

GELATIN LACTOSE MEDIUM

CAT Nº: 1526

For the confirmation of *Clostridium perfringens*

FORMULA IN g/l

| | | | |
|----------|--------|---------------|-------|
| Gelatin | 120.00 | Yeast Extract | 10.00 |
| Tryptose | 15.00 | Phenol Red | 0.05 |
| Lactose | 10.00 | | |

Final pH 7.5 ± 0.2 at 25°C

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. The prepared medium should be stored at 2-8°C. The color is dark red.

The dehydrated medium should be homogeneous, free-flowing and red in color. If there are any physical changes, discard the medium.

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 gelatinolyses 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 alkalisation of the medium is produced. Cracks or bubbles in the medium indicate gas production.

Inoculate and incubate under anaerobic conditions 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.

MICROBIOLOGICAL TEST

The following results were obtained in the performance of the medium from type cultures after incubation under anaerobic conditions at a temperature of 35 ± 2°C and observed after 24-48 hours.

| Microorganisms | Color change to yellow (Gas Production) | Gelatinase |
|---|--|------------|
| <i>Clostridium perfringens</i> ATCC 13124 | + | + |
| <i>Clostridium sporogenes</i> ATCC 25781 | - | + |

BIBLIOGRAPHY

APHA. 3rd Edition Compendium of methods for the microbiological examination of foods.

Métodos Analíticos del Laboratorio del Instituto Nacional del Consumo (CICC). Alimento I Ministerio de Sanidad y Consumo 1.999.

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

STORAGE

Once opened keep powdered medium closed to avoid hydration.



2°C

25°C