Oxford Listeria Agar (NCM0056)

Intended Use
Oxford Listeria Agar Base is used with antimicrobics for the selective isolation of *Listeria* spp. in a laboratory setting. Oxford Listeria Agar Base is not intended for use in the diagnosis of disease or other conditions in humans.

Description
Listeria monocytogenes, described first in 1926 by Murray, Webb, and Swann, is an extensive problem in food industries. Epidemiological evidence from outbreaks of listeriosis has indicated that the principle route of transmission is via the consumption of foodstuffs contaminated with *Listeria monocytogenes*. Implicated vehicles of transmission included turkey frankfurters, coleslaw, pasteurized milk, Mexican style cheese, and pate. *Listeria* spp. are ubiquitous in nature, being present in a wide range of unprocessed foods as well as in soil, sewage and river water.

Oxford Listeria Agar is prepared according to the formulation of Curtis et al. *Listeria* spp. grow over a pH range of 5.0 - 9.6 and survive in food products with pH levels outside these parameters .

Typical Formulation

Columbia Blood Agar Base	39.0 g/L
Esculin	1.0 g/L
Ferric Ammonium Citrate	0.5 g/L
Lithium Chloride	15.0 g/L
Agar	2.0 g/L

Final pH: 7.0 ± 0.2 at 25°C
Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precaution
Refer to SDS

Preparation
Oxford Listeria Agar
1. Suspend 57.5 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. Cool to 45 - 50°C.
5. Aseptically add 2 vials of Oxford Listeria Supplement (7986) or Oxford Supplement (X123) and mix well before dispensing.

Modified Oxford Listeria Agar
Perform steps 1-4 above and aseptically add a filtered sterilized aqueous solution of 10 mg colistin sulfate and 20 mg moxalactam. Mix well before dispensing.

Test Procedure
The USDA method involves enrichment of the food sample in UVM Modified Listeria Enrichment Broth (one part sample to nine parts broth) at 30°C. After incubation, a portion of the enrichment mixture is plated onto Oxford or Modified Oxford Medium. The method according to FDA BAMinvolves adding 25 mL of liquid or 25 g of solid material to 225 mL Listeria Enrichment Broth and incubating at 30°C for two days. After enrichment, the broth is plated onto Oxford Listeria Agar. For further information consult appropriate references.

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Quality Control Specifications
Dehydrated Appearance: Powder is homogeneous, free flowing, and beige.

Prepared Appearance: Prepared medium is light to medium amber and slightly hazy.

Expected Cultural Response: Cultural response in Oxford Listeria Agar and Modified Oxford Listeria Agar at 35 ± 2°C after 24 - 48 hours incubation.

Microorganism	Approx. Inoculum (CFU)	Expected Results	
		Oxford	Modified Oxford
Candida albicans ATCC® 10231	$>10^5$	Suppressed to complete inhibition	Suppressed to complete inhibition
Escherichia coli ATCC® 25922	$>10^5$	Complete inhibition	Complete inhibition
Escherichia coli ATCC® 8739	$>10^5$	Complete inhibition	Complete inhibition
Staphylococcus aureus ATCC® 25923	$>10^5$	Suppressed to complete inhibition	Complete inhibition
Enterococcus faecalis ATCC® 29212	$>10^5$	Suppressed to complete inhibition	Suppressed to complete inhibition
Enterococcus faecalis NCTC 775	$>10^5$	Suppressed to complete inhibition	Suppressed to complete inhibition
Listeria innocua ATCC® 33090	10-300	Growth; brown to black colonies	Growth; brown to black colonies
Listeria monocytogenes ATCC® 13932	10-300	Growth; brown to black colonies	Growth; brown to black colonies
Listeria monocytogenes ATCC® 19111	10-300	Growth; brown to black colonies	Growth; brown to black colonies
Listeria monocytogenes ATCC® 35152	10-300	Growth; brown to black colonies	Growth; brown to black colonies

The organisms listed are the minimum that should be used for quality control testing.

Results
Select esculin-positive colonies and confirm their identity through biochemical testing. Use macroscopic tube and rapid slide tests for definitive serological identification.

Expiration
Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitation of the Procedure
1. An identification of L. monocytogenes must be confirmed through biochemical and serological testing.
2. Poor growth and a weak esculin reaction maybe seen after 40 hours incubation for some enterococci.

Storage
Store dehydrated culture media at 2 – 30°C away from direct sunlight. Once opened and recapped, place the container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

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