

Instructions for use



ROTITEST® Listeria

ROTITEST® Bio Analysis

Simple test system for detection, or exclusion, of listeriae contamination on surfaces. Optimal for control and minimisation of the contamination risk caused by *Listeria* spp., particularly *L. monocytogenes*.

A. Introduction

Listeria spp. and specifically *Listeria monocytogenes* are rapidly becoming the most important pathogen in the Food Industry; regulatory bodies from around the world are insisting that all food products are Listeria free. ROTITEST® Listeria is designed for use alongside traditional selective methods to improve the quality system and minimise the risk of listeriae contamination. This simple-to-use test can be applied anywhere in the environment and on foodstuffs where the presence of *Listeria* spp. would be critical.

Carl Roth GmbH + Co. KG

Schoemperlenstraße 3-5 • 76185 Karlsruhe
P.O. Box 100121 • 76231 Karlsruhe
Phone: +49 (0) 721/ 5606-0
Fax: +49 (0) 721/ 5606-149
info@carlroth.com • www.carlroth.com ip 07/2021

The company is a limited partnership with headquarters in Karlsruhe, reg. court Mannheim HRA 100055. Roth Chemie GmbH, with headquarters in Karlsruhe, reg. court Mannheim HRB 100428, is the personally liable partner. Managing Director: André Houdelet. Sales tax identification number: DE 143621073.

B. Mechanism

ROTITEST® Listeria works on an enhanced Esculin media formulation. The hydrolysis of Esculin gives a distinctive black/brown precipitate.

All *Listeria* species hydrolyze esculin, therefore producing 6,7-dihydroxycoumarin which reacts with ferric ions producing blackening of the medium. Inhibitors are present in the media that will inhibit the growth of non-*Listeria* spp. Only *Listeria* spp. will grow within the media to produce a black/brown precipitate due to Esculin hydrolysis (see table).

ROTITEST® Listeria has been sterilised by irradiation.

C. Application

We recommend to establish a consistent and easy-to-replicate sampling procedure. In order to gain comparable results, the technique used for swabbing and the size of the area swabbed have to be the same for every assay.

1. Peel back wrapper to expose both caps.
2. Remove swab and sample test site by rubbing swab over as large an area as practicable.
3. Remove cap of culture tube with thumb and forefinger and discard.
4. Insert swab in culture tube and push down fully to immerse the swab completely.
5. Note time, date and site details.
6. Incubate at 37 °C for 48 h.

Check colour of the tube after 24 h. Those tubes showing a distinct colour change (see D.) may be classified as positive and disposed. All other tubes have to be incubated for another day.

D. Assay Results

A positive result is indicated by a colour change of the agar from light-brown to dark brown to black commencing around the bud.

Negative result shows NO colour change. Any colour change is significant. The respective area has to be carefully cleaned and reprobated. Samples may have to be analysed further by trained personnel for species determination.

Please note: This test system only allows exclusion, or affirmation, of a listeriae contamination per se. Quantitation is NOT possible.

Organism	c.f.u. in sample	Colour change
<i>Listeria monocytogenes</i> NCTC 5214	19	black
<i>Listeria monocytogenes</i> NCTC 7973	15	black
<i>Listeria ivanovii</i>	10	black
<i>Listeria innocua</i> NCTC 11288	9	black
<i>Listeria seeligeri</i>	1 x 10 ⁴	black
<i>Listeria welshimeri</i> NCTC 11857	1 x 10 ³	black
<i>Listeria murrayi</i>	1 x 10 ⁵	black
<i>Listeria grayi</i>	1 x 10 ⁵	black
<i>Aeromonas hydrophilla</i> NCTC 1767	1.5 x 10 ⁷	-
<i>Bacillus subtilis</i> NCTC 10400	4 x 10 ⁷	-
<i>Candida albicans</i>	2 x 10 ⁶	-
<i>Citrobacter freundii</i>	1.2 x 10 ⁸	-
<i>Enterobacter cloacae</i>	3 x 10 ⁷	-
<i>Escherichia coli</i> NCTC 10418	6 x 10 ⁷	-
<i>Klebsiella aerogenes</i> NCTC 7418	1 x 10 ⁸	-
<i>Klebsiella pneumoniae</i>	3 x 10 ⁷	-
<i>Proteus mirabilis</i> NCTC 841	5 x 10 ⁸	-
<i>Pseudomonas aeruginosa</i>	9 x 10 ⁷	-
<i>Salmonella typhimurium</i> NCTC 74	3 x 10 ⁸	-
<i>Serratia liquefaciens</i>	1 x 10 ⁸	-
<i>Shigella flexneri</i>	8 x 10 ⁶	-
<i>Staphylococcus aureus</i> NCTC 6571	4 x 10 ⁸	-
<i>Streptococcus faecalis</i> NCTC 775	1.5 x 10 ⁵	-
<i>Yersinia enterocolitica</i>	1 x 10 ⁷	-

E. Disposal of Tubes

All tubes have to be decontaminated by autoclaving or other appropriate sterilization processes.

The lid of the tube **MUST NOT** be removed after incubation of the sample.

F. Storage

Store at 5-25 °C in a dry place. Do not freeze.

ROTITEST® Listeria 4805.1 25 pieces