

**Listeria enrichment broth****Code 84606.0500****Also known as**

LEB

**Intended use**Selective broth for the enrichment of *Listeria* spp.**Formula \* - Composition in g/L**

Peptone from casein.....	17.000
Papaic digest of soya bean.....	3.000
Yeast extract.....	6.000
Glucose.....	2.500
Sodium chloride.....	5.000
Dipotassium hydrogen phosphate.....	2.500
Cycloheximide.....	0.050
Nalidixic acid.....	0.040
Acriflavin HCl.....	0.015

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

Final pH 7.3 ± 0.2 at 25 °C.

**Instructions for preparation**

Dissolve 36.1 g in 1 litre of purified water, by heating if necessary. Dispense the medium into flasks or tubes of suitable capacity. Sterilise in the autoclave at 115 °C for 15 minutes.

**Principle of the method and general information**

Listeria enrichment broth is based on the typical formulation described by J. Lovett for the enrichment of *L. monocytogenes* in foodstuffs.

Listeria enrichment broth contains peptones obtained from casein and soya bean and yeast extract as a sources of growth factors that favour the excellent growth of *Listeria*; glucose is an energy source; dipotassium hydrogen phosphate maintains the proper pH of the medium. Cycloheximide is an antifungal agent, nalidixic acid and acriflavine inhibit Gram-negative and Gram-positive organisms, respectively.

**Instruction for use**

For laboratory use only.

- Make a 1:9 dilution of the sample in Listeria enrichment broth (e.g. 25 g of sample + 225 ml of liquid medium). Incubate at 30 °C for 48 hours.
- Streak 0.1 ml aliquots of incubated broth on the surface of a plate of Listeria selective agar according to Ottaviani and Agosti (Art. N° 84748.0500) and on a second selective plating medium of choice (e.g. PALCAM agar – Art. N° 84625.0500 or Oxford agar – Art. N° 84630.500).
- Incubate the plates at 37 °C for 24 ± 3 hours. Re-incubate negative plates for a further 24 ± 2 hours.
- Confirm the typical colonies with appropriate identification tests.

**Limitations**

- It is recommended that biochemical and/or serological tests be performed on colonies from pure culture for the complete identification.
- Techniques for the detection of *Listeria monocytogenes* in foods vary, depending on the material under examination and local laws. Refer to various compendia or to national regulations for the complete procedures.

## Quality Control

### Physical characteristics:

Appearance of powder

Beige, fine, homogeneous, hygroscopic powder

Appearance of prepared medium

Pale yellow, limpid

pH (25°C)

7.3 ± 0.2

### Microbiological characteristics:

Test strains	Incubation T° / t / At.	Inoculation method	Growth characteristics	Productivity rate
<i>L. monocytogenes</i> ATCC 19111	30 °C / 48h / AE	DE	Good growth	DDI ≤ 1
<i>L. monocytogenes</i> ATCC 13932	30 °C / 48h / AE	DE	Good growth	DDI ≤ 1
<i>E. faecalis</i> ATCC 29212	30 °C / 48h / AE	ISO/TS	< 100 colonies on the subculture in TSA plate	
<i>E. coli</i> ATCC 25922	30 °C / 48h / AE	ISO/TS	Growth inhibited on the subculture in TSA	
<i>C. albicans</i> ATCC 18804	30 °C / 48h / AE	DE	Growth inhibited	
Mixture of 0.01 ml of appropriate dilution of test strains according to ISO/TS 11133-2				
<i>L. monocytogenes</i> + ATCC19111	30 °C / 48h / AE	ISO/TS	> 10 typical colonies on the subculture on ALOA plate	
<i>E. faecalis</i> + ATCC 29212	30 °C / 48h / AE	ISO/TS		
<i>E. coli</i> ATCC 25922	30 °C / 48h / AE	ISO/TS		

### Notes

DE : dilution to extinction

DDI : Highest dilution showing growth on reference culture medium (RB) - highest dilution showing growth on culture medium under test (TB)  
(considering the index as a positive value, e.g. 10<sup>-9</sup>: 9)

\*Target organisms: DDI ≤ 1: the growth on TB shall be not more than 1 dilution lower than RB

Incubation atmosphere AE: aerobic incubation

Microbiological characteristics tested in accordance to ISO/TS 11133-2

ATCC is a registered trade mark of American Type Culture Collection

## References

- Lovett, J., Hitchins A.D.(1988) FDA Federal Register, 53;x 44148-44153
- Lovett, J., Francis D.W. and Hunt J.M. (1987) J. Food Prot. 50,188-192

## Storage conditions

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+10 °C to 30 °C and <60% RH).

## Ordering information

84606.0500

Listeria enrichment broth

Bottle of 500 g