Specification

Liquid medium to differentiate enteric bacteria using L-Lysine decarboxylation assays according to ISO and IDF standards.

Formula * in g/L

Yeast extract..... 3,000
Dextrose..... 1,000
Bromcresol purple..... 0,015
L-Lysine.....5,000

Final pH 6,8 ±0,2 at 25 ºC
* Adjusted and /or supplemented as required to meet performance criteria

Directions

Dissolve 9 g of powder in 1 L of distilled water. Distribute into thin tubes in volumes of 2 or 5 mL per tube. Sterilize in the autoclave at 121ºC for 15 minutes.

Description

The capacity to decarboxylate some amino acids has been widely employed in the classification of Enterobacteriaceae. Taylor's formulation, including lysine, has been recently included in several standards for the identification of *Salmonella*. This modification shows an improved performance, in comparison to Falkow's formulation.

Technique

It is advisable to use a vaseline seal to avoid spontaneous oxidation. The use of glucose in anaerobic conditions produces an acidification of the medium; causing the indicator to turn yellow.
If the organism can decarboxylase the amino acid alkaline bioproducts will be formed turning the medium grey and final ly violet. The observations of these biochemical tests are performed after an incubation period of 24 hours à 37°C.

Quality control

Incubation temperature: 35°C ±2,0 **Incubation time:** 24 h

Inoculum: ≥ 10³ CFU (specificity) according to ISO 11133:2014/Amd 1:2018 & Adm 2:2020

Microorganism	Growth	Remarks
Escherichia coli ATCC® 25922	Good	L-Lys (V) variable reaction
Shigella flexneri ATCC® 12022	Good	L-Lys (-) Yellow medium
Proteus hauseri ATCC® 13315	Good	L-Lys (-) Yellow medium
Salmonella typhimurium ATCC® 14028	Good	L-Lys (+) Purple medium
Cronobacter sakazakii ATCC® 29544	Good	L-Lys (-) Yellow medium
Salmonella enterica ATCC® 13076	Good	L-Lys (+) Purple medium

References

· DOWNES, F.P. & K. ITO (2001) Compendium of methods for the microbiological examination of foods. APHA. Washington.
· FIL-IDF Standard 93 (2001) Detection of Salmonella spp.
· ISO Standard 6579-1 (2017) Microbiology of food chain - Horizontal method for the detection, enumeration and serotyping of Salmonella - Part 1 : Detection of Salmonella spp.
· ISO 21567 Standard (2004) Food and feeding stuffs - Horizontal method for the detection of Shigella spp.
· ISO/TS 22964 (2006) Milk and milk products.- Detection of Enterobacter sakazakii.
. ISO 11133:2014/ Adm 1:2018/ Adm 2:2020/ Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
· TAYLOR, W. I. (1961) Isolation of Salmonellae from Food Supplies. V. Determination of the Method of Choice for Enumeration of Salmonella. Appl. Microbiol. 9:487-490.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 ºC to 30 ºC).