62653 LPM Agar
(Lithium chloride Phenylethanol Moxalactam Plating Agar; Listeria LPM Agar)

For the isolation and cultivation of *Listeria monocytogenes* from food and diary products.

Composition:

Ingredients	Grams/Litre
Agar	15.0
Glycine anhydride	10.0
Lithium chloride	5.0
Sodium chloride	5.0
Casein peptone (pancreatic)	5.0
Peptone (animal)	5.0
Beef extract	3.0
Phenylethyl alcohol	2.5
Final pH 7.3 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at -20°C.

Appearance: Faintly beige coloured, homogeneous, free flowing powder.
Colour and Clarity: Faintly yellow coloured, clear to slightly opalescent gel forms in petri plates.

Directions:
Dissolve 50.5 g in 998 ml distilled water. Heat gently and bring to the boil with constant stirring. Autoclave at 121°C for 12 minutes. Cool to 45-50°C and add aseptically 1 vial Moxalactam Supplement (Cat. No. 43963).

Principle and Interpretation:
LPM Agar was first described in 1926 by Murray et al. and later modified by Lee and McClain for the isolation of *Listeria monocytogenes*. *Listeria monocytogenes* is a widespread pathogen and can cause human illness and death. The first reported food-borne outbreak of listeriosis was in 1985. *Listeria* is regulary found in foodstuffs like meat, cheese and other dairy products. *Listeria* species grow over a pH range of 4.4-9.6, and survive in food products even outside this pH range. *Listeria spp*. are microaerophilic, gram-positive, asporogenous, non-encapsulated, non-branching, regular, short, motile rods. They proliferate even at temperature from 2-8°C but the motility is most pronounced at 20°C. Casein peptone, peptone and beef extract are sources of peptides and amino acids providing nitrogen for growth of microorganisms. Sodium chloride is for the osmotic balance in the media. Glycine is used for improved recovery rate of *Listeria*. Lithium chloride and phenylethanol are incorporated suppress the growth of gram-positive and gram-negative contaminants. Agar is the solidifying agent. Moxalactam, in the supplement, inhibits staphylococci, bacilli and Proteus species.

Cultural characteristics after 18-48 hours at 35-37°C

Organisms (ATCC)	Inoculum [cfu]	Growth	Recovery [%]
Bacillus subtilis (6633)	10^2-10^3	-/+	-
Enterococcus faecalis (29212)	10^2-10^3	-	0
Escherichia coli (25922)	10^2-10^3	-	0
Listeria monocytogenes (19114)	10^2-10^3	+++ (at 40-48 hours)	>50
Listeria monocytogenes (19111)	10^2-10^3	+++ (at 40-48 hours)	>50
Listeria monocytogenes (19112)	10^2-10^3	+++ (at 40-48 hours)	>50
Pseudomonas aeruginosa (27853)	10^2-10^3	-	0
Staphylococcus aureus (25923)	10^2-10^3	-	0

References:

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Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.