

### Specification

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

### Formula \* in g/L

Casein peptone.....	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. DSHB3159). 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 à 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, or Palcam Agar Base, 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

Vial content:

Necessary amount for 500 mL of complete medium.

Nalidixic acid, sodium salt.....	20,0 mg
Cycloheximide.....	25,0 mg
Acriflavine.....	7,5 mg

Distilled water (Solvent)

### Quality control

**Incubation temperature:** 30°C ± 1

**Incubation time:** 24-48 h

**Inoculum:** Practical range 100 ± 20 CFU. Min. 50 CFU (productivity) according to ISO 11133:2014/Amd 1:2018.

### Microorganism

### Growth

### Remarks

<i>Listeria monocytogenes</i> ATCC® 13932	Good	-
<i>Listeria monocytogenes</i> ATCC® 35152	Good	-
<i>Enterococcus faecalis</i> ATCC® 19433	Inhibited	w. selective supplement
<i>Escherichia coli</i> ATCC® 25922	Inhibited	w. selective supplement

### 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.
- ISO 11290 standard (1996) Microbiology of food and animal feeding stuff. Horizontal method for the detection and enumeration of *Listeria monocytogenes*. Part 1 - Detection method. Part 2 - Enumeration method.
- VANDERZANT, C & D.F. SPLITTSTOESSER (1992) Compendium of methods for the microbiological examination of foods. APHA. Washington. DC.

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**Storage**

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