

# ЭКСПРЕСС-ТЕСТ SINGLEPATH L' MONO



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# Singlepath® L'mono

For the rapid detection and confirmation of **Listeria monocytogenes** in foods

## Introduction

Listeria are gram-positive, nonspore-forming, rod-shaped bacteria. Of the six known species of the **Listeria** genus, **Listeria monocytogenes** deserves particular mention as a human and animal pathogen, while **L. ivanovii** is pathogenic only in animals and **L. innocua**, **L. seeligeri**, **L. grayi**, and **L. welshimeri** are considered harmless environmental bacteria.

Listeriosis, the disease caused by **L. monocytogenes**, manifests itself not only as sepsis, but also and primarily as meningitis or even as encephalitis. Since **L. monocytogenes** is capable of crossing the placenta barrier, an infection of the pregnant mother with listeria constitutes a special risk for the fetus or result in the infection of the newborn child. **L. monocytogenes** is also responsible for severe infections in immunocompromised persons. As a result of the ubiquitous distribution of Listeria and their capability to grow at refrigerator temperatures ( 2°C to 8°C), foods constitute one of the main sources of infection.

Due to this fact the detection of **Listeria monocytogenes** in foods and environmental samples is absolutely necessary. The drastic increase in the incidence of food infection caused by Listeria demands reliable and rapid methods of detection. Apart from traditional culture methods, immunological techniques are becoming more and more popular with users due to their better specificity and sensitivity.

Singlepath® L'mono is an immunological screening and an extremely fast confirmation test for **Listeria monocytogenes** based on the immune flow principle and is designed in such a way that time-consuming and personnel intensive working steps for the application and interpretation of the tests are avoided.

## Mode of Action

Singlepath® L'mono is an immunochromatographic rapid test based on gold-labelled antibodies. The test device has a circular sample port, and an oval shaped test (T) and control (C) window.

1. The sample is applied to the chromatography paper via the circular sample port
2. The sample is absorbed through the pad to the reaction zone containing colloidal, gold-labelled antibodies specific to **Listeria monocytogenes**.
3. Any **Listeria monocytogenes**-antigen present complexes with the gold-labelled antibody and migrates through the port until it encounters a binding zone in the test (T) area.
4. The binding zone (T) contains another anti- **Listeria monocytogenes** Antibody, which immobilises any **Listeria monocytogenes**-antibody complex present. Due to the gold-labelling, a distinct red line is then formed.
5. The rest of the sample continues to migrate to a second binding reagent zone within the control (C) zone, and also forms a second distinct red line (positive control). Regardless of whether any **Listeria monocytogenes** is present or not, this distinct red line is always formed in the control (C) zone, thus ensuring the test is working correctly.

## Technical specifications

### Detection limit

Depending on serotype, approx.  $5 \times 10^6$  bacteria/ml or 1 colony on agar plate can be regarded as being the lower detection limit. Negative results may occur if the amount of antigen extracted is below the minimum sensitivity of the tests.

### Interferences

Results obtained to date on numerous food samples indicate that there is no interference of Singlepath® L'mono with food ingredients.

The test has been developed based on using bLEB, UVM, L-PALCAM and Fraser selective enrichment broth from MERCK. Interference from other types of selective enrichment broths and other brands cannot be excluded. In particular use of broth of red-brown colour could potentially mask weak signals due to background coloration of the test zone.

Singlepath® L'mono has demonstrated not to detect **Listeria monocytogenes** in screening assays at lower concentration in raw beef sample/ground beef and other foods with high background flora.

### Trouble-shooting

Problem	Measures
No line appears in either zone after within 25 minutes test period	Re-run sample
Delay in sample reaching	Touch sample pad with pipette tip Nitrocellulose membrane



Singlepath® L'mono: Test result negative for Listeria monocytogenes



Singlepath® L'mono: Test result positive for Listeria monocytogenes

## Ordering Information

Product	Ordering No.	Pack size
Singlepath® L mono	1.04148 .0001	25 tests
Singlepath® Listeria	1.04142.0001	25 tests
Brian Heart Broth (BHI)	1.10493.0500	500 g
Listeria enrichment broth, buffered (base)	1.09628.0500	500 g
Listeria selective enrichment supplement	1.11781.0001	16 vials
Fraser Listeria selective enrichment broth (base)	1.10398.0500	500 g
Fraser Listeria supplement	1.10399.0001	16 vials
L-PALCAM Listeria selective enrichment broth (base) acc. to van Netten et al.	1.10823.0500	500 g
PALCAM Listeria selective supplement	1.12122.0001	16 vials
UVM-Listeria selective enrichment broth modified	1.10824.0500	500 g
UVM-II supplement	1.04039.0001	16 vials
Chromoplate® Listeria Selective Agar acc. to Agosti and Ottaviani	1.00420.0020	20 plates
Chromocult® Listeria	1.00427.0500	500 g
Oxford Listeria agar	1.07004.0500	500 g
Oxford Listeria selective supplement	1.07006.0001	13 vials
PALCAM Listeria agar acc. to van Netten et al.	1.11755.0500	500 g
PALCAM Listeria selective supplement	1.12122.0001	16 vials



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