



# 24h 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.

Software for result interpreting

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Kit Lot Number	Temperature	Test Oute	Bediground	Sadground	Protocol Name	Tedhnidan	Well	Sample td	feading	feult	Fathogen	Pethogen-broup	Negative Co
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mcs	21	16/08/0031 10:97	21	FAUR	Pathogen-Mah	a Marc	81			S FOOTION	salne	salmonella	FOUR
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xxx03	21	16/03/0011 18:37	27	face	Pathopen - Many	a Marc	50		3	Negative	selne	selnorella	FAUN
20005	21	16/05/0011 10:57	27	DAGE	Pathorns - Mary	a Max	82			Armeller	salne	selecteda	500

#### Conclusion

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 **LUMIPROBE 24** assay kits



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



Crocodile miniWorkstation



Picture 5
Orion II luminometer



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