Downes F P and Ito K(Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.
3.FDA Bacteriological Analytical Manual, 2005, 18th ed., AOAC, Washington, DC.

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