

PALCAM Broth (MFDS)



Medium used for the isolation and identification of *Listeria* spp.

• CONTENTS (Liter)

Peptone	23.0 g
Mannitol	10.0 g
Sodium Chloride	5.0 g
Starch	1.0 g
Ferric Ammonium Citrate	0.5 g
Esculin	0.8 g
Dextrose	0.5 g
Lithium Chloride	15.0 g
Phenol Red	0.08 g
Final pH = 7.2 ± 0.2 at 25°C	

• PROCEDURE

Suspend 55.88 G of powder in 1 L of distilled or deionized water. Heat to boiling until completely dissolved. Sterilize by autoclave at 121°C for 15 minutes. Cool to 45-50°C in water bath. Aseptically add 2 vials of PALCAM *Listeria* supplement (MB-P1826). Mix well. Pour into tubes.

PALCAM *Listeria* supplement

1 vial contents (each vial is sufficient for 500mL of medium)

Polymyxin B	0.005 g
Ceftazidime	0.01 g
Acriflavin HCl	0.0025 g

• INTERPRETATION

PALCAM Broth (MFDS) is a medium used for the isolation and identification of *Listeria* spp. Peptone provides nitrogen, carbon, vitamins and minerals. Mannitol, starch and dextrose are the carbohydrate and energy sources. Sodium chloride maintains the osmotic balance. Lithium chloride, polymyxin B, ceftazidime and acriflavin are the selective agents to inhibit the growth of most Gram-negative and Gram-positive organisms except *Listeria* spp. Phenol red is the pH indicator dye that exhibits changes in the pH of the medium. *Listeria monocytogenes* hydrolyzes esculin to form esculetin and dextrose. These reacts with ferric ammonium citrate appear as the brownish black colored medium. *Listeria monocytogenes* does not ferment mannitol but contaminants such as Enterococci and Staphylococci ferment mannitol and is indicated by color change from red to yellow.

• TECHNIC

Inoculate the specimen using a sterile needle to the medium. Incubate at 30°C for 24 ± 2 hours. Refer appropriate references for recommended test procedure.

• QUALITY CONTROL FOR USE

Dehydrated medium

Appearance: free-flowing, homogeneous

Color: light yellow to pink

Prepared medium

Appearance: clear

Color: red

Incubation conditions: 30°C / 24 ± 2 hours

Microorganism	ATCC	Inoculum CFU	Growth
<i>Listeria monocytogenes</i>	15313	50-100	good
<i>Escherichia coli</i>	25922	≥10 ³	inhibited
<i>Enterococcus faecalis</i>	29212	≥10 ³	inhibited

• STORE

The powder is very hygroscopic. Store the powder at room temperature, in a dry environment, in its original container tightly closed and use it before the expiry date on the label. Store prepared medium at 2 - 8°C.

• REFERENCES

1. Van Netten, P. et al.,(1989). J. of Food Microbiol. 8:299-317.
2. AFNOR. (1993). Food Microbiology – “Detection of *Listeria monocytogenes*”. IDF Provisional International Standard n° 143. International Dairy Federation, Brussels.
3. Refer to the MFDS.

• PACKAGE

Cat. No : MB-P0894K PALCAM Broth (MFDS)	500 G
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