
OXFORD AGAR BASE MODIFIED

INTENDED USE

Remel Oxford Agar Base Modified is a medium recommended for use in qualitative procedures for the isolation of *Listeria monocytogenes* in food samples.

SUMMARY AND EXPLANATION

Listeria monocytogenes is a common contaminant in raw milk, meats, vegetables, seafood, and in the food processing environment. In 1989, Curtis described a selective and differential medium for isolation of *L. monocytogenes* from specimens with mixed flora, called Oxford Agar.¹ Lee and McClain developed a selective medium for isolation of *L. monocytogenes* from food products, using moxalactam in place of the original selective agents in Oxford Agar.² This medium is recommended by the U.S. Department of Agriculture Food Safety Inspection Service and the American Public Health Association (APHA) for use following enrichment procedures for the recovery of *L. monocytogenes* from meat and dairy products.^{3,4}

PRINCIPLE

Columbia Agar Base provides peptones and other essential nutrients. *L. monocytogenes* hydrolyzes esculin to form esculetin which combines with the ferric ammonium citrate to form a black precipitate in the medium surrounding the colonies. Lithium chloride, colistin, and moxalactam are incorporated as selective agents to inhibit the growth of most gram-positive and gram-negative organisms.

REAGENTS (CLASSICAL FORMULA)*

Columbia Agar Base	38.1 g	Esculin	1.0 g
Lithium Chloride	15.0 g	Ferric Ammonium Citrate.....	0.5 g
		Colistin.....	0.01 g

pH 7.0 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PRECAUTIONS

This product is For Laboratory Use only. It is not intended for use in the diagnosis of disease or other conditions.

PREPARATION OF DEHYDRATED CULTURE MEDIUM

1. Suspend 55 g of medium in 1000 ml of demineralized water.
2. Heat to boiling with agitation to completely dissolve.
3. Sterilize by autoclaving at 121°C for 15 minutes or following established laboratory procedures.
4. Cool to 45-50°C and aseptically add 2 ml of sterile 1% moxalactam. If using Remel Moxalactam Selective Supplement (REF R450551), add 10 ml of sterile demineralized water to the vial, mix well, and add vial contents to 1 liter of medium.
5. Mix thoroughly and dispense into appropriate containers.

PROCEDURE

1. Consult current editions of appropriate references for the recommended procedure for sample preparation, inoculation, testing, and interpretation.

QUALITY CONTROL

Each lot number of Oxford Agar Base Modified has been manufactured, packaged, and processed in accordance with current Good Manufacturing Practice regulations. All lot numbers have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, sample results should not be reported.

CONTROL

Listeria monocytogenes ATCC® 7646
Listeria monocytogenes ATCC® 19111
Enterococcus faecalis ATCC® 29212
Escherichia coli ATCC® 25922
Pseudomonas aeruginosa ATCC® 27853
Staphylococcus aureus ATCC® 25923
Staphylococcus epidermidis ATCC® 12228

INCUBATION

Ambient, 18-24 h @ 33-37°C
Ambient, 18-24 h @ 33-37°C
Ambient, 18-24 h @ 33-37°C
Ambient, 18-24 h @ 33-37°C
Ambient, 18-24 h @ 33-37°C
Ambient, 18-24 h @ 33-37°C
Ambient, 18-24 h @ 33-37°C

RESULTS

Growth w/ blackening
Growth w/ blackening
Inhibition (partial to complete)
Inhibition (partial to complete)
Inhibition (partial to complete)
Inhibition (partial to complete)
Inhibition (partial to complete)

BIBLIOGRAPHY

1. Curtis, G.D.W., R.G. Mitchell, A.F. King, and E.J. Griffin. 1989. Appl. Microbiol. 8:95-98.
2. Lee, W.H. and D. McClain. 1986. Appl. Environ. Microbiol. 52:1215-1217.
3. Downes, F.P. and K. Ito. 2001. Compendium of Methods for the Microbiological Examination of Foods. 4th ed. APHA, Washington, D.C.
4. Wehr, H.M. and J.F. Frank. 2004. Standard Methods for the Examination of Dairy Products. 17th ed. APHA, Washington, D.C.
5. Food and Drug Administration. 2000. Bacteriological Analytical Manual Online. AOAC International, Gaithersburg, MD. <http://www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalyticalManualBAM/ucm055778.htm>.

Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, sample collection, storage and transportation, materials required, quality control, and limitations.

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