



C.perfringens Sporulation Broth

M947

C. perfringens Sporulation Broth is used for promoting sporulation in *Clostridium perfringens* .

Composition**

Ingredients	Gms / Litre
Tryptose	15.000
Yeast extract	3.000
Starch, soluble	3.000
Magnesium sulphate	0.100
Sodium thioglycollate	1.000
Disodium phosphate	11.000
Final pH (at 25°C)	7.8±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 33.1 grams in 1000 ml distilled water. Heat if necessary to ensure complete solution. Dispense 20 ml amounts in 20 x 150 mm screw capped test tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Just before use, heat the medium in flowing steam for 20 minutes.

Principle And Interpretation

Clostridium perfringens is ubiquitous in nature and can be found as a normal component of decaying vegetation, marine sediment, intestinal tract of humans and other vertebrates, insects, and soil. *C. perfringens* is commonly encountered in infections as a benign component of the normal flora (1). *C. perfringens* food poisoning is one of the most common types of human foodborne illnesses. A heat-labile enterotoxin produced only by sporulating cells (2) induces the major symptoms of diarrhea in perfringens infections.

C.perfringens Sporulation Broth is formulated as per APHA (3) for enhancing sporulation in *C.perfringens* .

The medium contains ingredients like tryptose, yeast extract and starch, which not only support the growth of *C.perfringens* but also stimulate spore formation in presence of magnesium sulphate. Sodium thioglycollate in the medium helps to maintain anaerobic conditions. Magnesium sulphate and disodium phosphate provide ions to the organism and helps in maintaining buffering conditions in the medium.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Medium amber coloured, clear to slightly opalescent solution with a slight precipitate in tubes

Reaction

Reaction of 3.31% w/v aqueous solution at 25°C. pH : 7.8±0.2

pH

7.60-8.00

Cultural Response

Cultural characteristics observed under anaerobic condition after an incubation at 35-37°C for 24-48 hours.

Cultural Response

Organism	Inoculum (CFU)	Growth	Sporulation
Cultural Response <i>Clostridium perfringens</i> ATCC 12924	50-100	good-luxuriant	positive

Clostridium sporogenes 50-100 good-luxuriant negative
ATCC 11437

Storage and Shelf Life

Store below 30°C in tightly closed container and prepared medium below 2-8°C. Use before expiry period on the label.

Reference

1. Wells C. L., Wilkins T. D., 1996, Barrons Medical Microbiology (Barron S. et al, Eds.), 4th Ed., Univ. of Texas Medical Branch.
2. Duncan C. L., 1973, J. Bacteriol., 113:932-936.
3. Speck M. L., (Eds.), 1984, Compendium of Methods for the Microbiological Examination of Foods, 2nd Ed., APHA, Washington, D.C

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