

# Buffered Listeria Enrichment Broth Base acc. to FDA/BAM 1995

For the selective enrichment of *Listeria* spp.

This medium complies with the modifications made by FDA/BAM (1995).

## Mode of Action

The enrichment broth is a modification of the formulation of Tryptic Soy Broth (CASO) with the addition of 6 g/l yeast extract and by increasing its buffering strength. Dextrose is the carbohydrate source. Sodium chloride maintains the osmotic balance of the medium. Phosphate acts as a buffer. Sodium pyruvate mediates the recovery of sublethally damaged *Listeria* spp.

The addition of acriflavine, cycloheximide and nalidixic acid inhibits the growth of the accompanying flora.

## Typical Composition (g/litre)

Tryptic Soy Broth 30 g; yeast extract 6.0; di-sodium hydrogen phosphate 9.6; potassium dihydrogen phosphate 1.35; sodium pyruvate 1.1.

## Preparation

Suspend 24 g in 500 ml of demin. water, dissolve and dispense 225 ml aliquots. Autoclave (15 min at 121 °C).

pH: 7.3 ± 0.2 at 25 °C.

The prepared broth is clear.

## Experimental Procedure and Evaluation

Inoculate *Listeria* Enrichment broth (usually add 25 g of a representative sample to 225 ml broth) and homogenize.

For the recovery of sublethally injured *Listeria* spp. incubate at 30°C for 4 h.

Thereafter, the appropriate aliquot of supplement (0.5 ml from a vial of *Listeria* enrichment supplement reconstituted by adding of 1 ml sterile demin. water) is added. The sample is thoroughly mixed and incubation is continued for another 44 h at 30°C.

After 24 and 48 h of incubation streak a loopful of incubated broth onto both Oxford and Palcam agar (alternatively LPM agar). Incubate Oxford and Palcam agar at 35 °C, LPM agar at 30°C for 24-48 h.

## Quality control

Test strains	Growth
<i>Listeria monocytogenes</i> ATCC 19114	good
<i>Listeria monocytogenes</i> ATCC 19116	good
<i>Listeria innocua</i> ATCC 33090	good
<i>Staphylococcus aureus</i> ATCC 25923	good
<i>Enterococcus faecalis</i> ATC 19433	good
<i>Escherichia coli</i> ATCC 25922	none

## Literature

LOVETT, J., FRANCES, D.W., a. HUNT, J.M.: *Listeria* in raw milk, detection, incidence and pathogenecity. - **Journal of Food Protection**, **50**: 188-192 (1987).

International Dairy Federation: Milk and milk products-detection of *Listeria* monocytogenes. - IDF Provesional International Standard No. 143 International Dairy Federation, Brussels (1990).

HITCHINS, A.D.: *Listeria monocytogenes* - In FDA-Bacteriological Analytical Manual 8<sup>th</sup> EDITION, AOAC International Arlington V.A. (1995).

SWAMINATHAN, B., ROCOURT, J., a. BILLE, J.: *Listeria* - In MURRAY, P.R., BARRON, E.J., PFALLER, M.A., TANOVER, F.C. a. YOLKEN, R.H. (Eds.) - Manual of Clinical microbiology, 6<sup>th</sup> ed. American Society of Microbiology, Washington D.C., 342-343 (1995).

FLOWERS, R.S., ANDREWS, W., DONNELLY, C.W., a. KOENING, E.: Pathogens in milk and milk products. - In MARSHAL, R.T. (ed.) Standard methods for the examination of dairy products, 16<sup>th</sup> ed. American Public Health Association, Washington D.C. (1993).

## Ordering Information

Product	Merck Cat. No.	Pack size
Buffered <i>Listeria</i> Enrichment Broth (Base) acc. to FDA/BAM 1995	1.09628.0500	500 g
<i>Listeria</i> Selective Enrichment Supplement acc. to FDA-BAM 1995/ IDF-FIL	1.11781.0001	1 x 16 vials
OXFORD <i>Listeria</i> Selective Agar (Base)	1.07004.0500	500 g
OXFORD <i>Listeria</i> Selective Supplement	1.07006.0001	1 x 13 vials
PALCAM <i>Listeria</i> Selective Agar (Base)	1.11755.0500	500 g
PALCAM <i>Listeria</i> Selective Supplement acc. to VAN NETTEN et al.	1.12122.0001	1 x 16 vials