Modified Oxford Agar

Intended Use
Modified Oxford Agar is used for selective isolation and differentiation of *Listeria monocytogenes* in food.

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. Modified Oxford Agar is based on the formulation described by Curtis *et al.,* for isolation of *L. monocytogenes* from clinical and food specimens. Modified Oxford Medium is a modification of Listeria Oxford Medium wherein the concentration of lithium chloride in the medium is reduced to 15 grams per litre to allow sensitive *Listeria* species to grow in the medium.

Principle
Pancreatic digest of casein, proteose peptone, yeast extract and MX Nutrients 1 serve as the source of essential nutrients to the organisms. Starch serves to neutralize the toxic metabolites formed. Lithium chloride and the antibiotics inhibit Gram-negative bacteria and most Gram-positive organisms. *L. monocytogenes* hydrolyzes esculin to esculetin and dextrose. Esculetin reacts with ferric ions and produces black zones around the colonies.

Formula*

Ingredients	**g/L**
Pancreatic Digest of Casein	8.9
Proteose Peptone No.03	4.4
Yeast Extract	4.4
MX Nutrients 1#	2.7
Starch	0.9
Sodium Chloride	4.4
Esculin	1.0
Ferric Ammonium Citrate	0.5
Lithium Chloride	15.0
Agar	15.3
Final pH (at 25°C)	7.2 ± 0.2

*Adjusted to suit performance parameters.
#Equivalent to Tryptic Digest of Beef Heart

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.

Type of Specimen
Clinical samples; Food and Dairy samples

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 57.50 g of powder in 1000 mL of purified / distilled water.
2. Mix thoroughly.
3. Warm slightly with frequent agitation to dissolve the powder completely.
4. Sterilizing by autoclave at 121°C (15 psi) for 15 minutes as per validated cycle.
5. Cool to 45°C-50°C.
6. Aseptically add a filtered sterilized aqueous solution of 10 mg colistin sulphate and 20 mg moxalactam.

Quality Control

Dehydrated Appearance: Dark yellow coloured, homogeneous, free flowing powder.
Prepared Appearance: Dark amber coloured, clear gel with blue cast forms in petridishes.
Cultural Response: Cultural characteristics observed with added filter sterilized aqueous solution of 10 mg of Colistin Sulphate and 20 mg of Moxalactam after an incubation of 18-24 hours at 35°C-37°C.

Organism (ATCC)	Growth	Esculin Hydrolysis
Listeria monocytogenes strain Li 23 (19114)	Good	+
Listeria monocytogenes serotype 4b (19115)	Good	+
Escherichia coli (25922)	Complete Inhibition	-
Enterococcus faecalis (29212)	Complete Inhibition	-

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

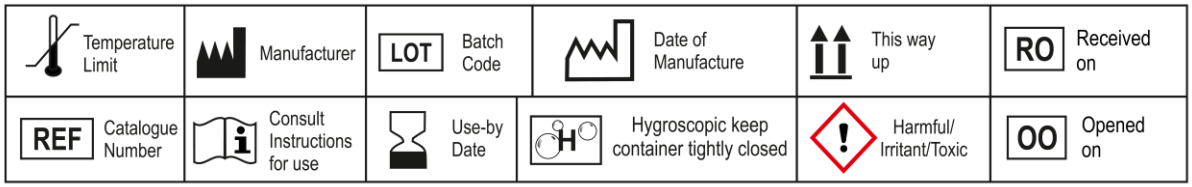
This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Curtis G. D. W., Mitchell R. G, King A. F., Griffin E. J., 1989, Lett. Appl. Microbiol.,8:95.
2. Curtis, G.D.W., Nichols, W.W. and Falla, T.J.(1989b) Selective agents for listeria can inhibit their growth. Lett. Appl. Microbiol. 8, 169-172.
3. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201130580500	Dehydrated Culture Media	500 g



Revision: 0725/VER-03

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.