B230	LOWENSTEIN JENSEN MEDIUM BASE (L.J.MEDIUM)

Formula

Ingredients :	**gms/lit.**
L-asparagine	3.60
Monopotassium phosphate	2.40
Magnesium sulphate	0.24
Magnesium citrate	0.60
Potato starch, soluble	30.00
Malachite green	0.40

Final pH (at 25°C) : Self

Directions :

Suspend 37.24 grams in 600 ml purified / distilled water containing 12 ml glycerol (for bovine bacteria or other glycerophobic organisms additions of glycerol is not desirable). Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121oC) for 15 minutes. Cool to 45-50°C. Meanwhile prepare 1000 ml of whole egg emulsion collected aseptically. Aseptically add and mix egg emulsion base and Gruft Mycobacterial Supplement (BF076) (if desired) 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.

Principle :

Lowenstein Jensen medium is an egg-based medium that contains a moderate amount of malachite green to suppress the growth of contaminating organisms and to allow early growth of mycobacteria. It also acts as a pH indicator. These media are commonly used in the clinical laboratory to isolate acid fast organisms from sterile and nonsterile sources.

Lowenstein Medium, Gruft is the Gruft modification of Lowenstein Medium, Jensen. Ribonucleic acid is incorporated into the medium to increase the isolation of mycobacteria. Penicillin and Nalidixic acid are added to decrease contamination.

The increased sodium chloride concentration in Lowenstein Medium, Jensen w/5% NaCl helps to differentiate rapid – growing mycobacteria from slow growers, which are inhibited in the presence of salt. Glycerol is added as a carbon source.

QC Tests – (I)Dehydrated Medium		
	Colour :	Greenish blue to peacock blue
	Appearance :	Homogenous free flowing powder
(II)Rehydrated medium		
	pH (post inspissation) :	Self
	Colour (post inspissation) :	Sterile basal medium + whole egg emulsion : Pale bluish green
	Clarity (post inspissation) :	Opalescent

(III) Q.C. Test Microbiological

Cultural characteristics observed in presence of 5-10% Carbon dioxide, with added egg emulsion base, after an incubation at 35-37ºC for 2-4 weeks

MICROORGANISM (ATCC)	GROWTH	GROWTH WITH GRUFT SUPPLEMENT (BF076)	COLONY CHARACTERISTIC
Mycobacterium avium (25291)	Luxuriant	Good-luxuriant	Smooth, nonpigmented colonies
Mycobacterium gordonae (14470)	Luxuriant	Good-luxuriant	Smooth, yellow, orange colonies
Mycobacterium kansasii (12478)	Luxuriant	Good-luxuriant	photochromogenic, smooth to rough
Mycobacterium smegmatis (14468)	Luxuriant	Good-luxuriant	wrinkled,creamy white colonies
M. tuberculosis H37RV (25618)	Luxuriant	Good-luxuriant	granular, rough, warty, dry friable colonies

Refer disclaimer Overleaf

Precautions :	1. For Laboratory Use.				
	2. Follow proper, established laboratory procedures in handling and disposing of infectious materials.				
Limitations :	1. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.				
	2. Negative culture results do not rule out an active mycobacterial infection. Some factors responsible for unsuccessful cultures are; a) The specimen was not representative of the infectious material, i.e., saliva instead of sputum. b) The mycobacteria were destroyed during digestion and decontamination of the specimen. c) Gross contamination interfered with the growth of mycobacteria. d) Proper aerobic and increased CO_2 tension were not provided during incubation.				
Use :	For isolation and cultivation of Mycobacterium species.				
Storage :	Dehydrated medium- below 30°C Prepared medium– Between 2 to 8°C.				
Packing :	500 gm. bottle				
Product profile:	Reconstitution	Quantity on Preparation (500g)	pH (25°C)	Supplement	Sterilization
B230	37.24 g/l	13.42 lit	self	Egg emulsion base and Gruft Mycobacterial supplement (BF076)	121^0C/15 min