Reference: BPWR3008 **A.B.E. - Technical Data Sheet**

Product: # Palcam Listeria Agar

Specification

Solid, selective and differential medium for the detection, enumeration and isolation of *Listeria spp*. according to ISO Standards 11290-1 and 11290-2.

Presentation

	Packaging Details	Shelf Life	Storage
20 Prepared Plates 90 mm with: 21 ± 2 ml	1 box with 2 packs of 10 plates/pack. Single cellophane.	3 months	2-14 ºC

Composition

Composition (g/l):

Tryptone	23.0
Lithium chloride	15.0
Mannitol	10.0
Sodium chloride	5.00
Starch	1.00
Esculin	0.80
Ferric Ammonium citrate	0.50
D(+) Glucose	0.50
Phenol red	0.08
Agar	13.0
Polymixin B	0.01
Acriflavine	0.005
Ceftazidime	0.023
Yeast extract	3.00

Description /Technique

Description

Palcam Agar is based on the formulation described initially by van Netten et al. which has a high selectivity and produces good colonial differentiation. Selectivity is achieved by the inclusion of lithium chloride, acriflavine, polymyxin B and ceftazidime, since they inhibit the growth of almost all the Gram negative and most of the Gram positive companion bacteria.
Listeria hydrolyze esculin to esculetin, which reacts with ferric ammonium citrate producing a dark precipitate and green-grey colonies with beige halos. If colonies of enterococci or staphylococci do grow on this medium they can be easily recognized, since they utilise mannitol and produce yellow colonies and haloes, contrasting with the cherry-red colour of medium.
However, when there are many Listeria colonies, the entire medium darkens, which can cause interference in differentiation. In these cases it is advisable to perform the inoculation with a more diluted sample.

Technique

Seed the Palcam Agar with growth from a primary enrichment broth (UVM I or Lovett) or a secondary enrichment broth (UVM II, or Fraser). Incubate in a microaerophilic atmosphere for 44 ±4h hours at 37±1 ºC.
In these conditions, *Listeria* colonies have a size approx. 2 mm in diameter, and are green-grey in colour with a black core and halo. *Enterococcus* and *Staphylococcus* colonies are bigger, grey with a green-brown halo if they do not ferment mannitol and form yellow colonies with a yellow halo if they do. Presumptive *Listeria* colonies must be confirmed biochemically and serologically.

Quality control

Physical/Chemical control

Color : Reddish pH: 7.2 ± 0.2 at 25ºC

Microbiological control

Isolation by loop spreading

Microbiological control according to ISO 11133:2014/A1:2018.

Analytical methodology according to ISO 11133:2014/A1:2018; A2:2020.

Aerobiosis. Incubation at 37 ºC ± 1, reading after 44 ± 4h

Microorganism	Growth
Escherichia coli ATCC® 25922, WDCM 00013	Inhibited
L. monocytogenes ATCC® 13932, WDCM 00021	Good- Esculin +. Black medium
Enterococcus faecalis ATCC® 29212, WDCM 00087	Inhibited
L. monocytogenes ATCC® 7644	Good- Esculin +. Black medium

Sterility control

Incubation 48 h at 30-35 ºC and 48 h at 20-25 ºC: NO GROWTH.
Check at 7 days after incubation in same conditions.

Bibliography

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. ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
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