

PALCAM Agar Base

Product No. CM509A

Intended Use

Used for the selective isolation of *Listeria monocytogenes* in foods. (GB)

Specification 250 g

Ingredients	(g/L)
Yeast extract	8.0
Glucose	0.5
Esculin	0.8
Ammonium ferric citrate	0.5
Mannitol	10.0
Phenol red	0.1
Lithium chloride	15.0
Casein tryptone	10.0
Cardiac pancreatic enzyme digestion	3.0
Corn starch	1.0
Meat stomach enzyme digestion	5.0
Sodium chloride	5.0
Agar	15.0
(pH 7.2 ± 0.2)	

Additional Reagents

No

Principle and Interpretation

Yeast extract, casein tryptone, cardiac pancreatic enzyme digestion, meat stomach enzyme digestion and corn starch were used as nutrients in the medium to provide carbon source, nitrogen source, vitamin and growth factors for the growth of bacteria. Sodium chloride can maintain a balanced osmotic pressure. Glucose provides carbon source. Mannitol is a fermentable carbohydrate. Phenol red is a pH indicator, and some *Listeria* bacteria can ferment mannitol to produce acid to turn phenol red indicator yellow. However, some bacteria, that are not *Listeria*, such as *Staphylococcus* and *Enterococcus* can occasionally

grow on the medium, which use mannitol to produce acid to give the colony and the surrounding medium a yellow color.

When *Listeria* grew on the medium, it hydrolyzed esculin to produce 6, 7-dihydroxycoumarin, which reacted with iron ions in ferric ammonium citrate in the medium to produce a black substance, thus making the medium black. Lithium chloride and other antibiotics inhibit gram-negative bacteria and most gram-positive bacteria; Agar is a coagulant for medium.

Directions

Suspend 73.9 g of the powder in 1 L of distilled water. Heat with frequent agitation and boil to dissolve completely. Autoclave at 121 °C for 15 minutes. Cool to approximately 50 °C. Add one vial of P-104 (PALCAM selective additive) to 100 mL base, mix thoroughly and pour into sterile petri dishes.

Precautions

No

Quality Control

Microorganisms	Inoculum (CFU)	Reference Medium	Method	Incubation	Growth (Productivity Ratio : PR)
<i>Listeria monocytogenes</i> ATCC 19115	50-250	TSA	Quantitative	36°C±1°C 24h-48h	PR≥0.5, gray-green colony, sunken center, black, surrounded by black
<i>Listeria monocytogenes</i> CICC 25021 [CMCC(B) 54012]					
<i>Escherichia coli</i> ATCC 25922	-	-	Semi - quantitative	36°C±1°C 24h-48h	-
<i>Escherichia coli</i> CICC 25012 [CMCC(B) 43201]					
<i>Enterococcus faecalis</i> ATCC 29212					
<i>Enterococcus faecalis</i> CICC 25019 [CMCC(B) 32482]					

Storage Conditions

Keep container tightly closed and store in a cool dry place.

Shelf Life

3 years.

Related Products

Product No.	Product Name	Specification
GCM509A	PALCAM Agar Base (Granule)	250 g
PB015A	PALCAM Agar Plate	20 Plates

For laboratory use in industry or R&D purpose. Not for drug, household or other uses.