MAST® Culture Media and Supplements

Technical Information Sheet

Product Code DM 256

Listeria Selective Agar Base (Oxford)

A differential medium for the isolation of *Listeria* spp. in food and clinical specimens.

1. Description

This differential medium for the detection and isolation of *Listeria* spp. in food and clinical specimens was based on the formulation described by Curtis et al in 1989[1], the Oxford formulation. This formulation allows efficient isolation of *Listeria monocytogenes* and other *Listeria* spp eg. *L.ivanovii* and *L.seeligeri*. Best growth of *Listeria* spp. was found when incubation was performed at 30°C¨.

2. Technical Formula*

Formula	grams per litre
Peptone mixture	15.2
Yeast extract	2.0
Enzymic casein	4.0
Sodium chloride	5.0
Glucose	0.5
Di-potassium hydrogen phosphate	0.8
Starch	1.0
Lithium chloride	15.0
Aesculin	1.0
Ferric ammonium citrate	0.5
Agar	12.0
pH approx. 7.0	

3. Directions

1. Suspend 57.0g of powder in 1 litre or the contents of a sachet in the stated volume of distilled or deionised water.

2. Sterilise by autoclaving at 121°C for 15 minutes.

3. Cool the medium to 50-55°C and hold at this temperature in a waterbath.

4. Using sterile forceps, add one Listeria Selectatab (MS33) per 500ml medium. **Warning:** Listeria Selectatab (MS33) contains cycloheximide and therefore care should be taken at all times to avoid skin contact.

5. After Selectatab has broken up, swirl 3-4 times and invert to complete dissolution.

6. Pour plates.

7. Prepared plates can be used immediately or stored in plastic bags at 2-8°C for up to 1 week before use.

*Formulation may be modified to meet performance criteria

4. In Use

Dry plates before use. For direct plating of sample material onto this medium, samples (approx 1 g or 1 ml) should first be homogenised in 10ml 1% Peptone Water (DM184) and then subcultured onto Listeria Selective Medium plates. Plates are then incubated at 30°C for 48 hours and examined at 24 and 48 hours for typical colonies of *Listeria* spp.

Most *L.monocytogenes* strains and other *Listeria* spp. form black colonies approximately 1mm in diameter that are surrounded by black halos, after 24 hours. These colonies typically become 2-3mm in diameter after 48 hours remaining black with a black halo, but colonies develop a sunken centre. This characteristic blackening is caused by the aesculin positive reaction exhibited by *Listeria* spp.

This medium can be used in conjunction with MAST Listeria Selective Enrichment Broth (DM257) the sample being incubated for up to 7 days in the enrichment broth before subculture onto selective agar plates.

5. References

1. Curtis GDM, Mitchell RG, King AF, Griffin EJ. *Lett Appl Microbiol* 1989; **8:** 95-98.

2. Curtis GDW, Nicols WW, Falla TJ. *Lett Appl Microbiol* 1989; **8:** 169-172.

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