

Technical Information

MiCrome Listeria Agar Plate

Product Code: PM 2417F

Application: Recommended for rapid and direct identification of Listeria species in accordance with FDA BAM, 1998.

Composition**				
Ingredients	Gms / Litre			
Peptone, special	30.000			
HM Extract #	5.000			
Yeast Extract	1.000			
Lithium Chloride	9.000			
D-Xylose	10.000			
Phenol Red	0.120			
Chromogenic Mixture	5.130			
Agar	13.000			
MiCrome Listeria Selective Supplement (MS2181)	2 vials			
Ceftazidime (2x2mg)	4.000 mg			
Amphotericin B (2x2.5mg)	5.000 mg			
Final pH (at 25°C)	7.3±0.1			
**Formula adjusted, standardized to suit performance parame	ters			
Key : # - Equivalent to Meat extract				

Principle & Interpretation

MiCrome Listeria Agar Plate, Modified is a modification of the formulas by Notermans et al. (1) and Mengaud et al. (2) for the detection of *Listeria* species from food stuffs. This is also in accordance with the FDA BAM, 1998 (3). This media helps in the presumptive identification of *Listeria monocytogenes* within 24-48 hours after pre-enrichment. The principle of detection is based on the specific chromogenic detection of beta-glucosidase activity and also D-Xylose fermentation. *Listeria* species hydrolyse the purified chromogenic substrate in the medium giving blue coloured colonies. Since ß-glucosidase activity is specific for *Listeria* species; other organisms cannot utilize the chromogenic substrate and therefore give white colonies. Differentiation between *Listeria* species is based on the property of D-Xylose fermentation. The colonies of *L.monocytogenes* and *L.innocua* appear blue with a yellow halo (D-Xylose positive) while the colonies of *L.ivanovii* appear blue without a yellow halo (D-Xylose negative). Peptone, yeast extract and HM extract provide nitrogenous substances, vitamin B complex and other essential growth nutrients. D-Xylose is the fermentable carbohydrate with phenol red as an indicator. Sodium chloride maintains the osmotic equilibrium. The added lithium chloride and MiCrome Listeria Selective Supplement (MS2181) inhibit growth of most gram-positive bacteria, gramnegative bacteria, yeasts and moulds.

Type of specimen

Food samples

Specimen Collection and Handling

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (5). After use, contaminated materials must be sterilized by autoclaving before discarding.



Warning and Precautions

Read the label before opening the pack. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

- 1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium
- 2. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.
- 3. Slight colour variation may be observed depending upon strains.
- 4. Further biochemical tests must be carried out for confirmation.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Methodology

Either streak, inoculate or surface spread the test inoculum (50-100 CFU) aseptically on the plate.

Quality Control

Appearance

Sterile MiCrome Listeria Agar in 90mm disposable plates. Colour Red coloured medium Quantity 25ml of medium in 90mm plate pH 7.10-7.50 Sterility Check

Passes release criteria

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.



Ready Prepared Media

Organism	Inoculum(CFU)	Growth	Colour of Colony	Rhamnose fermentation
Bacillus subtilis subsp.spizizenni	>=10 ⁴	inhibited		
ATCC 6633 (00003*)				
Candida albicans ATCC 10231 (00054*)	>=10 ⁴	inhibited		
Escherichia coli ATCC 25922 (00013*)	>=10 ⁴	inhibited		
Listeria innocua ATCC 33090 (00017*)	50-100	luxuriant	bluish green	Positive reaction(yellow background)
Listeria ivanovii ATCC 19119 (00018*)	50-100	luxuriant	bluish green	Negative reaction
Listeria monocytogenes ATCC 19118	50-100	luxuriant	bluish green	Positive reaction(yellow halo)
Pseudomonas aeruginosa ATCC 27853 (00025*)	>=10 ⁴	inhibited		

(*) - Corresponding WDCM numbers

Storage and Shelf Life

- On receipt store between 2-8°C Use before expiry date on the label.
- Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (1,3).

Further Reading

- 1. Isenberg, H. Clinical Microbiology Procedures Handb0ook. 2nd Edition.
- 2. Mengaud J., Braun-Breton C. and Cossart P., (1991), Molecular Microbiology, 5(2): 367-372.P
- 3. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Eds.), 2003, Manual of Clinical Microbiology, 8 th Ed., American Society for Microbiology, Washington, D.C.
- 4. Notermans S.H. and Dufrenne J., (1991), Applied and Environmental Microbiology, 57(09): 2666-70.
- 5. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.



Disclaimer

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
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