Gelatin Lactose Medium

Cat. 1526

For the confirmation of Clostridium perfringens

Practical information

Aplications	Categories
Confirmation	Clostridium perfringens

Industry: Water / Food

Principles and uses

Gelatin Lactose Medium is used to determine the identity of presumptive Clostridium perfringens. It contains lactose to test lactose fermentation and gelatin to test liquefaction.

The lactose fermentation is indicated by the presence of gas bubbles as well as a color change of the medium from red to yellow. The Gelatin is a protein derived by the hydrolysis of collagen, and is found abundantly in bones, skin, tendons, cartilage and animal tissue. It is used in culture media to determine gelatinolysis by bacteria, the gelatinoses produced by the microorganisms hydrolyze the gelatin liquefying a solid medium. Tryptose provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is a source of vitamins, particularly of the B-group. Lactose is the fermentable carbohydrate, producing acid indicated by the phenol red indicator. Phenol red changes to yellow when acid is produced and to red when an alkalinisation of the medium is produced. Cracks or bubbles in the medium indicate gas production.

Formula in g/L

Gelatin	120	Lactose	10
Phenol red	0,05	Tryptose	15
Yeast extract	10		

Preparation

Suspend 155 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121°C for 15 minutes.

Instructions for use

- Inoculate and incubate at 35 ± 2°C for 24 – 48 hours.
- To read gelatinase, refrigerate until well chilled and compare to non-inoculated tubes. Tubes positive for gelatinase will remain liquid. C. perfringens usually liquefies the gelatin after 24 - 44 hours.
- The isolated colonies which are not motile, reduce nitrate, ferment lactose and produce liquefaction of gelatine in 48 hours are presumptively identified as Clostridium perfringens.

Note: Not all Clostridium perfringens strains reduce nitrate to nitrite.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)

w/o rests	Fine powder	Red	Dark red	7,5 ± 0,2

Microbiological test

Incubation conditions: (35±2 ºC / 24-48 h)

Microrganisms	Specification	Characteristic reaction
Clostridium perfringens ATCC 13124	Good growth	Gelatinase (+). Color change to yellow.
Clostridium sporogenes ATCC 25781	Good growth	Gelatinase (+).

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

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Department of Health NHS Executive: The Caldicott Committee. Report on the review of patientidentifiable information. London. December 1997.