LISTERIA UVM BROTH BASE
LISTERIA UVM1 ANTIMICROBIC SUPPLEMENT
LISTERIA UVM2 ANTIMICROBIC SUPPLEMENT

Base media, selective supplements for the enrichment procedures for the detection of *Listeria spp.* in meat and poultry.

TYPICAL FORMULAS

Listeria UVM Broth Base (g/l)	
Proteose Peptone	5.00
Tryptone	5.00
Beef Extract	5.00
Yeast Extract	5.00
Sodium Chloride	20.00
Sodium Phosphate Bibasic	12.00
Potassium Dihydrogen Phosphate	1.35
Aesculin	1.00

Listeria UVM1 Antimicrobic Supplement (vial contents for 500ml of medium)	
Acriflavin	6 mg
Nalidixic Acid	10 mg

Listeria UVM2 Antimicrobic Supplement (vial contents for 500ml of medium)	
Acriflavin	12.5 mg
Nalidixic Acid	10.0 mg

LISTERIA UVM1 ENRICHMENT BROTH
LISTERIA UVM2 ENRICHMENT BROTH

Complete UVM media for the enrichment procedures for the detection of *Listeria monocytogenes* in meat and poultry.

TYPICAL FORMULAS

Listeria UVM 1 Enrichment Broth (g/l)	
Proteose Peptone	5.00
Tryptone	5.00
Beef Extract	5.00
Yeast Extract	5.00
Sodium Chloride	20.00
Sodium Phosphate Bibasic	12.00
Potassium Dihydrogen Phosphate	1.35
Aesculin	1.00
Acriflavin	12.00 mg
Nalidixic Acid	20.00 mg

Listeria UVM 2 Enrichment Broth (g/l)	
Proteose Peptone	5.00
Tryptone	5.00
Beef Extract	5.00
Yeast Extract	5.00
Sodium Chloride	20.00
Sodium Phosphate Bibasic	12.00
Potassium Dihydrogen Phosphate	1.35
Aesculin	1.00
Acriflavin	25.00 mg
Nalidixic Acid	20.00 mg

Directions

Listeria UVM Broth Base:

Suspend 27.2g in 500ml of cold distilled water. Heat to boiling until complete dissolution. Autoclave at 121°C for 15 minutes.

Listeria UVM1 Enrichment Broth:

Dissolve the contents on one vial of Listeria UVM1 Antimicrobic Supplement in 5ml of cold distilled water. Add to 500ml of autoclaved and cooled Listeria UVM Broth Base under aseptic conditions. Mix well and distribute in bottles or sterile tubes under aseptic conditions. Final pH 7.2 ± 0.2.

Listeria UVM 2 Enrichment Broth

Dissolve the contents on one vial of Listeria UVM2 Antimicrobic Supplement in 5 ml of cold distilled water. Add to 500 ml of autoclaved and cooled Listeria UVM Broth Base under aseptic conditions. Mix well and distribute in bottles or sterile tubes under aseptic conditions. Final pH 7.2 ±0.2.

Complete Listeria Enrichment Broth UVM 1 and UVM2

Suspend 54.4g of Listeria Enrichment Broth UVM 1 or Listeria Enrichment Broth UVM 2 in 1000ml of cold distilled water. Heat to boiling until complete dissolution. Autoclave at 115°C for 15 minutes.
Final pH 7.2 ± 0.2.

WARNING:
UVM1 and UVM2 Supplements and Listeria Enrichment Broth UVM 1 and UVM2 contain acriflavin, a possible mutagen. Do not inhale. In case of eye or skin contact wash affected area thoroughly with soap and water.

Description

UVM liquid media are prepared according to the formulations described by Donnelly and Baigent and by MacCalin and Lee. UVM1 and UVM2 media are used for the "two steps" enrichment of *Listeria* spp. in meat products. The complete UVM1 medium contains a concentration of 20mg/l of nalidixic acid and 12 mg/l of acriflavin; the complete UVM2 medium contains a double concentration of acriflavin (25mg/ltr).
The complete UVM media (ref. n° 401598 and 401599) contain acriflavine and nalidixic acid in the powder because they are thermostable and can be sterilised by autoclaving (Martindale the Extra Pharmacopoeia, 1982, Haley et al. 1980).

Technique

1. Add 225ml of UVM1 Enrichment Broth to 25g or 25ml of sample. Homogenise for 2 minutes. Incubate at 30°C for 24 hours.
2. After 4 hours incubation spread 0.2ml onto Listeria Selective Agar Plates.
3. After 24 hours add 1ml to 4.5ml of sterile KOH solution (2.5g KOH and 20g NaCl in 1000ml of distilled water: pH over 12). Vortex mix one minute and within one minute subculture onto Listeria Selective Agar Plates. After 24 hours transfer 0.1ml of Listeria UVM1 culture to 10ml of Listeria UVM 2 Broth
4. Incubate the Secondary Enrichment Medium at 30°C for 24 hours. After 24 hours incubation proceed as follows: Spread 0.2ml of Secondary Enrichment Medium onto Listeria Selective Plates. Add 1ml to 4.5ml of sterile KOH solution and proceed as point 3.
5. Incubate the Selective Agar plates at 37°C for 24-48 hours, examine for typical colonies and carry on with identification tests by means of standard biochemical method or by Mono Confirm Test (code 193000).

Note: Techniques for the detection of *Listeria* in foods vary, depending on the material under examination and local laws. Refer to various compendia or to national regulations for the complete procedures.

User quality assurance (37°C-24 h)
Productivity control
L.monocytogenes ATCC 13932: growth
Selectivity control
E.faecalis ATCC 19433: partially inhibited
E.coli ATCC 25922: inhibited

Storage
Dehydrated media: 10-30°C
Selective supplements: 2-8°C
User prepared tubes: 7 days at 2-8°C

References
• Cain, D.B., Mc Cann, V.L. (1986) J. Clin. Microbiol. **23**, 976
• Connelly, C.W., Baigent, G.J. (1986) App. Environ. Microbiol. **52**, 689
• Curtis, G.D.W. et al. (1989) Lett. App. Microbiol. **8**, 95
• Haley, L.D., Trandel, J.B., Coyle, M.B. (1980) Pratical methods for culture and identification of fungi in the clinical microbiological laboratory. Cumitech n. 11, ASM, Washington, D.C.
• McClain, D., Lee, W.H. (1988) J. Ass. Off. Anal. Chem. **71**, 660
• Martindale The Extra Pharmacopoeia (1982) Twenty-eighth Edition. The Pharmaceutical Press, London.

Packaging

4015971 Listeria Enrichment Broth Base UVM,	**100 g (1.8 l)**
4015972 Listeria Enrichment Broth Base UVM,	**500 g (9.2 l)**
4015974 Listeria Enrichment Broth Base UVM,	**5 kg (92 l)**
4240036 Listeria UVM1 Antimicrobic Supplement,	**10 vials, each for 500ml of medium**
4240037 Listeria UVM2 Antimicrobic Supplement,	**10 vials, each for 500ml of medium**
4015981 Listeria Enrichment Broth UVM 1,	**100 g (1.8 l)**
4015982 Listeria Enrichment Broth UVM 1,	**500 g (9.2 l)**
4015984 Listeria Enrichment Broth UVM 1,	**5 kg (92 l)**
4015991 Listeria Enrichment Broth UVM 2,	**100 g (1.8 l)**
4015992 Listeria Enrichment Broth UVM 2,	**500 g (9.2 l)**
4015994 Listeria Enrichment Broth UVM 2,	**5 kg (92 l)**