

Product Data Sheet

MCCLUNG TOABE AGAR BASE

Product No. GB-DCM-00423-1A

INTENDED USE

For detection and isolation of *Clostridium perfringens* in foods.

PRODUCT SUMMARY

Clostridium perfringens food poisoning is one of the most common types of human foodborne illness. The foods usually involved are cooked meat or poultry products containing large number of viable cells. A heat-labile enterotoxin produced only by sporulating cells induces the major symptoms of diarrhea in *perfringens* poisoning. Although the enterotoxin is not performed in the food, the foods in which conditions are favourable for sporulation may contain enterotoxin. Therefore, enumeration of these microorganisms in food plays a significant role in investigation of food borne illness. McClung and Toabe formulated a medium for isolating and differentiating *Clostridium* species from foods on the basis of their lecithinase and lipase activity. With the addition of 50% egg yolk emulsion, *C. perfringens* and a few other *Clostridium* species show the lecithinase reaction. Lecithinase enzyme lyses egg yolk lecithin, producing an opaque zone of precipitation surrounding the slightly raised colonies. Add 25 grams of food sample to be tested in two tubes containing 25 ml Fluid Thioglycollate Medium with inverted Durhams tube. Incubation is carried out at 46°C for 4-6 hours. Observe for growth and gas production. Streak the presumptive *C. perfringens* on McClung Toabe Agar plates and incubate at 35-37°C for 18-24 hours.

Product Specifications

| Ingredients | Gms / Ltr |
|-----------------------------|------------------|
| Proteose peptone | 40.000 |
| Dextrose | 2.000 |
| Disodium hydrogen phosphate | 5.000 |
| Monopotassium phosphate | 1. 000 |
| Sodium chloride | 2.000 |
| Magnesium sulphate | 0.100 |
| Agar | 25.000 |

PRINCIPLE

Proteose peptone provides nitrogenous growth nutrients. Dextrose is the fermentable carbohydrate. Phosphates form a good buffering system. Sodium chloride provides essential ions. Magnesium sulphate provides divalent cations and sulphate.

INSTRUCTION FOR USE

- Dissolve 75.1 grams in 900 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 20 minutes.
- Cool to 50°C and aseptically add 100 ml of sterile Egg Yolk Emulsion.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
 Appearance of prepared medium : Basal medium: Amber coloured clear to slightly opalescent gel.
 After addition of egg yolk emulsion : Yellow coloured o opalescent gel forms in Petri plates.
 pH (at 25°C) : 7.6± 0.2

| Microorganism | ATCC | Inoculum (CFU/ml) | Growth | Recovery | Lecithinase | Lipase activity | Incubation Temperature | Incubation Period |
|-------------------------|-------|-------------------|-----------|----------|--|--|------------------------|-------------------|
| Clostridium perfringens | 12919 | 50-100 | Luxuriant | ≥70 % | Positive Reaction, opaque zone around the colony | Negative reaction, no iridescent sheen on the growth surface | 35-37°C | 18-24 Hours |
| Clostridium sporogenes | 11437 | 50-100 | Luxuriant | ≥70 % | Negative Reaction | Negative reaction, no iridescent sheen on the growth surface | 35-37°C | 18-24 Hours |
| Clostridium sporogenes | 11437 | 50-100 | Luxuriant | ≥70 % | Positive Reaction, opaque zone around the colony | Negative reaction, no iridescent sheen on the growth surface | 35-37°C | 18-24 Hours |



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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.

DISPOSAL

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

This product is for research use only.