

TM 724 – EGG YOLK AGAR BASE

INTENDED USE

For isolation and identification of Clostridia and certain other anaerobes.

PRODUCT SUMMARY AND EXPLANATION

Clostridium perfringens food poisoning is one of the most common types of human food borne illness. The foods usually involved are cooked meat or poultry products containing large numbers of viable cells. A heat-labile enterotoxin produced only by sporulating cells induces the major symptoms of diarrhea in perfringens poisoning.

Egg Yolk Agar Base is a slight modification of McClung Toabe Agar Base used for isolation and detection of *Clostridium perfringens*. Egg Yolk Agar Base differs from the original formula by the inclusion of hemin.

COMPOSITION

| Ingredients | Gms / Ltr |
|--------------------------------|-----------|
| Proteose peptone | 40.000 |
| Disodium hydrogen phosphate | 5.000 |
| Potassium dihydrogen phosphate | 1.000 |
| Sodium chloride | 2.000 |
| Magnesium sulphate | 0.100 |
| Dextrose (Glucose) | 2.000 |
| Hemin | 0.005 |
| Agar | 25.000 |

PRINCIPLE

The medium consists of Proteose peptone which provide the essential nutrients along with carbonaceous and nitrogenous substances. Phosphates buffer the medium whereas sodium chloride maintains the osmotic equilibrium. Magnesium sulphate serves as a source of divalent cations along with sulphates. Glucose serves as a source of energy. Hemin help to enhance the growth of anaerobic organisms. Organisms producing lecithinase break down lecithin present in the egg yolk emulsion producing an insoluble opaque precipitate around the colonies. Lipase-producing organisms break down free fatty acids (in the egg yolk emulsion) forming an iridescent sheen on the surface of the colonies. Lipase activity may be delayed; therefore, plates should not be discarded as negative before incubation for a week. Proteolytic activity is seen as clear zones around the colonies. The media should be directly inoculated with the test specimen.

INSTRUCTION FOR USE

- Dissolve 75.10 grams in 900 ml purified / distilled water.
- Heat to boiling to dissolve the medium completely.
- Dispense in 90 ml amounts in tubes or flasks as desired. Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50° C and add 10 ml of sterile egg yolk emulsion per 90 ml of medium.
- 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: Medium amber coloured, clear to slightly opalescent gel After addition of egg yolk emulsion: Yellow coloured opaque gel forms in Petri plates.
pH (at 25°C) : 7.6 ± 0.2

INTERPRETATION

Cultural characteristics observed with added Egg yolk emulsion, after incubation (anaerobically). (*- Plates should be incubated up to 7 days before regarding them as negative)

| Microorganism | ATCC | Inoculum (CFU/ml) | Growth | Recovery | Lecithinase | Lipase activity* | Proteolytic activity | Incubation Temperature | Incubation Period |
|--------------------------------|-------|-------------------|----------------|----------|---|---|--|------------------------|-------------------|
| <i>Bacteroides fragilis</i> | 25285 | 50-100 | Good-luxuriant | >=50% | Negative reaction | Negative reaction, no iridescent sheen on the colony surface and medium | Negative, no clear zone surrounding colonies | 35-37°C | 48-72 Hours |
| <i>Clostridium botulinum</i> | 25763 | 50-100 | Good-luxuriant | >=50% | Negative reaction | Negative reaction, no iridescent sheen on the colony surface and medium | Positive, clear zone surrounding colonies | 35-37°C | 48-72 Hours |
| <i>Clostridium butyricum</i> | 13732 | 50-100 | Good-luxuriant | >=50% | Negative reaction | Negative reaction, no iridescent sheen on the colony surface and medium | Positive, clear zone surrounding colonies | 35-37°C | 48-72 Hours |
| <i>Clostridium perfringens</i> | 12924 | 50-100 | Good-luxuriant | >=50% | Positive, opaque zone around the colony | Negative reaction, no iridescent sheen on the colony surface and medium | Negative, no clear zone surrounding colonies | 35-37°C | 48-72 Hours |
| <i>Clostridium sporogenes</i> | 11437 | 50-100 | Good-luxuriant | >=50% | Negative reaction | Positive, iridescent sheen on the colony surface and medium | Positive, clear zone surrounding colonies | 35-37°C | 48-72 Hours |

PACKAGING:

In pack size of 500 gm bottles.

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.

REFERENCES

1. Atlas R. M., 2004, Handbook of Microbiological Media, 3rd Ed., CRC Press.
2. Duncan C. L., 1973, A. J. Bacteriol., 113:932.
3. Labbe R., 1989, Clostridium perfringens, In Foodborne Bacterial Pathogens Ed., Doyle M. P., P.191, Marcel Dekker, New York, N.Y.
4. McClung and Toabe, 1947, J. Bacteriol., 53:139
5. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.

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|  GMP Good Manufacturing Practices Certified |  IVD For In Vitro Diagnostic Use |  QTY. Quantity |  LOT/ B. NO. Lot / Batch Number |  REF Catalogue Number |  Manufacturer |
|  Temperature Unit |  EC REP Authorized Representative <small>MedNet GmbH Birkstrasse 10, 48163 Muenster, Germany</small> |  European Conformity |  QR Code |  Consults Instructions for Use |  Best Before |

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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