PRODUCT SPECIFICATION SHEET

Ellners Broth (DM482)

Intended Use
Ellners Broth (DM482) is recommended for induction of spore formation in *Clostridium perfringens*.

Product Summary and Explanation
C. perfringens, formerly called *C. welchii*, are gram-positive rods, often capsulated and causes a wide range of symptoms, from food poisoning to gas gangrene. *C. perfringens* also takes the place of yeast in the making of salt rising bread. The *Clostridium* rods are shorter in sugar-containing media, whereas in protein-containing media, they may become filamentous. Spores produced are usually in small numbers and are not produced in the presence of fermentable carbohydrates. Typically oval, sub-terminal or central spores are formed and are not bulging. To produce the spores special media like Ellners Broth are employed.
Ellners Broth is recommended[1,2] for inducing sporulation in *Clostridium perfringens*. Spores are rarely seen in culture (a diagnostic feature) but can be obtained on Ellners Medium.[1] In practice, the routine characterization of clostridia to species level involves morphological examinations, biochemical tests and identification of specific toxins. All clostridia produce spores but they vary markedly in their readiness to do so, some of which require prolonged incubation.

Principles of the Procedure
Ellners Broth contains proteose peptone and yeast extract, which supply the necessary nutrients for the growth of the Clostridia. Generally sporulation is stimulated by an carbohydrate source and hence starch is included in the medium. Sulphate and phosphate help in sporulation and also act as buffering agent. 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. 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 / Liter

Ingredients	Gms / Liter
Proteose peptone	10.00
Yeast extract	3.00
Starch	3.00
Magnesium sulphate	0.10
Monopotassium phosphate	1.50
Disodium phosphate	50.00
Final pH: 7.8 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions
1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions
1. Suspend 67.6 grams of the medium in one litre of distilled water.
2. Heat if necessary to dissolve the medium completely.
3. Dispense in tubes. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Amber coloured, clear to slightly opalescent solution

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Reaction of 6.76% solution	pH 7.0 ± 0.2 at 25°C
Gel Strength	Not Applicable

Expected Cultural Response: Cultural characteristics observed under anaerobic condition, after an incubation at 35-37°C for 24-76 hours.

Sr. No.	Organisms	Results to be achieved		
		Inoculum (CFU)	Growth	Sporulation
1.	*Clostridium perfringens ATCC 12924*	50-100	good-luxuriant	positive

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure
Refer appropriate references for standard test procedures.

Results
Refer appropriate references and procedures for interpretation of results.

Storage
Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration
Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure
1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging
Product Name : Ellners Broth
Product Code : DM482
Available Pack sizes : 500gm

References

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.

Further Information

For further information please contact your local MICROMASTER Representative.

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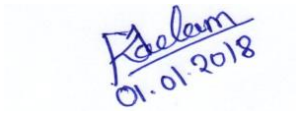	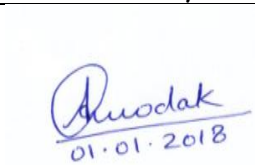	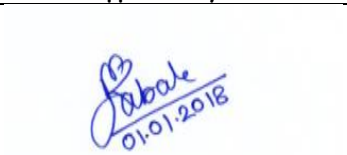
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