TM 526 - L.J. MEDIUM W/O. STARCH (AS PER INTERNATIONAL STANDARD)

INTENDED USE

For propagation of Mycobacteria.

PRODUCT SUMMARY AND EXPLANATION

The original LJ medium was formulated by Lowenstein and modified by Jensen and Gruft with addition of two antimicrobial agents. Lowenstein Jensen Medium Base w/o starch is recommended for resistance testing by WHO. Lowenstein Jensen (L-J) Medium without potato starch with drugs incorporated before inspissation is the modification of the International Union Against Tuberculosis (IUAT).

COMPOSITION

Ingredients	Gms / Ltr
L-Asparagine	3.600
Potassium dihydrogen phosphate	2.400
Magnesium sulphate	0.240
Magnesium citrate	0.600
Malachite green	0.400

PRINCIPLE

Malachite green prevents growth of the majority of contaminants that survived the decontamination procedures for the specimen, thus encouraging earliest possible growth of Mycobacteria. Do not add glycerol to the medium if bovine or other glycerophobic strains are to be cultured.

Malachite green serves as an inhibitor and also as a pH indicator. Formation of blue zone indicates a decrease in pH by gram-positive contaminants (e.g. Streptococci) and yellow zones indicate dye destruction by gram-negative bacilli. Proteolytic contaminants cause localized or complete digestion of medium. Hardy et al recommended each specimen to be inoculated and incubated in triplicate, so as

a. To identify saprophytes at room temperature (25°C).

b. To identify presence or absence of pigmentation by photochromogenes and scotochromogenes at 35°C alternately in light and dark as per the type of organism.

Routinely, cultivation is carried out aerobically at 35°C.

Refer appropriate references for standard test procedures of decontamination and isolation.

INSTRUCTION FOR USE

- Dissolve 7.24 grams in 600 ml distilled water containing 12 ml glycerol (for bovine bacteria or other glycerophobic organisms, addition of glycerol is not desirable).
- Heat if necessary to dissolve the medium completely.
- Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Meanwhile prepare 1000 ml of whole egg emulsion collected aseptically.
- Add and mix egg emulsion base gently to obtain uniform mixture.
- Distribute in sterile screw capped tubes. Arrange tubes in a slanted position.

- Coagulate and inspissate the medium in an inspissator, water bath or autoclave at 85°C for 45 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Greenish blue to peacock blue homogeneous free flowing powder

Appearance of prepared medium : The mixture of sterile basal medium and whole egg emulsion, when inspissated, coagulates to yield pale bluish green coloured opaque, smooth slants.

pH (at 25°C) : 7.0 ± 0.2

INTERPRETATION

Cultural characteristics observed in presence of 5-10% Carbon dioxide (CO_2), with added egg emulsion base, after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Colony characteristics	Incubation Temperature	Incubation Period
Mycobacterium avium	25291	50-100	Luxuriant	Smooth, non-pigmented colonies	35-37°C	2-4 weeks
Mycobacterium gordonae	14470	50-100	Luxuriant	Smooth, yellow orange colonies	35-37°C	2-4 weeks
Mycobacterium kansasii	12478	50-100	Luxuriant	Photochromogenic , smooth to rough	35-37°C	2-4 weeks
Mycobacterium smegmatis	14468	50-100	Luxuriant	Wrinkled, creamy white colonies	35-37°C	2-4 weeks
M. tuberculosis H37RV	25618	50-100	Luxuriant	Granular, rough, warty, dry friable colonies	35-37°C	2-4 weeks

PACKAGING:

In pack size of 100 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

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

REFERENCES

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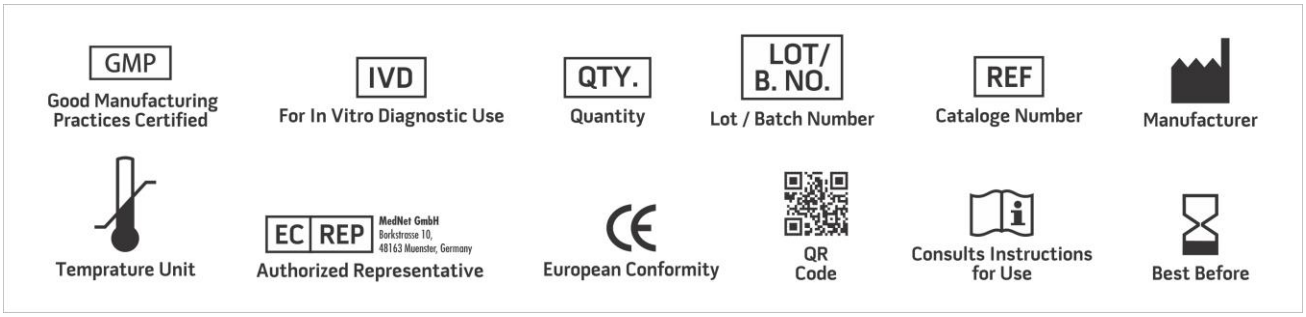

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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