

## 3M™ Molecular Detection System

# 3M™ Molecular Detection Assay *Listeria*

There are six species recognized in the genus *Listeria*: *L. monocytogenes*, *L. innocua*, *L. seegeri*, *L. ivanovii*, *L. welshimeri* and *L. grayi*. Testing for *Listeria* is a critical component of food safety programs. The presence of *Listeria* species in food processing environments and end products may correlate with the presence of pathogenic *Listeria monocytogenes*. Foodborne disease caused by *L. monocytogenes* can result in significant adverse health conditions.

In order to reduce outbreaks related to *Listeria*, a comprehensive farm-to-table approach to food safety is necessary. Farmers, industry, food inspectors, retailers, food service workers and consumers are all critical links in the food safety chain. Faster and more accurate testing methods are needed as traditional microbiology methods are cumbersome and may take more than four days to get results.



## Product Description

The 3M™ Molecular Detection Assay *Listeria* is a breakthrough in *Listeria* testing for the food and beverage industry. An innovative solution that is fast, cost effective and easy to use without sacrificing sensitivity or specificity. The 3M Molecular Detection Assay *Listeria* is used with the 3M™ Molecular Detection System for the rapid and specific detection of *Listeria* in enriched food and environmental samples.

The 3M Molecular Detection Assays use isothermal amplification of nucleic acid sequences with high specificity, efficiency and rapidity. Bioluminescence is used to detect the amplification. Presumptive positive results are reported in real-time while negative results are displayed after the assay is completed.

Our system offers a single enrichment step and minimal sample transfer post-enrichment making your pathogen testing simpler and faster.

Step 1—Enrich

Step 2—Lyse

Step 3—Amplify and Detect

## Benefits

- Molecular accuracy with excellent specificity and sensitivity to help reduce the number of repeat tests
- Streamlined workflow to increase lab efficiency and technician productivity
- Real-time results to help you make critical decisions faster

## Features

- Detects 1–5 CFU of *Listeria* per sponge
- Simultaneous amplification and detection process that is complete in 75 minutes
- Positive samples identified as early as 15 minutes
- Flexibility to test 1 to 96 samples in each run
- Incorporate other assays in the same run using the same protocol
- Only two transfer steps after enrichment
- Ready-to-use and pre-dispensed reagents
- Unique color coded assay tubes by organism type
- Closed-tube system to reduce risk of amplicon contamination in the lab



## Kit Details

Tests Per Kit: 96

### Contents:

- Color-Coded Reagent Tubes
- Pre-Dispensed and Ready-To-Use Lysis Solution
- Caps
- Reagent Control
- Negative Control

Storage Conditions: 2–8°C (shelf-life dated on label)

## Certifications and Validations

- AOAC® Performance Tested™ (Certificate #081203)
- Health Canada Compendium of Analytical Methods MLFP-05

## Sample Enrichment

The 3M™ Molecular Detection Assay *Listeria* uses either 3M™ Modified *Listeria* Recovery Broth or Demi Fraser Broth Base and Fraser Broth Base for the enrichment of *Listeria* in a variety of food and environmental samples. Please refer to the 3M Molecular Detection Assay *Listeria* Product Instructions for detailed information, including scope and specific protocols for validated methods.

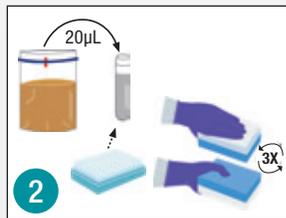
Do not use Demi Fraser Broth Base or Fraser Broth Base containing Ferric Ammonium Citrate (FAC), either already in the broth base or as an added supplement, when using the 3M Molecular Detection Assay *Listeria*.



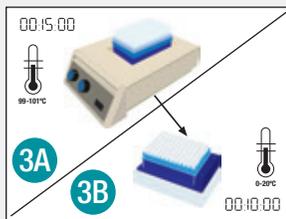
## 3M™ Molecular Detection Assay Process



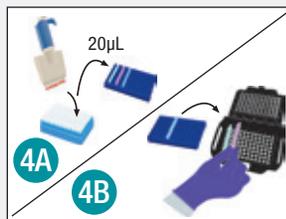
1 Set up run in software.



2 Transfer enriched sample to lysis tubes.



3A 3B Heat lysis tubes, then chill.



4A 4B Transfer lysate to reagent tubes.



5 Place speed loader tray into instrument.



6 Amplification and detection in real time.

## 3M™ Molecular Detection System Matrix Control

The 3M Molecular Detection System uses continuous amplification by a unique, high fidelity DNA polymerase that makes our system less prone to matrix interference. To assist with your verification process, we offer the 3M™ Molecular Detection Matrix Control to check for sample inhibition. 3M recommends using the Matrix Control during validation periods when adopting the 3M method or testing new or unknown matrices.

## Ordering Information

Catalog Number	Description	Size	Qty.
MDAL96NA	3M™ Molecular Detection Assay <i>Listeria</i>	96 Tests/Kit	1
MDMC96NA	3M™ Molecular Detection Matrix Control	96 Tests/Kit	1
MLRB500	Modified <i>Listeria</i> Recovery Broth	500g Bottle	1
MLRB005	Modified <i>Listeria</i> Recovery Broth	5 lb Bottle	1
MLRB025	Modified <i>Listeria</i> Recovery Broth	25 lb Pail	1
MLRBSUP001	Modified <i>Listeria</i> Recovery Broth Supplement	1g Bottle	1
MLRBSUP025	Modified <i>Listeria</i> Recovery Broth Supplement	0.25g Bottle	1
BP0118500	3M™ Demi Fraser Broth Base (DFBB)	500g Bottle	1
BP0118005	3M™ Demi Fraser Broth Base (DFBB)	5 lb Bottle	1
BP0210500	3M™ Fraser Broth Base (FBB)	500g Bottle	1
BP2100005	3M™ Fraser Broth Base (FBB)	5 lb Bottle	1
HS10DE2G	3M™ Hydrated-Sponge w/DE Broth, 2 Gloves	10mL	100
SSL10DE	3M™ Sponge-Stick w/DE Broth	10mL	100
ENVS WB25	3M™ Enviro Swab	—	25
6469	3M™ Blender Bags w/ Filter, 6.75" x 12"	55 oz, 3 mil	200



### 3M Food Safety

3M Center  
Building 275-5W-05  
St. Paul, MN 55144-1000  
USA  
1-800-328-6553  
[www.3M.com/3MMolecularDetectionSystem](http://www.3M.com/3MMolecularDetectionSystem)

### 3M Canada

Post Office Box 5757  
London, Ontario N6A 4T1  
Canada  
1-800-364-3577

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70-2009-9405-1 Rev-1014