PRODUCT INFORMATION

Product Type: 16x125mm Tubes

Cat No. TT402 - LOWENSTEIN - JENSEN (L J W. GLYC. PACT)

Intended Use:

Lowenstein- Jensen + PACT is a selective, differential and enriched medium used primarily for the cultivation and isolation of *Mycobacterium spp.*

Principles and uses:

- The system has a special design with a cap allowing ventilation of the medium without unscrewing.
- L-J is a glycerated egg-potato medium containing malachite green added as an inhibitor to microorganisms other than acid fast bacilli. The addition of PACT, containing Polymyxin B, Amphotericin, Carbenicillin and Trimethoprim inhibits most competitive bacteria and yeasts. The inclusion of ribonucleic acid (RNA) increases the percentage of tubercle bacilli recovered from clinical specimens compared to recovery on the standard L J Medium.

Application

Clinical TB Diagnosis: Enhanced recovery of *M. tuberculosis* from respiratory and non-respiratory specimens, especially those at high risk for contamination (e.g., sputum, gastric aspirate).

Environmental or veterinary samples: Useful where heavy bacterial or fungal loads might otherwise overgrow conventional LJ slopes.

Advantages of vented cap:

- **Ventilation without unscrewing**: the cap design allows ventilation of the medium without opening the tube.
- **Safer handling:** tubes do not need to be opened or loosened during incubation, which helps limit handling of potentially infectious cultures.
- **Supports aerobic growth**: gas exchange during incubation suits mycobacteria, which require oxygen.
- **Helps reduce contamination risk:** fewer manipulations mean fewer opportunities to introduce contaminants, complementing the PACT selective supplement.
- **Consistent incubation conditions**: every tube is ventilated in the same way, regardless of how loosely a cap would otherwise be left.
- **Ready to incubate**: no cap adjustment is needed after inoculation.

Limitations

- Because malachite green is photo-sensitive, protect the tubes from all sources of light.
- *M. bovis* may not grow on this medium because the presence of glycerol.
- The agar is light green in color with occasional areas of light-yellow particles of egg yolk lipid. These particles should not be mistaken for either mycobacteria or contaminated colonies.
- Since moisture is an essential growth requirement by mycobacteria, keep the tubes tightly sealed until use.

Composition: Basic ingredients per 1600 ml of medium:

L-Asparagine 3.60gr
Monopotassium Phosphate 2.40gr
Magnesium sulfate 0.24gr
Magnesium citrate 0.60gr

Starch From Potato 30.00gr
Malachite Green 0.40gr
Glycerol 12.00gr
R.O. Water 600ml
Whole eggs 1000ml
Polymyxin B 320,000 IU (units)
Amphotericin B 16 mg
Carbenicillin 160 mg
Trimethoprim 16 mg

Microorganisms Characteristics:

- ***M. tuberculosis***: Eugonic colonies on glycerol containing medium in the form of dry and yellowish pustules (low growth medium glycerol)
- ***M. avium****:* non-pigmented colonies
- ***M. smegmatis***: Cream-white wrinkled colonies

Storage

- The product should be stored refrigerated at 2°-8°C and protected from light.
- It should be brought to room temperature before using.

Package contents: 20 Tubes
Appearance: light green, opaque
pH Range: 6.8 - 7.4
Exp. Date: Printed on label and on the item.
Required materials not supplied: Laboratory equipment as required.

Warning and Precautions:

Warning and Precautions - For professional use only. Follow good microbiological lab practices while handling specimens and culture. Do not use Tubes if they show evidence of microbial contamination, discoloration, drying, cracking, or other signs of deterioration. Avoid freezing and overheating. The Tubes may be used / inoculated up to the expiration date and incubated for the recommended incubation times. After use and prior to discarding, specimen containers and all contaminated material, including the used culture media and contaminated culture containers, must be sterilized or incinerated by validated procedures. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.

Waste Disposal

After interpretation all items should be destroyed by standard incineration methods.

Performance Testing Results:

For *M. smegmatis*: direct inoculum from fresh colony culture
Inhibition: inoculum 10000 cfu.

Test	ATCC NO	Incubation Temp. (℃)	Incubation Cond.	Reaction 1	
Mycobacterium smegmatis	607	33-37 ℃	Aerobic, 7 days	Growth	Cream-white wrinkled colonies
Escherichia coli	25922	33-37 ℃	Aerobic, 7 days	Partially inhibited	
Enterococcus faecalis	19433	33-37 ℃	Aerobic, 7 days	Inhibited	

A statistical sampling of each batch is verified to be sterile and tested for physical parameters, pH and capability of growi ng mycobacteria.

- Further samples are serially sent to a clinical laboratory and tested for performance by ‘‘Growth Promotion Test’’ from minim um inoculum (100-1000 cfu) of standard microorganisms as well as compared to a Reference Batch tested previously.

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