

NF VALIDATION
Validation of alternative analytical methods
Application in food microbiology

Summary report

Validation study according to the ISO 16140-2

iQ-Check *Listeria* spp.

(certificate number: BRD 07/13 - 05/07)

**for the detection of *Listeria* spp. in a broad range of food
and production environmental samples**

Qualitative method

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This report consists of 221 pages, including 10 appendices.

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Competencies of the laboratory are certified by COFRAC accreditation for the analyses marked with the symbol♦.

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LIST OF ABBREVIATIONS

Method & protocol

CFU	Colony Forming Units
DW	Deep Well
FDRS	Free DNA Removal Solution
ILS	Interlaboratory Study
MCS	Method Comparison Study
RLOD	Relative Level of Detection
RT	Relative Trueness
RTC	Ready to cook
RTE	Ready to eat
RTRH	Ready to reheat
SE	Relative Sensitivity
SP	Relative Specificity
IC	Internal Control

Interpretation

AL	Acceptability Limit
alt	Alternative method
$\bar{D}$	Average difference
FN	False Negative results
FP	False Positive results
FNR	False Negative Ratio
FPR	False Positive Ratio
LOD	Limit of Detection
NA	Negative agreement
NA _{FN} (alt)	Negative Agreement due to false negative alternative-method results
ND	Negative Deviation
ND _{FN} (alt)	Negative Deviation due to false negative alternative-method results
PA	Positive Agreement
PA _{FP} (alt)	Positive Agreement due to false positive alternative-method results
PD	Positive deviation
PD _{FP} (alt)	Positive Deviation due to false positive alternative-method results
ref	Reference method
TNA	Total Negative Agreement
TND	Total Negative Deviation

Raw data

-	No typical colonies but presence of background microflora
A-	No typical colonies with high level of background flora
B-	No typical colonies with medium level of background flora
C-	No typical colonies with medium level of background flora
(x)	Number of colonies in the plate
*	Dilution of the extract in case of inhibition according to the alternative protocol (1/10)
(F)	New extraction with the use of FDRS
1/2	50% level of target analyte
d	Doubtful result
H+	Characteristic <i>Listeria</i> colonies with halo
H-	Characteristic <i>Listeria</i> without halo
i	Inhibition
L.inno	<i>Listeria innocua</i>
L.ivan	<i>Listeria ivanovi</i>
L.mono	<i>Listeria monocytogenes</i>
L.seel	<i>Listeria seeligeri</i>
L.welsh	<i>Listeria welshimeri</i>
ne	New DNA extraction
NC	Non-characteristic colony
NI	No identification
ni	Not isolated colony
No amp	Non characteristic PCR curve
m	Minority level of target analyte
M	Majority level of target analyte
p	Pure culture level of target analyte
st	Plate without any colony
Bold typing	Artificially inoculated samples

Quality Assurance documents related to this study can be consulted upon request from **BIO-RAD**.

The technical protocol and the result interpretation were carried out according to the ISO 16140-2 (2016), ISO 16140-2/A1 (2024) and the AFNOR technical rules (Revision 12).

Validation protocols	- ISO 16140-1 (2016): Microbiology of the food chain - Method validation — <i>Part 1: Vocabulary</i> - ISO 16140-2 (2016) & ISO 16140-2/A1 (2024): Microbiology of the food chain - Method validation — <i>Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method</i> - AFNOR technical rules (Revision 12)
Reference method[♦]	ISO 11290-1 (May 2017): Microbiology of the food chain - Horizontal method for the detection and enumeration of <i>Listeria monocytogenes</i> and of <i>Listeria</i> spp.- Part 1: detection method
Alternative method	iQ-Check <i>Listeria</i> spp.
Scope	☒ Broad range of food ☒ Production environmental samples
Certification organism	AFNOR Certification (http://nf-validation.afnor.org/)

[♦] Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

1 INTRODUCTION

The iQ-Check® *Listeria* spp. method was validated on the 14th of May 2007 (certificate number BRD 07/13 - 05/07) for food products and environmental samples. The study was performed by IPL. The following renewals and extensions were performed:

