CM 20978 – LISTERIA OXFORD AGAR BASE W/ 1.2% AGAR

INTENDED USE

Forisolationofspecimen Listeria species from food samples in accordance with FDA BAM, 1998

PRODUCTSUMMARYANDEXPLANATION

Thegenus Listeria contains six species; L. monocytogenes, L. innocua, L. seeligeri, L. welshimeri, L. ivanovii, and L. grayi. Listeria monocytogenes is the only species of the genus Listeria that is important as a human pathogen. The universal occurrence of L. monocytogenes in food and the risk of contracting food-borne L. monocytogenes listeriosis has been thoroughly reviewed recently and L.monocytogenes has been detected in the food processing environment, such as on food contact surfaces and equipment. Other species; Listeria seeligeri, Listeria welshimeri and Listeria ivanovii have been related with animal diseases. L. ivanovii and L. monocytogenes are pathogenic for mice and other animals. However, only L. monocytogenes is commonly associated with human listeriosis. Listeriosis associated infection by L. ivanovii, and even L. seeligeri is extremely rare in humans.

The preferred standard methodology, and permitted alternative rapid methodologies, to be used for detection and isolation of Listeria monocytogenes are as follows. Presumptive contaminated food lots are sampled. Generally, sub-samples are composited if required by FDA field laboratory instructions. Analytical portions (25 g) are pre-enriched for Listeria species at 30° C for 4 h in buffered Listeria Enrichment broth (BLEB), equivalent to AOAC/IDF dairy products enrichment broth base containing sodium pyruvate. At the fourth hour of the incubation, the selective agents (acriflavin, 10 mg/ L; sodium nalidixate, 40 mg/L; optional antifungal, e.g. cycloheximide 50 mg/L) are added. Incubation for selective enrichment is continued at 30° C for a total of 48 h. The enrichment culture is streaked at 24 and 48 h on one of the prescribed differential selective-agars in order to isolate Listeria species. The selective and differential media containing esculin and ferric citrate aids in Listeria isolation and detection based on esculin hydrolysis. Listeria Oxford Medium Base is based on the formulation described by Curtis et al for the selective isolation of L. monocytogenes from food specimens, and is recommended by FDA BAM for the same purpose.

COMPOSITION

Ingredients	Gms / Ltr
Peptone, special	23.000
Lithium Chloride	15.000
Sodium chloride	5.000
Corn Starch	1.000
Esculin	1.000
Ammonium Ferric Citrate	0.500
Agar	12.000

PRINCIPLE

This mediumconsists of Peptone special 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. Colistin sulphate, moxalacatam 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.

INSTRUCTION FOR USE

Dissolve28.75gramsin 500 ml purified/distilled water.

Heat to boiling to dissolve the medium completely.
Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
Cool to 45-50°C and aseptically add the rehydrated contents of 1 vial of Listeria Moxalactam Supplement,Modified.
Mix well before pouring into sterile Petri plates.
Warning: Lithium chloride is harmful. Avoid bodily contact and inhalation of vapors. 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 ± 0.1

INTERPRETATION

Culturalcharacteristics observed with added Listeria Moxalactam supplement, Modified after incubation.

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

PACKAGING:

Inpacksizeof500 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

Afteruse,prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

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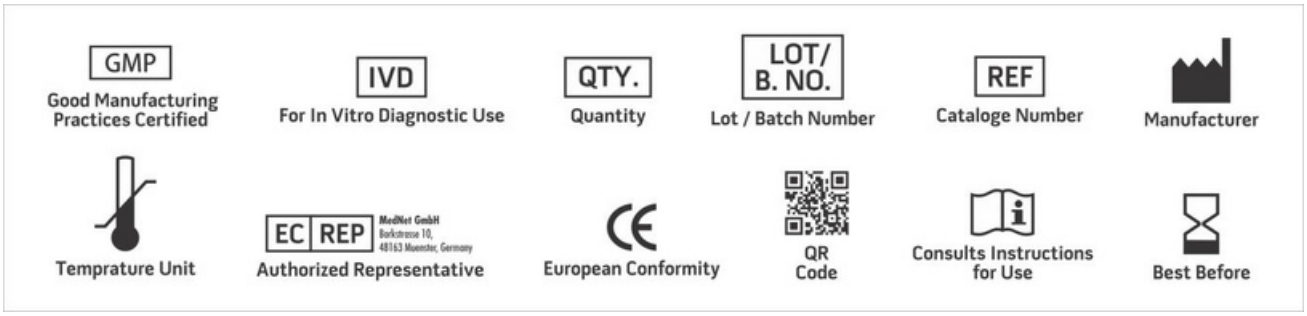

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

*For LabUse Only