

PRODUCT SPECIFICATION SHEET



MC Bride Listeria Agar Base (DM1640)

Intended Use

MC Bride Listeria Agar Base (DM1640) is Recommended for selective isolation and cultivation of *Listeria monocytogenes* from foodstuffs, clinical samples.

Product Summary and Explanation

Listeria species are microaerophilic, gram-positive, asporogenous, non-encapsulated, non-branching, regular, short, motile rods. Motility is most pronounced at 20°C. The most common contaminating bacteria found in food sources potentially containing *Listeria* are: streptococci, especially the enterococci, micrococci, *Bacillus* species, *Escherichia coli*, *Pseudomonas aeruginosa* and *Proteus vulgaris*.⁽¹⁾ *Listeria* species grow over a pH range of 4.4-9.6, and survive in food products with pH levels outside these parameters.⁽²⁾ Identification of *Listeria* is based on successful isolation of the organism, biochemical characterization and serological confirmation.

Among the *Listeria* species only *Listeria monocytogenes* is reported to cause infection in humans. In 1926 Murray, Webb and Swann,⁽¹⁾ first described that *Listeria monocytogenes* is a widespread problem in public health and the food industries. This organism can cause human illness such as meningitis, encephalitis or septicaemia and the tropism of *L. monocytogenes* for the central nervous system leads to severe disease, often with high mortality or with neurologic disorders among survivors,⁽³⁾ particularly in immunocompromised individuals and pregnant women.⁽⁵⁾ The first food-borne outbreak of listeriosis was reported in 1985.⁽⁶⁾ Since then, microbiological and epidemiological evidence from both sporadic and epidemic cases of listeriosis has shown that the principal route of transmission is via the consumption of foodstuffs contaminated with *Listeria monocytogenes*.⁽⁶⁾

MC Bride Listeria Agar in isolation of *Listeria*, when it is in low numbers and it is recommended by APHA⁽⁴⁾.

Principles of the Procedure

MC bride Listeria Agar Base contains tryptone and beef extract make the media highly nutritive by providing nitrogen, carbon and other essential nutrients necessary for growth of organisms. Phenyl ethanol has an inhibitory effect on Gram negative bacteria,⁽⁷⁾ Lithium chloride and glycine is also used to inhibit *Enterococci* and Gram-negative bacteria. Growth of accompanying bacteria is largely inhibited by the addition of MC Bride selective supplement(MS184).

Formula / Liter

Ingredients	Gms / Liter
Tryptose	10.000
Beef extract	3.000
Sodium Chloride	5.000
Glycine Anhydride	10.000
Lithium Chloride	0.500
Phenyl ethanol	2.500
Agar	15.000
Final pH: 7.3 ± 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. Lithium chloride is harmful. Avoid bodily contact and inhalation of vapours. On contact with skin wash with plenty of water immediately.

Directions

1. Suspend 46.0 grams in 1000 ml purified/distilled water.
2. Heat to boiling to dissolve the medium completely.



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3. Sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 minutes, Cool to 45-50°C.
4. Before gelling, aseptically add sterile defibrinated blood to a final concentration of 5% v/v and add rehydrated contents of one vial of McBride Selective Supplement (MS184).
5. Mix well and pour into sterile Petri plates.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Basal medium: Light amber coloured clear solution with slight precipitate. After addition of 5%v/v sterile blood : Cherry red opaque gel forms in Petri plates
Reaction of 4.60% Solution	pH : 7.3 ± 0.2 at 25°C
Gel Strength	Not Applicable

Expected Cultural Response: Cultural characteristics observed in anaerobic atmosphere with added McBride Selective Supplement (MS184) and 5%v/v sterile defibrinated blood, after an incubation at 35-37°C for 24-48 hours

Sr. No.	Organisms	Results to be achieved				
		Inoculum (CFU)	Growth with MS184	Recovery with MS184	Growth with MS184	Recovery with MS184
1.	<i>Escherichia coli</i> ATCC 25922	50 - 100	Nove to poor	<=10%	Nove to poor	<=10%
2.	<i>Enterococcus faecalis</i> ATCC 29212	50 - 100	Nove to poor	<=10%	Nove to poor	<=10%
3.	<i>Pseudomonas aseruginosa</i> ATCC27953	50 - 100	Nove to poor	<=10%	Nove to poor	<=10%
4.	<i>Listeria monocytogenes</i> ATCC 19112	50 - 100	good-luxuriant	>=50%	good-luxuriant	>=50%

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

Test Procedure

Refer to appropriate references and test procedures for interpretation of results.

Results

Refer to appropriate references and test 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. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : MC Bride Listeria Agar Base

Product Code : DM1640

Available Pack sizes : 500gm

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References

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Further Information

For further information please contact your local MICROMASTER Representative.



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