



## Egg Yolk Agar Base, Modified

M1043

### Intended Use:

Recommended for identification of anaerobic bacteria by means of their egg yolk reaction.

### Composition\*\*

Ingredients	g/ L
Tryptone	15.000
Soya peptone	5.000
Yeast extract	5.000
Sodium chloride	5.000
L-Cystine	0.400
Hemin	0.005
Vitamin K1	0.010
Agar	20.000
Final pH ( at 25°C)	7.5±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 50.41 grams in 900 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add 100 ml Egg Yolk Emulsion (FD045) (or add 10 ml of sterile egg yolk emulsion (FD045) per 90 ml of medium). Mix well and pour into sterile Petri plates.

### Principle And Interpretation

*Clostridium perfringens* food poisoning is one of the most common types of human food borne illness (1). 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 (2) induces the major symptoms of diarrhea in perfringens poisoning. Egg Yolk Agar Base, Modified is based on McClung and Toabe Agar Base (3) for isolation and detection of *C. perfringens*. In Egg Yolk Agar Base, Modified, CDC Anaerobe Agar is used as a base to prepare the medium. CDC Anaerobe Agar is a non-selective, highly enriched medium for the cultivation of obligate anaerobes, developed by Center for Disease Control (CDC) (4). The medium is made suitable for detection of lipase and lecithinase activity by the addition of egg yolk emulsion (5,6,7).

Tryptone and soya peptone provide the essential nutrients along with carbonaceous and nitrogenous substances. Yeast extract supplies B-complex nutrients. Sodium chloride maintains the osmotic equilibrium. L-cystine is an amino acid which also acts as a reducing agent. Vitamin K1 and 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 (7).

### Type of specimen

Clinical- stool, abscess, etc.; Food samples

### Specimen Collection and Handling

The media should be directly inoculated with the test specimen. Prior to inoculation, the media plates should be reduced by placing in an anaerobic jar for 18-24 hours. An enrichment broth should be simultaneously inoculated with the test sample to detect small number of anaerobic organisms. Standard procedures for the isolation of organism should be referred. Incubation should be carried out for 18-48 hours and continued for 7 days. After use, contaminated materials must be sterilized by autoclaving before discarding.

## Warning and Precautions

In Vitro diagnostic use. For professional use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

## Limitations

1. Lipase activity may be delayed, therefore plates should not be discarded as negative before incubation for a week.
2. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
3. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

## Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

## Quality Control

### Appearance

Cream to yellow homogeneous free flowing powder

### Gelling

Firm, comparable with 2.0% Agar gel.

### Colour and Clarity of prepared medium

Basal Medium : Medium amber coloured clear to slightly opalescent gel . After addition of egg yolk emulsion (FD045)- Yellow coloured opaque gel forms in Petri plates.

### Reaction

Reaction of 5.04% w/v aqueous solution at 25°C. pH : 7.5±0.2

### pH

7.30-7.70

### Cultural Response

Cultural characteristics observed with added Egg yolk emulsion (FD045),after an incubation at 35-37°C for 48-72 hours when incubated anaerobically. (\*Plates should be incubated up to 7 days before regarding them as negative)

Organism	Inoculum (CFU)	Growth	Recovery	Lecithinase	Lipase activity*	Proteolytic activity
<i>Clostridium perfringens</i> ATCC 12924	50-100	good-luxuriant	≥50%	positive,opaque zone around the colony	negative,no iridescent sheen on the colony surface and medium	negative,no clear zone surrounding colonies
<i>Fusobacterium necrophorum</i> ATCC 25286	50-100	good-luxuriant	≥50%	negative reaction	positive, iridescent sheen on the colony surface and medium	negative,no clear zone surrounding colonies
<i>Clostridium sporogenes</i> ATCC 11437	50-100	good-luxuriant	≥50%	negative reaction	positive, iridescent sheen on the colony surface and medium	positive ,clear zone surrounding colonies

## Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

## Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (8,9).

## Reference

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8. Isenberg (Ed.), 1992, Clinical Microbiology Procedures Handbook, American Society for Microbiology, Washington, D.C.
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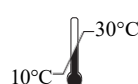
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