Condalab

Reference: 0939 **Technical Data Sheet**

Product: LISTERIA CHROMOGENIC AGAR (ISO 11290-1)

Specification

Solid medium for the isolation of *Listeria spp* and the presumptive identification of *L. monocytogenes*.

Presentation

	Packaging Details	Shelf Life	Storage
20 Prepared Plates 90 mm with: 21 ± 2 ml	1 box with 2 cellophane bags with 10 plates/bag.	3 months	2-14°C

Composition

Composition (g/l):

Meat Peptone	18.00
Casein Digest	6.000
Yeast Extract	10.00
Sodium pyruvate	2.000
Glucose	2.000
Magnesium glycero-phosphate	1.000
Magnesium sulfate	0.500
Sodium chloride	5.000
Lithium chloride	10.00
Disodium hydrogen phosphate (anhydr.)	2.500
BCI glucopyranoside	0.050
Nalidixate	0.020
Ceftazidime	0.020
Polymixine B	76.700 UI
Cycloheximide	0.050
Phosphatidyl-Inositol	2.000
Agar	12.000

Description /Technique

Description

The selectivity is achieved by the high concentration of lithium chloride and the mixture of antimicrobics. The differential activity is due to the chromogenic substrate to detect the □-glucosidase, enzyme that is present in all Listeria species.
The specific identification is obtained by the L-□-phosphatidylinositol, that acts as substratre for a phospholipase C that is present only in Listeria monocytogenes and some strains of Listeria ivanovii.
The combination of both substrates allows the differentiation L. monocytogenes that produces colonies blue-green in colour but surrounded by an opaque zone fron the other Listeria species that growth with blue-green colonies without any halo. This differentiation is evident after incubate the plates for 24±2 hours at 37 °C.
Sometimes, especially with highly contaminated samples it is possible that can growth some colonies, white in colour, that are not Listeria. In this case it is recommended an enrichment step previous to the plate inoculation.
Observations: Most Listeria ivanovii also produce an opaque halo around the colonies after 48 h of incubation. This presumptive evidence must be confirmed by performing the biochemical or serological identification tests (Rhamnose / Xylose sugar fermentation, hemolysis tests, CAMP test, etc.) or any test confirming the species without hesitation.

Technique

There are a lot of standardized methodology (ISO, FDA-BAM, AOAC, AFNOR, etc.). The technician must follow the protocol validated in his laboratory.
Incubate the plates right side up aerobically at 37°C for 24- 48 h.
After incubation, the colonies that have appeared onto the surface of the agar with the following appearances:

L.monocytogenes - Blue-green Colonies surrounded by opaque halo
L.innocua - Blue-green Colonies without opaque halo
Other bacteria - Blue, Colourless or completely inhibited, without halo.

Quality control

Physical/Chemical control

Color : Yellowish pH: 7.2 ± 0.2 at 25°C

Microbiological control

Spiral Spreading: Practical range 100±20 CFU; Min. 50 CFU (Productivity) / 10^4-10^6 CFU (Selectivity).
Microbiological control according to ISO 11133:2014/ Adm 1:2018.

Aerobiosis. Incubation at 37 °C±1, reading after 24-48±2h

Microorganism	Growth
L. monocytogenes ATCC® 13932, WDCM 00021	Blue-green colonies with opaque halo
Listeria innocua ATCC® 33090, WDCM 00017	Blue colonies without white halo
Enterococcus faecalis ATCC® 29212, WDCM 00087	Inhibited
Escherichia coli ATCC® 25922, WDCM 00013	Inhibited
L. monocytogenes ATCC® 35152, WDCM 00109	Blue-green colonies with opaque halo

Sterility Control

Incubation 48 hours at 30-35°C and 48 hours at 20-25°C: NO GROWTH
Check at 7 days after incubation in same conditions

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