



## Product :

**Listeria selective agar base according to Ottaviani and Agosti****Specificacion**Solid medium for the isolation of *Listeria spp* and the presumptive identification of *L. monocytogenes*.**Formula \* in g/L**

|                                 |        |                                   |        |
|---------------------------------|--------|-----------------------------------|--------|
| Meat peptone.....               | 18,000 | Lithium chloride.....             | 10,000 |
| Tryptone.....                   | 6,000  | Disodium phosphate anhydrous..... | 2,500  |
| Yeast extract.....              | 10,000 | 5-bromo-4-chloro-3-indolyl-       |        |
| Sodium pyruvate.....            | 2,000  | β-D-glucopyranoside.....          | 0,050  |
| Dextrose.....                   | 2,000  | Agar.....                         | 12,000 |
| Magnesium glycerophosphate..... | 1,000  |                                   |        |
| Magnesium sulphate.....         | 0,500  | Final pH 7,2 ± 0,2 at 25°C        |        |
| Sodium chloride.....            | 5,000  |                                   |        |

\* Adjusted and /or supplemented as required to meet performance criteria

**Directions**

Suspend 33 g of powder in 476 mL of distilled water and bring to the boil with constant stirring. Sterilise by autoclaving at 121 °C for 15 minutes. Cool to 45-50 °C and add 1 bottle of Listeria Enrichment Supplement( Ottaviani & Agosti ) (Ref.06-754-024) and 1 vial of Listeria Selective Supplement ( Ottaviani & Agosti ) (Ref. 06-755-LYO). Homogenize by mixing and distribute in Petri dishes. The solidified cool medium appears homogeneously turbid.

**Description**

Completed with all its supplements the Agar Listeria O&A is a selective and differential medium for the detection of Listeria species and the presumptive identification of Listeria monocytogenes.

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 β-glucosidase, enzyme that is present in all Listeria species.

The specific identification is obtained by the L-α-phosphatidylinositol, that acts as substrate 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 from 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.

**Remarks:**

Enrichment Supplement for Agar Listeria O&amp;A (06-754-024):

1 vial sufficient amount for 500ml complete medium

L-α-phosphatidylinositol 1,00 g  
Steril distilled water 24,0 ml

Selective Supplement for Agar Listeria O&amp;A (06-755-LYO):

1 vial sufficient amount for 500ml complete medium

Nalidixic acid 10 mg  
Ceftazidime 10 mg  
Cycloheximide 25 mg  
Polymyxin B sulphate 38350 ui

**Technique**

There are a lot of standardized methodology (ISO, FDA-BAM, AOAC, AFNOR, etc.). The technician must follow the protocol validated in his laboratory.

**Quality control****Incubation temperature:** 35°C ± 2.0 **Incubation time:** 24-48h**Inoculum:** 10-100 CFU (Productivity) // 1.000-10.000 CFU (Selectivity)

| Microorganism                            | Growth    | Remarks                                       |
|--|-----------|---|
| <i>Escherichia coli</i> ATCC 25922       | Inhibited | -   |
| <i>Listeria monocytogenes</i> ATCC 19114 | Good      | green-blue colonies surrounded by opaque halo |
| <i>Listeria monocytogenes</i> ATCC 13932 | Good      | green-blue colonies surrounded by opaque halo |
| <i>Listeria innocua</i> ATCC 33090       | Good      | green-blue colonies without opaque halo       |



Reference : 01-719

**Scharlau Microbiology - Technical data sheet**

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### References

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- Bannerman, E.S. & J. Bille (1988) A new selective medium for isolating *Listeria* from heavily contaminated material. Appl. Environ. Microbiol. 54:1:165-167
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- ISO 11290-1:1996/Amd.1:2004 Standard. Microbiology of food and animal feeding stuffs.- Horizontal method for the detection and enumeration of *Listeria monocytogenes*. Part 1: Detection Method. Amendment 1: Modification of the isolation media and the haemolysis test, and inclusion of precision data.
- ISO 11290-2:1998/Amd.1:2004 Standard. Microbiology of food and animal feeding stuffs.- Horizontal method for the detection and enumeration of *Listeria monocytogenes*. Part 2: Enumeration Method. Amendment 1: Modification of the enumeration medium.
- Jantzen, M.M., J. Navas, M. de Paz, B. Rodriguez, W.P. da Silva & M. Nuñez (2006) Evaluation of ALOA plating medium for its suitability to recover high pressure-injured *Listeria monocytogenes* from ground chicken meat. Letters Appl. Microbiol 43:313-317.
- Manafi, M. W. Kneifel & S. Bascomb (1991) Fluorogenic and chromogenic substrates used in bacterial diagnostics. Microbiol Rev. 55:3:335-348.
- Ottaviani, F., M. Ottaviani & M. Agosti (1997) Esperienza su un agar selettivo e differenziale per *Listeria monocytogenes*. Industrie Alimentari 36:1-3.
- Victor Lachica, R. (1990) Selective plating medium for quantitative recovery of food-borne *Listeria monocytogenes*. Appl. Environ. Microbiol. 56:1:167-169.
- Watkins, J. & K.P. Sleath (1981) Isolation and enumeration of *Listeria monocytogenes* from sewage, sewage sludge and river water. J. Appl. Bacteriol. 50:1-9.

### Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4°C to 30°C and <60% RH).

### Packaging