

## Technical Information

### L. D. Egg Yolk Agar Base

#### Product Code: DM 1744

**Application:** - L. D. Egg Yolk Agar with Egg Yolk Supplement is recommended for detection of lecithinase activity of anaerobic microorganisms.

#### Composition\*\*

Ingredients	Gms / Litre
Casein enzymic hydrolysate	5.000
Yeast extract	5.000
Sodium chloride	2.500
Sodium sulphite	0.100
L-Cystine	0.400
L-Tryptophan	0.200
Dextrose	2.000
Disodium phosphate	5.000
Magnesium sulphate	0.010
Hemin	0.010
Vitamin K1	0.010
Agar	20.000
Final pH ( at 25°C)	7.4±0.2

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

#### Principle & Interpretation

L. D. Medium or Lombard-Dowell Medium was developed by Dowell and Lombard (1) for the cultivation and identification of fastidious anaerobic bacteria. L. D. Egg Yolk Agar Base, along with egg yolk emulsion is used for the detection of lipase; lecithinase and proteolytic activity of both spore forming and non-spore-forming obligate anaerobes (2).

Organisms that grow in the absence of oxygen are termed as anaerobes. Depending upon their ability to tolerate oxygen, they are classified as either facultative or obligate anaerobes. The anaerobic gram-negative bacteria are part of the normal flora of the upper respiratory tract, mouth, intestinal tract and urinogenital tract of human and animals. The bile-resistant *Bacteroides fragilis* group is the most commonly recovered anaerobe in clinical specimens and is more resistant to antimicrobial agents than any other anaerobe. *Fusobacterium necrophorum* is a very virulent anaerobe that may cause severe infections, usually in children or young adults (4).

L. D. Agar is essentially a casein digest agar enriched with hemin, vitamin K1, L-cystine and yeast extract (3). This medium contains various nutritious substances, which can promote the growth of fastidious anaerobic bacteria. Casein enzymic hydrolysate and yeast extract provide the necessary nitrogenous nutrients while hemin and vitamin K1 supply additional growth factors. L-cystine and L-tryptophan acts as the amino acid sources. Sodium sulphite is an antioxidant. Sodium chloride helps to maintain osmotic balance of the medium.

L. D. Egg Yolk Agar with Egg Yolk Supplement contains egg yolk, which is the source of lecithin in the medium. Magnesium sulphate helps in sporulation. Disodium phosphate buffers the medium.

#### Methodology

Suspend 40.23 grams of dehydrated media in 900 ml distilled water. Mix thoroughly & 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 sterile Egg Yolk Emulsion (MS 2045). Shake well before pour into sterile Petri plates.

## Quality Control

### Appearance

Cream to yellow homogeneous free flowing powder

### Gelling

Firm, comparable with 2.0% agar gel.

### Colour and Clarity

Basal medium: Medium amber coloured clear to slightly opalescent gel. After addition of sterile egg yolk emulsion : Yellow coloured opaque gel forms in Petri plates

### Reaction

Reaction of 4.02% w/v aqueous solution at 25°C. pH : 7.4±0.2

### pH Range

7.20-7.60

### Cultural Response

DM 1744: Cultural characteristics observed under anaerobic condition, with added Egg Yolk Emulsion (MS 2045), after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Lecithinase/ Halos	Lipase	Proteolysis
<i>Clostridium perfringens</i> ATCC 12924	50 - 100	luxuriant	positive reaction, opaque zone of insoluble precipitate	negative reaction	negative reaction
<i>Clostridium sporogenes</i> ATCC 11437	50 - 100	luxuriant	negative reaction	positive reaction, iridescent sheen on the colony surface and medium	positive reaction, clear zone surrounding colonies
<i>Fusobacterium necrophorum</i> ATCC 25286	50 - 100	luxuriant	negative reaction	positive reaction, iridescent sheen on the colony surface and medium	negative reaction

## Storage and Shelf Life

**Dried Media:** Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

**Prepared Media:** 2-8° in sealable plastic bags for 2-5 days.

## Further Reading

1. Dowell V. and Lombard G., June 1977, U.S., DHEW, Center for Disease Control (CDC), Atlanta. Ga.
2. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore
3. Finegold S. M., Baron E. J., Bailey and Scotts Diagnostic Microbiology, 8th Ed., 1990, The C.V. Mosby Company
4. 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.



Dehydrated Culture Media  
Bases / Media Supplements

## Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at CDH is true and accurate
- Central Drug House Pvt. Ltd. reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents. Do not use the products if it fails to meet specification

