

Listeria Enrichment Broth Base (Lovett)

Art. No. 02-498

Specification

Liquid culture medium for the enrichment of *Listeria*, according to Lovett *et al.*

Formula* in g/L

Tryptone.....	17,00
Yeast extract.....	6,00
Soy peptone.....	3,00
Sodium chloride.....	5,00
Dextrose.....	2,50
Dipotassium phosphate.....	2,50
Final pH 7,3 ± 0,2 at 25°C	

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

Directions

Dissolve 36 g of powder in 1 L of distilled water and distribute 500 mL per flask. Sterilize in the autoclave at 121°C for 15 minutes. Cool to 50°C and aseptically add to each flask the contents of one vial of *Listeria* Supplement for Selective Enrichment according to FDA/IDF (Art. No. 06-107CASE or 06-107-LYO). Homogenize and distribute into suitable containers.

Note: Prepared medium (broth + supplement) must be kept away from light, since it promotes the production of acriflavine oxidised photo complexes that repress *Listeria* growth.

Description

This media formulation according to Lovett *et al.* has been adopted by the FDA for the analysis of food, and it is recommended by the IDF/FIL for the selective enrichment of *Listeria* in milk samples, due to its good results in the recovery of stressed bacteria.

Technique

Mix the sample (25 mL or 25 g) with 225 mL of complete enrichment broth and incubate at 30°C for 7 days. Make subcultures after 24 hours, 48 hours and 7 days in the following way:

- Inoculate 0,5 mL of enrichment culture onto solid medium for the *Listeria* isolation (Oxford Agar Base, Art. No. 01-471, or Palcam Agar Base, Art. No. 01-470, with their respective selective supplements).
- Alkalinize 0,5 mL of enrichment culture by mixing with 4,5 mL of 0,5% sterile KOH solution and inoculate onto solid medium for *Listeria* isolation.

Necessary supplements

Listeria Selective Supplement for Enrichment according to FDA/IDF (Art. No. 06-107CASE or 06-107-LYO)

Vial contents:

Necessary amount for 500 mL of complete medium.

Nalidixic acid, sodium salt.....	20,00 mg
Cycloheximide.....	25,00 mg
Acriflavine.....	7,50 mg

Distilled water (Solvent)

References

- ATLAS, R.M. (1993) Handbook of Microbiological Media. CRC Press. Boca Raton. Florida.
- LOVETT, J., D.W. FRANCIS & J.M. HUNT (1988) *Listeria monocytogenes* in raw milk: Detection, incidence and pathogenicity. J. Food Protect. 50:188-192.
- LOVETT, J. & A.D. HITCHINS (1989) *Listeria* isolation. FDA (Food and Drug Administrations) Bacteriological Analytical Manual. 6th ed. Supplement Sept. 1987 (2nd Print):29.01.
- VANDERZANT, C & D.F. SPLITTSTOESSER (1992) Compendium of methods for the microbiological examination of foods. APHA. Washington. DC.

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).

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Quality control

Incubation temperature: 35°C ± 2.0

Incubation time: 24 - 48 h

Inoculum: 10-100 CFU (Productivity) // 1.000-10.000 CFU (Selectivity)

Microorganism	Growth	Remarks
<i>Staphylococcus aureus</i> ATCC 25923	Inhibited	-
<i>Escherichia coli</i> ATCC 25922	Inhibited	-
<i>Listeria monocytogenes</i> ATCC 19112	Good	-
<i>Listeria monocytogenes</i> ATCC 19114	Good	-
<i>Listeria monocytogenes</i> ATCC 7644	Good	-



Left: Uninoculated tube(Control)
Centre: *Listeria monocytogenes* ATCC 19114
Right: *Listeria monocytogenes* ATCC 19112