Listeria Selective Agar Base (Oxford)

DM 256 A differential medium for the isolation of Listeria spp. in food and clinical specimens.

Typical Formulation* 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 A 12.0
- pH approx. 7.0

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.

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, 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.

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.

References