

# TITERTEK BERTHOLD

# 24 h Listeria and Salmonella Detection in food matrices using rRNA based *LUMIPROBE* 24 Method

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## Introduction

Using rRNA provides a specific and sensitive molecular biology method for the detection of pathogenic bacteria in food and environmental samples.

After 22 hours enrichment of the sample, *LUMIPROBE 24* is an easy to run method, suitable for food industry laboratories as the microplate version requires only 4 pipetting steps. Additionally, automation frees 2 hours of technician time and brings reliability to all the steps.

## **Material & Methods**

- RM enrichment broth (Euralam)
- LUMIPROBE 24 kits (Europrobe)
  - · Listeria monocytogenes
  - · Salmonella spp
- Crocodile miniWorkstation (Titertek-Berthold)
- Orion II microplate luminometer (Titertek-Berthold)

After assay preparation with the Crocodile (reagent dispensing, shaking, incubation, washing) the microplate was transferred for reading to the Orion II microplate luminometer: custom software automatically interprets the RLU results, well by well.

## **Results**

Positive and negative samples can be detected according to relative light units.

#### Picture 2

p	1	÷.	6			1	1	1	M	N	0	P.	0
Kit Lot Number	lemperature	Test Gate	<b>Seckground</b>	6adground	Protocol Name	Technician	wel	Sample Id	teading	feat	Fathogen	Pathogen Group	Negative Ca
0003	21	15/03/0011 10:37	23	FAUL	Pathogen - Manu	u Marc	A1			A Roome	saine	saincrella	FAUX.
m08	21	1 16/08/0011 10:97	21	FAUR	<b>Fathoper-Wats</b>	a Mint	81		1.00	it Rector	saine	salmonella	Fage .
003	2	16,08,0011 10:57	27	FAUX	Pathoger - Van	yeld a	C1		7	i Teatier	saine	salmonella	F2Q8
m23	21	1 16/00/0011 10:57	21	FALE	Pathoper-Wan	a Marc	05			I Polities	calmo	calmorella	Fatter.
m63	21	16/08/0011 10:57	21	FALS	Pathoper-Van	a Marc	EL			I Pailler	salme	salnorella	FOUR
0008	21	16,00,0011 10:57	27	FAUX	Pathoper-Man	a Marc	F1		- 34	A Realition	palmo	salmonella	Faller
0008	21	16/08/0011 10:57	21	RALE.	Pathoper-Man	a Marc	61			a Relies	caine	calmorella	Room:
0008	21	16/08/0011 30:87	21	RAUE	Pathagon - Mary	a Wave	80		5	1 Augustus	solwe	salmonella	AUUK
0000	21	16/00/0011 10:37	21	faul.	Pathogon - Many	a Marc	42		1	D Agetive	solne	selmonolia	(AUX)
0000	21	16/00/0011 10:37	21	FAUL	Pathagen-Man	a Marc	62		2	7 Negative	salme	salnarolla	FIUX:
0000	2	16/03/0011 10:57	27	faux.	Pathogen - Man	a Marc	62		1	8 Negative	selee	selmorella	1401
0003	23	16/03/0011 10:57	23	fault	Pathopen - Many	a Marc	02		3	6 Argefre	selne	selnorella	<b>FAUX</b>
41405	21	16/05/0011 10:57	27	DAUX .	Pathogen - Man	a Marc	82		2	T ArpsDar	salare	selnorella	NUX.

## Conclusion

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Europrobe *LUMIPROBE 24* method, with the Crocodile miniWorkstation and Orion II luminometer, is a fast and easy in-house method for food industry laboratories to confirm the absence of pathogenic bacteria in their products, with a working time reduced to 20 minutes for 96 samples.

#### Picture 1



#### Table 1

#### Crocodile Protocol of Lumiprobe 24 Listeria monocytogenes

Step	Temp / Volume / Time
Dispense Lysis	40 µL
Add sample manually	40 µL
Incubate	15 min at 37°C
Dispense Hybridization buffer	90 µL
Shake	
Incubate	45 min at 50°C
Wash	4 x 350 µL
Dispense Conjugate	100 µL
Shake / Incubate	15 min at 37°C
Dispense Substrate	100 µL
Shake / Incubate	15 min at 30°C

#### Picture 3 Luminometer software



Picture 4 Crocodile miniWorkstation

Picture 5 Orion II luminometer



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