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Oxford Listeria Selective Agar, Base

Selective agar for the isolation and detection of *Listeria monocytogenes*. This culture medium is in accordance with the standard 143:1990 of the IDF-FIL for milk and milk products for the detection of *Listeria monocytogenes*.

Mode of Action

The Oxford Agar formulation is based on Columbia Agar with the addition of lithium chloride, acriflavin, colistin sulfate, cefotetan, cycloheximide and fosfomycin. These ingredients suppress the growth of the common bacteria (e.g. Gram-negative bacteria and a greater part of Gram-positive bacteria).

Lithium chloride is one of the ingredients of Oxford Agar base, whereas the other substances derive from the Oxford Listeria Selective Supplement (Cat. No. 1.07006).

Listeria monocytogenes hydrolyses esculin to esculetin and forms a black complex with iron(III)ions. Therefore *Listeria monocytogenes* produces brown-green coloured colonies with a black halo.

Typical Composition (g/litre)

Peptone 23.0; starch 1.0; sodium chloride 5.0; agar-agar 13.0 (=Columbia agar); esculin 1.0; ammonium iron(III) citrate 0.5; lithium chloride 15.0.

Preparation

Suspend 29.25 g in 500 ml of demin. water, autoclave (15 min at 121 °C). Dissolve the lyophilisate of 1 vial Oxford Listeria Selective Supplement (Cat. No. 1.07006.) by adding 5 ml of a 1:1 mixture of ethanol and sterile distilled water. Mix gently and add the contents to the culture medium cooled to 50 °C. Pour the medium into plates and leave to solidify.

pH: 7.0 ± 0.2 at 25 °C.

The prepared agar (incl. supplement) is clear and bluish-brown.

Experimental Procedure and Evaluation

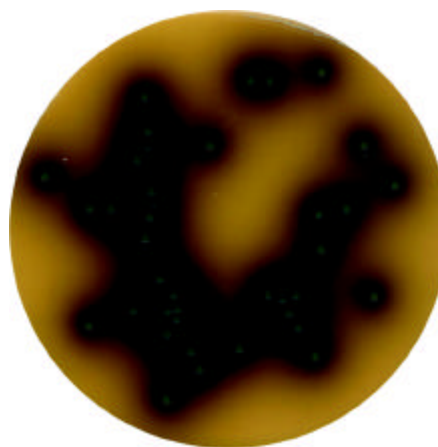
Inoculate by spreading the sample on the surface of the medium and incubate at 35 °C up to 48 h aerobically. *Listeria monocytogenes* grows as brown-green coloured colonies with a black halo (esculin splitting). Further biochemical tests should be carried out.

Literature

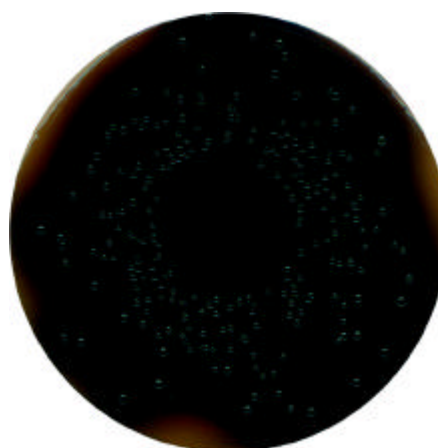
CURTIS, G.D.W., MITCHELL, R.G., KING, A.F., GRIFFIN, E.J.: A selective differential medium for the isolation of *Listeria monocytogenes*. – **Letters in Appl. Microbiol.**, **8**; 95-98 (1989).

Ordering Information

Product	Merck Cat. No.	Pack size
Oxford Listeria Selective Agar, Base	1.07004.0500	500 g
Oxford Listeria Selective Supplement	1.07006.0001	1 x 13 vials



Listeria innocua
ATCC 33090



Listeria monocytogenes
ATCC 19118

Oxford Listeria Selective Agar, Base

Quality control

Test strains	Recovery rate (%)	Black zone
<i>Listeria monocytogenes</i> ATCC 19118	≥ 70	+
<i>Listeria monocytogenes</i> ATCC 13932	≥ 70	+
<i>Listeria monocytogenes</i> ATCC 7973	≥ 70	+
<i>Listeria monocytogenes</i> ATCC 35152	≥ 70	+
<i>Listeria innocua</i> ATCC 33090	≥ 70	+
<i>Staphylococcus aureus</i> ATCC 25923	≥ 70	
<i>Enterococcus faecalis</i> ATCC 19433	≤ 0.01	
<i>Erysipelothrix rhusiopathiae</i> ATCC 19414	≤ 0.01	
<i>Escherichia coli</i> ATCC 25922	≤ 0.01	