



Thermo Scientific  
SureTect™ *Listeria monocytogenes* PCR Assay



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be sure

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# SureTest *Listeria monocytogenes* PCR Assay – A fast, simple procedure

## Go molecular with the food safety experts

The SureTest *Listeria monocytogenes* PCR Assay is a multiplex real-time assay that incorporates unique primer and probe components for highly-specific detection of the *prfA* gene, specific to and found only in *Listeria monocytogenes*. The assay also includes primer and probe components, for simultaneous detection of an internal amplification control (IAC), for confirmation of successful PCR and increased confidence in results.

The SureTest *Listeria monocytogenes* PCR Assay has been extensively tested on a wide range of food matrices and samples from food manufacturing environments including cheese, vegetables, cooked meats and production surfaces. Specific samples tested during independent external validation include food types most commonly associated with contamination by *Listeria monocytogenes* and also those food types known to be particularly challenging to PCR detection, for example brie, smoked salmon, cantaloupe melon and salami.

### Benefits of the SureTest System

- **Shorter growth step** – optimized for key food matrices minimizing time to results, enabling faster release of held products, reducing storage costs
- **Single enrichment step** – no secondary enrichment or regrowth required, for faster, simpler testing
- **Fast, simple lysis** – straightforward handling in less than 20 minutes
- **Pre-filled lysis tubes** – for maximum convenience and reliable, consistent cell lysis
- **Tableted PCR reagents** – eliminates PCR reagent pipetting, to enhance reproducibility and minimize hands-on time
- **Streamlined protocol** – facilitates processing of multiple assays in the same run, for maximum efficiency
- **Superior PCR technology** – probe-based real-time assays for unparalleled sensitivity and specificity
- **Maximum confidence** – SureTest Software automatically compares target amplification to an internal amplification control (IAC) for confirmation of results
- **Maximum throughput flexibility** – between one and five 24-well Thermo Scientific SureTest PikoReal Systems can be run from the same PC
- **Small instrument footprint** – fits easily into laboratory environments where bench space is at a premium
- **Simple, intuitive software** – for straightforward training, quick set-up, and simple tracking of results
- **Automatic data interpretation** – reliably reports test results as positive or negative
- **Excellent quality of support** – including fast turnaround times and access to our world-class team of microbiologists
- **Convenient storage conditions** – SureTest PCR assay components do not require freezing and can be stored under standard refrigeration conditions
- **Plug-and-play system** – arrives pre-calibrated, minimizing on-site installation and training time
- **Expanding test menu** – includes assays for *Salmonella* species, *Listeria* species, *Listeria monocytogenes* and *Escherichia coli* O157:H7

### Sample Preparation

- Prepare the test sample in accordance with the appropriate validated protocol. To prepare the initial suspension, add 1 part sample to 9 parts 24 *Listeria* Enrichment Broth (LEB) plus 24 LEB Buffer Supplement. Homogenize thoroughly for 30–60 seconds. Incubate at 37°C ± 1°C for 22–26 hours.

1.



### Lysis

- Add 10µl of Proteinase K to each SureTest Lysis Reagent 1 Tube, followed by 10µl of Lysis Reagent 2 and then 10µl of the enriched sample.
- Seal the tubes and incubate in the heating block at 37°C for 10 minutes. Immediately transfer the tubes to the heating block at 95°C and incubate for another 5 minutes.

2.



3.



### PCR Setup

- Create the plate set-up for the SureTest PikoReal Instrument on the SureTest Software, while allowing the tubes containing lysate to cool to room temperature.
- Allow the SureTest *Listeria monocytogenes* PCR Tubes to reach room temperature and then transfer 20µl of lysate into the opened PCR tube to rehydrate the SureTest PCR pellet and seal the tubes.

4.



5.



### PCR Run

- Open the drawer of the SureTest PikoReal Instrument. Load the PCR tubes according to the plate set-up created. Close the drawer and start the PCR run.

6.



### Results

- Read the results interpreted by the SureTest Software.

7.



Following processing, the PCR tubes must not be opened and must be disposed of with other microbiological waste.

The above enrichment procedure is provided as a general guide. Please contact your SureTest System supplier for further information on matrix-specific, validated protocols.

## Unmatched service & support

Thermo Fisher Scientific experts have been offering invaluable advice to the global microbiology community since the 1950s. Our service and support teams are comprised of highly-experienced scientists who are devoted to offering best-in-class technical support.

Uniquely, the Thermo Scientific portfolio of food safety products is especially broad, and includes enrichment media, consumables, testing kits and instrumentation for all your workflow needs. Our focus on providing quality products, on-time delivery and superior support is

matched by our commitment to provide complete solutions that meet your microbiological testing needs. Furthermore, the novel SureTect service and support package has been developed to offer improved confidence in the continuity of your testing process.

If you would like to learn more about the SureTect System, we would be delighted to hear from you. Our technical support professionals can be reached over the phone, or via our website.

### Ordering Information

Catalog Number	Product	Description
<b>SureTect System</b>		
PT0300A	SureTect <i>Listeria monocytogenes</i> PCR Assay	SureTect Lysis Reagent 1 Tubes, SureTect Lysis Tube Caps, SureTect Lysis Reagent 2, SureTect Proteinase K, SureTect <i>Listeria monocytogenes</i> PCR Tubes, SureTect PCR Caps, instructions for use
PT0500	PikoReal 24 Real-Time PCR System	PikoReal System, calibrated for use with SureTect Software and SureTect PCR Assays
PT0600	SureTect Starter Pack	Sample pipette (adjustable, single-channel 1-10ml), Extra long filtered pipette tips (1-10ml), Sample tubes (1.5ml), Sample tube rack, CapEase™ tool, Lysis/PCR tube racks, Single-channel pipette (adjustable 5-50µl), Multi-channel pipette (adjustable 5-50µl), Filtered pipette tips (200µl), 2 Digital dry-bath incubators, 2 block inserts for incubators and blank PCR strips
PT0700	Dell Desktop Computer	
PT0800	Dell Laptop Computer	
PT0500W	SureTect Software	
<b>Enrichment Step</b>		
CM1154B	24 <i>Listeria</i> Enrichment Broth (LEB) Base, including antibiotics, 500g	
CM1107B	24 <i>Listeria</i> Enrichment Broth (LEB) Base, 500g	
SR0243E	24 <i>Listeria</i> Enrichment Broth (LEB) Selective Supplement	
B01204E	24 LEB Buffer Supplement, 24x10mL	
DB1107V	24 LEB Dry-Bag without filter, without antibiotics and buffer, 5x20L	
<b>Results Confirmation</b>		
CM1080B	Brilliance™ <i>Listeria</i> Agar Base, 500g	
SR0227E	Brilliance <i>Listeria</i> Selective Supplement, 10 vials	
SR0228E	Brilliance <i>Listeria</i> Differential Supplement, 10 vials	
MB1128A	Microbact™ 12L Kit, 20 tests	
MB1249A	Microbact Haemolysin Reagent	

Please note, the complete system requires a dedicated personal computer with the following minimum specification: operating systems Microsoft Windows® 7, dual-core processor, 4 GB of RAM, network connection, ethernet connection for instrument, CD-ROM drive, monitor resolution 1280 x 960. Either the desktop (PT0700) or laptop (PT0800) shown above should be used for sole operation of the SureTect System.

[thermoscientific.com/SureTect](http://thermoscientific.com/SureTect)

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For more information, please contact your local Thermo Scientific representative by visiting [www.thermoscientific.com/SureTect](http://www.thermoscientific.com/SureTect).