



## Dubos Oleic Broth Base

M839

### Intended Use:

Recommended for cultivation of *Mycobacteria*.

### Composition\*\*

Ingredients	Gms / Litre
Tryptone	0.500
L-Asparagine	1.000
Monopotassium phosphate	1.000
Disodium phosphate	2.500
Ferric ammonium citrate	0.050
Magnesium sulphate	0.010
Calcium chloride	0.0005
Zinc sulphate	0.0001
Copper sulphate	0.0001
Final pH ( at 25°C)	6.6±0.2

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

### Directions

Suspend 1 gram in 180 ml purified / distilled water. Heat, if necessary, 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 20ml of sterile Oleic Albumin Supplement (FD020) and 5000 to 10000 units of Penicillin. Mix well and dispense in sterile tubes.

### Principle And Interpretation

Tuberculosis remains a major global public health problem worldwide. *Mycobacterium tuberculosis*, the causative agent of tuberculosis in man, is carried in airborne particles known as droplet nuclei that are generated when patients with pulmonary tuberculosis cough. Infections occur when a susceptible person inhales the droplet nuclei containing the bacterium (1). Dubos Oleic Broth Base is recommended by Dubos and Middlebrook (1) for the primary isolation and subsequent cultivation of the tubercle bacilli. On comparative studies of various media, Dubos Oleic Agar Base was found to be superior to other media for the primary isolation of *Mycobacteria* (2,3). *Mycobacteria* grow very rapidly when inoculated in a broth media and therefore preliminary culture of all the test samples in a broth media is recommended.

Dubos Oleic Broth Base contain tryptone and L-asparagine as sources of nitrogen. The phosphates (together with calcium chloride) buffers the media as well as serve as sources of phosphates. Magnesium sulphate, zinc sulphate, copper sulphate and ferric ammonium citrate provide trace metals and sulphates.

Standard procedures for the isolation of *Mycobacteria* from test samples should be followed (4). The specimen should be appropriately decontaminated before culturing as per standard methods (5,6,7,8). Maximum care should be taken while handling *Mycobacterial* cultures, as they are highly infectious.

### Type of specimen

Clinical samples : Sputum

### Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (6,7,8).

After use, contaminated materials must be sterilized by autoclaving before discarding.

### Warning and Precautions

In Vitro diagnostic use only. 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. Proper aerobic conditions and increased CO<sub>2</sub> tension if not provided during incubation, may lead to erroneous result.

## 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

Off-white to beige homogeneous free flowing powder

### Colour and Clarity of prepared medium

Light amber coloured, clear to slightly opalescent solution with a fine precipitate.

### Reaction

Reaction of medium (0.5% w/v aqueous solution containing 0.1% FD020) at 25°C. pH : 6.6±0.2

### pH

6.40-6.80

### Cultural Response

Cultural characteristics observed with added Oleic Albumin Supplement (FD020) and 5000-10,000 units of Penicillin, after an incubation at 35-37°C for 2-6 weeks.

Organism	Growth
<i>Mycobacterium avium</i> (25291)	luxuriant
<i>Mycobacterium gordonae</i> ATCC 14470	luxuriant
<i>Mycobacterium kansasii</i> ATCC 12478	luxuriant
<i>Mycobacterium smegmatis</i> ATCC 14468	luxuriant
<i>Mycobacterium tuberculosis</i> H37RV (25618)	luxuriant

## Storage and Shelf Life

Store below 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 (4-8).

## Reference

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6. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
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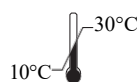
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