

CM 20980 – LISTERIA OXFORD MEDIUM BASE, MODIFIED

INTENDED USE

For isolation and differentiation of *Listeria* species from clinical specimens.

PRODUCT SUMMARY AND EXPLANATION

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.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone	8.900
Beef heart extract	2.700
Proteose Peptone, B	4.400
Yeast Extract	4.400
Lithium Chloride	15.000
Sodium Chloride	4.400
Corn Starch	0.900
Esculin	1.000
Ammonium Ferric Citrate	0.500
Agar	15.300

PRINCIPLE

This medium consists of Tryptone, beef heart extract, proteose peptone B and yeast extract which 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 fosfomycin 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. Although the selectivity of the medium is enough to allow the isolation and differentiation by direct surface inoculation, a previous dilution of the inoculum is advisable or even more when the sample is highly polluted.

INSTRUCTION FOR USE

Dissolve 57.5 grams in 1000 ml purified/distilled water.

Heat to boiling to dissolve the medium completely.

Sterilize by autoclaving at 15 psi pressure (121°C) for 10 minutes.



Cool to 45-50°C and aseptically add the rehydrated contents of 2 vials of Oxford Listeria Supplement or 2 vials of Listeria Moxalactam Supplement Modified.

Mix well and pour into sterile Petri plates.

Caution: Lithium chloride is harmful. Avoid bodily contact and inhalation of vapours. On contact with skin, wash with plenty of water immediately.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Light yellow to dark yellow homogeneous free flowing powder.
Appearance of prepared medium	: Dark amber coloured clear to slightly opalescent gel with a blue cast forms in Petri plates.
pH (at 25°C)	: 7.2 ± 0.2

INTERPRETATION

Cultural characteristics observed with added Oxford Listeria Supplement or Listeria Moxalactam supplement Modified after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Esculin hydrolysis	Incubation Temperature	Incubation Period
Bacillus subtilis	6633	$\geq 10^3$	Inhibited	0%	-	35-37°C	24-48 Hours
Enterococcus faecalis	29212	$\geq 10^3$	Inhibited	0%	-	35-37°C	24-48 Hours
Enterococcus hirae	10541	$\geq 10^3$	Inhibited	0%	-	35-37°C	24-48 Hours
Escherichia coli	25922	$\geq 10^3$	Inhibited	0%	-	35-37°C	24-48 Hours
Listeria monocytogenes	19111	50-100	Luxuriant	$\geq 70\%$	Positive reaction, blackening of medium around the colony	35-37°C	24-48 Hours
Listeria monocytogenes	19112	50-100	Luxuriant	$\geq 70\%$	Positive reaction, blackening of medium around the colony	35-37°C	24-48 Hours
Listeria monocytogenes	19117	50-100	Luxuriant	$\geq 70\%$	Positive reaction, blackening of medium around the colony	35-37°C	24-48 Hours
Staphylococcus aureus	25923	50-100	Good	40-50%	Negative reaction	35-37°C	24-48 Hours

PACKAGING:

In pack size of 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

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.

 Good Manufacturing Practices Certified	 For In Vitro Diagnostic Use	 Quantity	 Lot / Batch Number	 Catalogue Number	 Manufacturer
 Temperature Unit	 Authorized Representative MedNet GmbH Birkstrasse 10, 48163 Münster, Germany	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

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

*For LabUse Only

