



PRODUCT SPECIFICATION SHEET

Listeria Selective Agar (Twin Pack)(DM931)

Intended Use

Listeria Selective Agar (Twin Pack) (DM931) is recommended for selective isolation and cultivation of *Listeria* species from clinical specimen.

Product Summary and Explanation

Listeria is a genus of bacteria that contains ten species. *Listeria* species are facultatively anaerobic, gram positive bacilli.⁽¹⁾ The major human pathogen in the *Listeria* genus is *L. monocytogenes*. It is usually the causative agent of the relatively rare bacterial disease, listeriosis, a serious infection caused by eating food contaminated with the bacteria. *Listeria* can be found in soil, which can lead to vegetable contamination. *Listeria* has been found in uncooked meats, uncooked vegetables, fruit such as pasteurized or unpasteurized milk, foods made from milk, and processed foods.⁽²⁾ Listeria Selective Agar was proposed by Feindt⁽³⁾ for the cultivation of *Listeria* species from clinical and nonclinical specimens. Obiger and Schonberg⁽⁴⁾ reported the superiority of these media to yield *Listeria* from mix-infected specimens.

Principles of the Procedure

Listeria Selective Agar contains casein enzymic hydrolysate, peptic digest of animal tissue which provides essential nutrients required for the growth of microorganisms. Dextrose is the carbon and energy source. Sodium chloride maintains the osmotic balance. Thiaminium dichloride is the vitamin B source added to improve the growth of *Listeria*. Thiocyanate and Nalidixic acid inhibits gram-negative bacteria. The combination of Acriflavin hydrochloride and Nalidixic acid promotes isolation of *Listeria* species.

Formula / Liter

Ingredients	Gms / Liter
Part A	
Casein enzymic hydrolysate	10.00
Peptic digest of animal tissue	10.00
Dextrose	1.00
Sodium chloride	5.00
Thiaminium dichloride	0.005
Acriflavin hydrochloride (Trypaflavin)	0.01
Nalidixic acid	0.04
Agar	13.00
Part B	
Potassium thiocyanate	37.50
Final pH: 7.4 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.
3. It is also recommended that pregnant staff should be excluded from working with known cultures of *Listeria*.
4. Listeria media containing acriflavine should be protected from light because photo-oxidation makes it inhibitory to *Listeria*.

Directions

1. Suspend 39 grams of Part A and 37.5 grams of Part B in one liter of distilled water.
2. Heat to boiling, to dissolve the medium completely.





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3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.

Quality Control Specifications

Dehydrated Appearance	Part A : Cream to yellow homogeneous free flowing powder Part B : White to cream homogeneous free flowing powder
Prepared Medium	Yellow coloured clear to slightly opalescent gel forms in Petri plates
Reaction of (3.9% w/v Part A + 3.75% w/v Part B) Solution	pH : 7.4 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.3% Agar gel

Expected Cultural Response: Cultural characteristics observed in presence of 10% Carbon dioxide (CO₂) after an incubation at 35-37°C for 48 hours.

Sr. No.	Organisms	Results to be achieved		
		Inoculum (CFU)	Growth	Recovery
1.	<i>Enterococcus faecalis</i> ATCC 29212	50-100	none-poor	<=10%
2.	<i>Escherichia coli</i> ATCC 25922	>=10 ³	inhibited	0%
3.	<i>Listeria innocua</i> ATCC 33090	50-100	good-luxuriant	>=50%
4.	<i>Listeria ivanovii</i> ATCC 19119	50-100	good-luxuriant	>=50%
5.	<i>Listeria monocytogenes</i> ATCC 19112	50-100	good-luxuriant	>=50%
6.	<i>Listeria monocytogenes</i> ATCC 19118	50-100	good-luxuriant	>=50%

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

Refer to appropriate references for standard test procedures.

Results

Refer appropriate references and procedures for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : *Listeria* Selective Agar

Product Code : DM931

Available Pack sizes : 500gm



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References

1. Singleton P., 1999. *Bacteria in Biology, Biotechnology and Medicine* (5th ed.). Wiley. pp. 444-454.
2. Bille J, Rocourt J, Swaminathan B. *Listeria, erysipthrix and Kurthia*. 1999. In: Murray PR, Baron EJ, Pfaller MA, Tenover FC, Tenover RH, editors. *Manual of Clinical Microbiology*. 7th ed. Washington DC: American Society for Microbiology. 346-56.
3. Feindt E., 1972, Inaug. Diss., Würzburg.
4. Obiger G. and Schonberg A., 1973, *Fleischwirtschaft*, 10:1450. 3. Lebnert C., 1964, *Arch. Exp. Vet. Med.*, 8:891 and 1247. 4. Beerens H. and Tahon-Castel M.M., 1966, *Ann. Inst. Pasteur*, 111:90.

Further Information

For further information please contact your local MICROMASTER Representative.



MICROMASTER LABORATORIES PRIVATE LIMITED

DM931PSS, QAD/FR/024, Rev.00

Unit 38/39, Kalpataru Industrial Estate,
Off G.B. Road, Near 'R-Mall', Thane (W) - 400607. M.S. INDIA.
Ph: +91-9320126789/9833630009/9819991103
Email: sales@micromasterlab.com

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