CM 20617 – DUBOS BROTH BASE

INTENDED USE

For cultivation of Mycobacterium tuberculosis and other Mycobacterium species.

PRODUCT SUMMARY AND EXPLANATION

Tuberculosisremainsa majorglobal public health problem worldwide. Mycobacterium tuberculosis, the causative agent of tuberculosis inman, 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. DubosBroth is formulated as per Dubos, et al, and is a modification of the medium originally formulated by Dubos and Davisand Dubos and Middlebrook.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone	0.500
L-Asparagine	2.000
Polysorbate 80 (Tween 80)	0.200
Potassium dihydrogen phosphate	1.000
Disodium hydrogen phosphate	2.500
Ferric ammonium citrate	0.050
Magnesium sulphate	0.010
Calcium chloride anhydrous	0.0005
Zinc sulphate	0.0001
Copper sulphate	0.0001

PRINCIPLE

The medium consists of tryptone and L-aspargine which serve as sources of nitrogen. Polysorbate 80, an oleic acid ester also acts as a surfactant. It therefore supplies the essential fatty acids for the replication of Mycobacteria and also increases the growth by dispersing the bacilli. 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. Bovine albumin binds the free fatty acids, which may be toxic to Mycobacteria. Albumin is heattreated to inactivate the lipase, which may release fatty acids from Polysorbate 80 incorporated in the medium.

INSTRUCTION FOR USE

Dissolve 1.3 grams in 180 ml purified/distilled water containing 10 ml glycerol.
Heat if necessary to dissolve the medium completely.
Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
Cool to 45-50°C and aseptically add 20ml of sterile bovine albumin V or sterile serum or 1 vial of sterile Albumin Glucose Supplement to each 180 ml of broth base.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Light yellow to beige homogeneous free flowing powder.
Appearance of prepared medium	: Light yellow coloured, clear solution without any precipitate.
pH (at 25°C)	: 6.6 ± 0.2

INTERPRETATION

Cultural characteristics observed with added Albumin Glucose Supplement or sterile bovine albumin V or sterile serum after incubation with 5-10% CO2.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
Mycobacterium avium	25291	50-100	Luxuriant	35-37°C	2-6 Weeks
Mycobacterium gordonae	14470	50-100	Luxuriant	35-37°C	2-6 Weeks
Mycobacterium kansasii	12478	50-100	Luxuriant	35-37°C	2-6 Weeks
Mycobacterium smegmatis	14468	50-100	Luxuriant	35-37°C	2-6 Weeks
Mycobacterium tuberculosis H37RV	25618	50-100	Luxuriant	35-37°C	2-6 Weeks

PACKAGING:

Inpacksizeof100 gm and 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

Afteruse,prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

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2. Dubos R. J. and Davis B.D., 1946, J. Exp. Med., 83:409.
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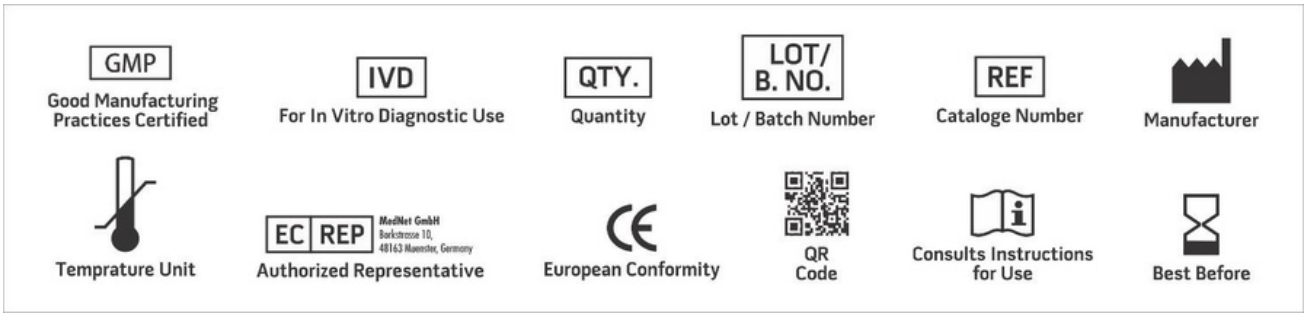
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
6. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.



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

*For LabUse Only