

# PALCAM Agar



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

\*Equally use with MFDS (MB-P1330K).

## • 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
Agar	13.0 g

Final pH =  $7.2 \pm 0.2$  at 25°C

## • PROCEDURE

Suspend 68.88 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 petri dishes.

### PALCAM *Listeria* supplement

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

Polymyxin B	0.005 g
Ceftazidime	0.01 g
Acriflavine HCl	0.0025 g

## • INTERPRETATION

PALCAM Agar is a medium used for the isolation and identification of *Listeria monocytogenes*. Peptone provides source of nutrients for the organisms. Mannitol, starch and dextrose are the carbohydrate and energy sources. Sodium chloride maintains the osmotic balance. *Listeria monocytogenes* hydrolyzes esculin to form esculetin and dextrose. Esculetin reacts with ferric ammonium citrate and forms a brown-black complex seen as a black halo around colonies. Lithium chloride is the selective agent. Phenol red is the pH indicator. *Listeria monocytogenes* does not ferment mannitol but contaminants such as *Enterococci* and *Staphylococci* ferment mannitol and are indicated by color change from red to yellow.

## • TECHNIC

Inoculate the specimen using a sterile loop to the medium. Incubate at  $36 \pm 1^\circ\text{C}$  for 24 - 48 hours. Refer appropriate reference 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:  $36 \pm 1^\circ\text{C}$  / 24 - 48 hours

Microorganism	ATCC	Inoculum CFU	Growth	Characteristics
<i>Listeria monocytogenes</i>	15313	50-100	good	gray colonies / black halo
<i>Escherichia coli</i>	25922	$\geq 10^3$	inhibited	-
<i>Enterococcus faecalis</i>	29212	$\geq 10^3$	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.

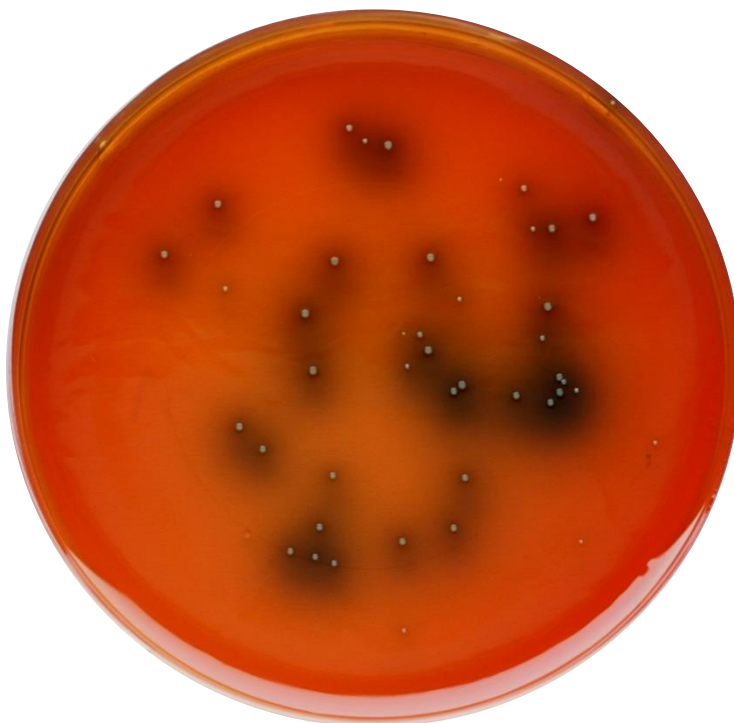
## • REFERENCES

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-P1330 PALCAM Agar	500 G
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## • MICROBIAL CULTURE IMAGES



*Listeria monocytogenes* ATCC 15313 (50-100CFU)

Incubation conditions : 36 ± 1°C / 24 - 48 hours