Ellners Broth

Intended Use
Ellners Broth is used to induce spore formation in *Clostridium perfringens*.

Summary
Ellners Broth is recommended for inducing sporulation in *Clostridium perfringens*. Spores are rarely seen in culture but can be obtained on Ellners Medium. *C. perfringens* are Gram-positive rods, often capsulated. In sugar-containing media, the *Clostridium* rods are shorter whereas in protein containing media, they may become filamentous. Spores formed are usually in small numbers and are not formed in the presence of fermentable carbohydrates. Typically, oval, sub-terminal or central spores are formed and are not bulging. Special media like Ellners Broth are used to produce spores. All Clostridia produce spores but they vary markedly in their readiness to do so. Some of which may require prolonged incubation.

Principle
Medium is composed of proteose peptone and yeast extract, which supply the necessary nutrients for the growth of the Clostridia. Generally, sporulation is stimulated by a carbohydrate source and hence starch is included in the medium. Sulphate and phosphate not only buffer the medium but also help in sporulation. Clostridia are anaerobic organisms and hence anaerobiosis may be ensured by heating the medium at 100°C for 10 minutes and cooling just before inoculation. It is important that the inoculum should be adequate. 0.5 mL of an actively growing 4-12 hours Meat Broth culture should be introduced with a pipette into the bottom of the tubed medium and incubated anaerobically.

Formula*

Ingredients	**g/L**
Proteose Peptone	10.0
Yeast Extract	3.0
Starch	3.0
Magnesium Sulphate	0.1
Monopotassium Phosphate	1.5
Disodium Phosphate	50.0
Final pH (at 25°C)	7.8 ± 0.2

*Adjusted to suit performance parameters

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Specimen Collection and Handling
Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 67.60 g of the powder in 1000 mL purified / distilled water.
2. Heat if necessary, to dissolve the powder completely.
3. Dispense in tubes.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control
Dehydrated Appearance: Cream to yellow coloured, homogenous, free flowing powder
Prepared Appearance: Amber coloured, clear to slightly opalescent solution.
Cultural Response: Cultural characteristics observed under anaerobic condition, after an incubation at 35°C-37°C for 24-76 hours.

Organism (ATCC)	Growth	Sporulation
Clostridium perfringens (12924)	Good	Positive

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Collee J. G., Duguid J. P., Fraser A. G., Marmion B. P., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1989, 13th Edition, Churchill Livingstone.
2. Trevor W. A., 1977, Anaerobic Bacteriology, 3rd Ed., Butterworths and Co. Ltd.
3. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201050030500	Dehydrated Culture Media	500 g