# Product Data Sheet

**LACTOSE LECITHIN AGAR**

**Product No.** GB-DCM-00315-1A

## INTENDED USE

For isolation and differentiation of histotoxic Clostridia from clinical specimens.

## PRODUCT SUMMARY

Clostridium species are widely distributed in nature and are also associated with humans, either as non-pathogens at a variety of anatomic locations or at infected sites. Diseases caused by members of the genus Clostridium generally fall into one of the three categories: a. non-invasive disease in which toxin(s) is responsible for all the symptoms b. invasive (histotoxic) disease in which a progressive infections process and tissue destruction occur c. purulent disease in which a closed-space mixed infection involving multiple organisms is present. Histotoxic clostridia can be isolated on egg yolk containing medium, as demonstrated by McClung and Toabe. This medium was further supplemented with additional milk and lactose to differentiate clostridia on the basis of lecithinase production, casein hydrolysis and lactose fermentation. Selectivity was obtained by the incorporation of neomycin sulphate. Subsequently, eggs were replaced by purified lecithin, to obtain an egg-free medium. This egg-free medium was further modified with reduced concentration of neomycin and additional sodium azide, which enhanced the selective properties of the medium. This refined medium was designated as Lactose Lecithin Agar, which is used for isolation and differentiation of histotoxic clostridia from clinical specimens.

## PRINCIPLE

This medium contains Casein enzymic hydrolysate, peptone and Pancreatic digest of heart muscles which provide carbonaceous and nitrogenous compounds essential for the growth of bacteria. Lactose is the fermentable carbohydrate with bromocresol purple being the pH indicator. L-cysteine helps to create anaerobic conditions. Yeast extracts supplies vitamin B-complex nutrients. Corn starch neutralizes toxic fatty acids if any, present in the medium. Neomycin and sodium azide inhibit accompanying gram-negative and gram-positive organisms.

## INSTRUCTION FOR USE

- Dissolve 58.48 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to 45-50°C.
- Mix well and pour into sterile Petri plates. Warning: Sodium azide has a tendency to form explosive metal azides with plumbing materials. It is advisable to use enough water to flush off the disposables.

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## Product Specifications

| Ingredients | Gms / Ltr |
|---|---|
| Casein enzymic hydrolysate | 12.650 |
| Peptone | 5.500 |
| Pancreatic digest of heart muscles | 3.300 |
| Yeast extract | 3.850 |
| Corn starch | 1.100 |
| Sodium chloride | 5.500 |
| Lactose | 10.000 |
| Sodium azide | 0.200 |
| Neomycin sulphate | 0.150 |
| L-Cysteine hydrochloride | 0.500 |
| Calcium chloride | 0.050 |
| Egg lecithin | 0.660 |
| Bromocresol purple | 0.025 |
| Agar | 15.000 |

## QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder

Appearance of prepared : Light to medium amber coloured clear solution without any precipitate.

pH (at 25°C) : 6.8± 0.2

## STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

| Microorganism | ATCC | Inoculum (CFU/ml) | Growth | Recovery | Lactose Fermentation | Lecithinase production | Lipase activity | Incubation Temperature | Incubation Period |
|---|---|---|---|---|---|---|---|---|---|
| Clostridium difficile | 17857 | 50-100 | Luxuriant | >=70% | Negative reaction | Negative | Negative | 35-37°C | 48 Hours |
| Clostridium histolyticum | 19401 | 50-100 | Luxuriant | >=70% | Negative reaction | Negative | Negative , no irridescent sheen on the colony surface and medium | 35-37°C | 48 Hours |
| Clostridium perfringens | 12924 | 50-100 | Luxuriant | >=70% | Positive reaction,yellow coloured zones surrounding colonies due to acid production | Positive reaction, opaque zone around the colony | Negative | 35-37°C | 48 Hours |
| Clostridium sordellii | 9714 | 50-100 | Luxuriant | >=70% | Negative reaction | Positive reaction, opaque zone around the colony | Negative | 35-37°C | 48 Hours |
| Clostridium sporogenes | 11437 | 50-100 | Luxuriant | >=70% | Negative reaction | Negative | Positive, irridescent sheen on the colony | 35-37°C | 48 Hours |
| Clostridium tetani | 10709 | 50-100 | Luxuriant | >=70% | Negative reaction | Negative | variable, usually negative | 35-37°C | 48 Hours |

**DISPOSAL**

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

**This product is for research use only.**

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