

Listeria Selective Agar Base, OXFORD Agar (i23275)

Used to prepare Oxford Selective Agar or Modified Oxford Selective Agar for isolating and differentiating *Listeria monocytogenes*.

Industry: Clinical / Food

Principles & Uses

The Oxford Agar, formulated by Curtis et al., serves as a crucial medium for the isolation of *Listeria monocytogenes*.

Listeria monocytogenes, a significant human pathogen, is selectively identified using the Listeria Oxford Medium Base. This medium, utilizes peptone for nutrient provision, corn starch for neutralizing toxic metabolites, and lithium chloride and a blend of antibiotics such as acriflavine, colistin sulfate, cefotetan, cefotaxime, cycloheximide, and fosfomycin to suppress unwanted bacterial growth, ensuring selectivity with high salt tolerance. The hydrolysis of esculin to esculetin, reacting with ferric ions, results in brown-green colonies with a black halo.

Composition (gr/L)

Peptone 23 g, Starch 1 g, Lithium Chloride 15 g, Sodium Chloride 5 g, Esculin 1 g, Ammonium Iron (III) Citrate 0.5 g, Agar 13 g.
Final pH at 25°C 7.0 ± 0.2

Preparation from dehydrated Powder

Suspend 29.25 of powder in 500 ml of distilled water. Autoclave at 121°C for 15 minutes. Cool to 50°C and aseptically add one vial of Listeria Oxford Selective Supplement or Listeria Modified Oxford Selective Supplement in 5 ml of 50% ethanol. Mix well and pour into sterile petri plates.

Quality Control

Dehydrated Appearance: Tan, free-flowing, homogeneous (may contain small dark particles).

Prepared Appearance: Light to medium amber, very slightly to slightly opalescent.

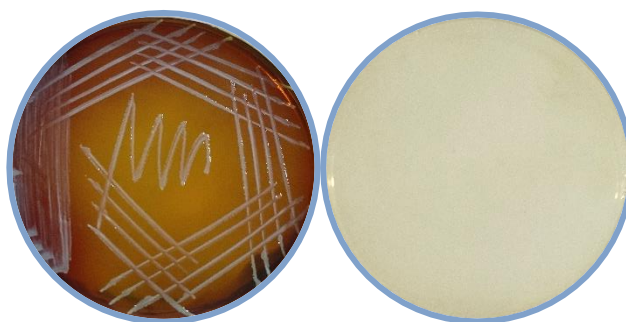
Reaction of 5.85% Solution at 25°C: pH 7.0 ± 0.2

Cultural Response

After adding OXFORD Selective Supplement, cultural response was observed after 18 - 48 hours of incubation at 35 ± 2°C.

Organism (ATCC*)	Recovery	Black zone
<i>Listeria monocytogenes</i> (19118)	Good	+
<i>Listeria monocytogenes</i> (13932)	Good	+
<i>Listeria monocytogenes</i> (19114)	Good	+
<i>Escherichia coli</i> (25922)	Inhibition	-

*ATCC is a registered trade mark of the American Type Culture Collection.



Listeria monocytogenes (left). Prepared Culture Media (right).

Storage

Keep the container at 15-30 °C. Store prepared medium at 2-8 °C.