Listeria Oxford Medium Base

Intended Use
Listeria Oxford Medium Base with supplements, recommended for isolation of *Listeria* species from pathological specimen.

Summary
Listeria monocytogenes is the only species of the genus *Listeria* that is important as a human pathogen. *Listeria seeligeri*, *Listeria welshimeri* and *Listeria ivanovii* have been related with animal diseases. In any case, all the species are pathogenic between the ovine and bovine cattle. Positive diagnosis of listeriosis can be obtained only by the isolation and cultivation of the responsible bacteria from blood or CSF samples of the affected organisms. Listeria Oxford Medium Base is based on the formulation described by Curtis et al for isolation of *L. monocytogenes* from clinical and food specimens.

Principle
Proteose peptone serves as the source of essential nutrients to the organisms. Corn starch serves to neutralize the toxic metabolites formed. Lithium chloride and the antibiotics inhibit Gram-negative bacteria and most Gram-positive organisms but certain strains of Staphylococci may grow as esculin negative colonies. Cycloheximide is used to reduce fungal contamination; cefotetan and phosphomycin are inhibitors of bacterial overgrowth. Acriflavin, colistin sulphate and lithium chloride inhibit bacteria other than *Listeria* species. Alternatively, moxalactam can be added which inhibits both Gram-positive and Gram-negative bacteria. *L. monocytogenes* hydrolyzes esculin to esculetin and dextrose. Esculetin reacts with ferric ions and produces black zones around the colonies.

Formula*
Ingredients	**g/L**
Proteose Peptone	23.0
Lithium Chloride	15.0
Sodium Chloride	5.0
Corn Starch	1.0
Esculin	1.0
Ammonium Ferric Citrate	0.5
Agar	10.0
Final pH (at 25°C)	7.0 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Specimen Collection and Handling
Ensure that all samples are properly labelled.
Follow appropriate techniques for handling samples as per established guidelines.
Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure.
The samples must be stored and tested within the permissible time duration.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 55.50 g of the powder in 1000 mL purified / distilled water. Boil to dissolve the powder completely.
2. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
3. Cool to 45-50°C and aseptically add rehydrated contents of 1 vial of Oxford Listeria Supplement (204150130001) or 1 vial of Listeria Moxalactum Supplement (204120560005).
4. Mix well before pouring into sterile petridishes.

Quality Control

Dehydrated Appearance: Dark yellow coloured coloured, homogeneous, free flowing powder.
Prepared Appearance: Dark amber coloured, clear gel with blue cast forms in petridishes.
Cultural Response: Cultural characteristics observed after an incubation at 30°C -35°C for 24-48 hours.

Organism (ATCC)	Growth	Esculin Hydrolysis
Listeria monocytogenes strain Li 23 (19114)	Good	+
Listeria monocytogenes serotype 4b (19115)	Good	+
Staphylococcus aureus subsp. *aureus* (25923)	Good	-
Bacillus spizizenii (6633)	Inhibited	-
Enterococcus faecalis (29212)	Inhibited	-

Key: + = Blackening of the medium
- = No change

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Curtis G. D. W., Mitchell R. G, King A. F., Griffin E. J., 1989, Lett. Appl. Microbiol.,8:95
2. Van Netten P., Peroles I., Van de Mosdik A., Curtis G. D. W., Mossel D. A. A, 1988, Int. J. Food Microbiol., 6:187.
3. Hayes P. S, Feeley J. L, Groves L. M, Ajello G. W. and Fleming D. W, 1986, Appl. Environ. Microbiol., 51:438.
4. Fernandez G. J. F., Dominguez R. L., Vazzuez B. J. A., Rodriguez F.E. F., Briones D. V., Blanco L. J. L., Suarez F. G., 1986, Can. J. Microbiol., 32:149.
5. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201120240100	Dehydrated Culture Media	100 g
201120240500	Dehydrated Culture Media	500 g