Date	Validation	Reference method	Validation standard	Expert laboratory
May 2007	Initial validation	ISO 11290-1 (1997) ISO 11290-1/A1 (2005)	ISO 16140 (2003)	IPL
January 2009	Extension for a modification of the Taq provider and a modification of the probes chemistry	ISO 11290-1 (1997) ISO 11290-1/A1 (2005)	ISO 16140 (2003)	IPL
February 2010	Extension for: - Modification of the extraction step with the utilization of a new consumable (Deep Well plate) in addition to the tube format previously validated - Use of the CFX Manager Software to handle the CFX96 and MiniOpticon real-time PCR thermal cyclers	ISO 11290-1 (1997) ISO 11290-1/A1 (2005)	ISO 16140 (2003)	Bio-Rad internal data*
May 2011	Renewal	ISO 11290-1 (1997) ISO 11290-1/A1 (2005)	ISO 16140 (2003)	IPL
February 2012	Extension concerning the use of the CFX96 Touch Deep Well thermocycler and the CFX Manager Software IDE version 1.2	/	/	Bio-Rad internal data*
March 2013	Extension to the use of the iQ-Check Prep automation system v1 and the CFX Manager Software IDE v2.0	/	/	Bio-Rad internal data*
October 2013	Extension to the CFX Manager Software IDE v2.1	/	/	Bio-Rad internal data*
November 2014	Extension to the iQ-Check Prep v2 and CFX Manager Software IDE v2.2	/	/	Bio-Rad internal data*
July 2015	Renewal	ISO 11290-1 (1997) ISO 11290-1/A1 (2005)	ISO 16140 (2003)	ISHA
May 2018	Extension to the iQ-Check Prep v3 and CFX Manager Software IDE v3.0	/	/	Bio-Rad internal data*

Date	Validation	Reference method	Validation standard	Expert laboratory
October 2019	Renewal study for a broad range food claim and production environmental samples Extension study for the production environmental samples category: - For a new enrichment protocol associated with the Easy II lysis protocol. - For the optional use of the iQ-Check Free DNA Removal Solution (FDRS) protocol associated with the Easy II lysis protocol - For the use of a new Application Protocol File (APF). The classical iQ-Check APF (Application Protocol File) corresponds to a 1h50 min PCR run. Some optimization (reduction of the number of cycles + time reduction of some steps) led to release the APF Fast for iQ-Check methods (here <i>Listeria</i> spp) to reduce the PCR run time down to 1h10 min without impact on the performances (sensitivity and specificity).	ISO 11290-1 (2017)	ISO 16140-2 (2016)	ADRIA
April 2021	Extension for the use of the APF fast for all the categories and protocols	/	/	Bio-Rad internal data*
May 2021	Extension for the use of the iQ-Check Prep v4	/	/	Bio-Rad internal data*
December 2022	Extension for the use of the CFX Opus Deep Well and the CFX Manager Software IDE 3.1	/	ISO 16140-2 (2016)	Bio-Rad internal data*
April 2023	Renewal study	ISO 11290-1 (2017)	ISO 16140-2 (2016)	ADRIA
June 2023	Extension study for the use of LSB II on composite foods and production environmental samples	ISO 11290-1 (2017)	ISO 16140-2 (2016)	ADRIA
October 2023	Extension study for the use of LSB II on Dairy products	ISO 11290-1 (2017)	ISO 16140-2 (2016)	ADRIA
October 2024	Extension study for the use of LSB II on meat and poultry products	ISO 11290-1 (2017)	ISO 16140-2 (2016)	ADRIA
	Extension for the use of FDRS on meat and poultry products	/	/	Bio-Rad internal data*
December 2024	Extension study for the use of LSB II medium on vegetables and fishery and seafood products and update of the data according to ISO 16140-2/1	ISO 11290-1 (2017)	ISO 16140-2 (2016) & ISO 16140-2/A1 (2024)	ADRIA
	Extension for the use of FDRS on meat and poultry products on vegetables and fishery and seafood products	/	/	Bio-Rad internal data*

Date	Validation	Reference method	Validation standard	Expert laboratory
April 2025	Extension for the use of a new version of CFX Maestro IDE software v4.0 for PCR detection (The data related to this study are available upon request from AFNOR Certification).	/	/	ADRIA

* Manufacturer internal data are not included in this report

2 METHOD PROTOCOLS

2.1 Alternative method

The flow diagrams of the alternative method are provided in **Appendix 1**.

2.1.1 Principle

The iQ-Check *Listeria* spp. kit is tests based on gene amplification and detection by real-time PCR. Ready-to-use PCR reagents contain oligonucleotides (primers and probes) specific for *Listeria* spp., as well as DNA polymerase and nucleotides. Detection and data analysis are optimized for use with a Bio-Rad real-time PCR instrument, such as the CFX96™ Touch standard or Deep Well (DW) or CFX Opus Deep Well (DW) systems.

PCR is a powerful technique used to generate many copies of target DNA. During the PCR reaction, several cycles of heating and cooling allow DNA denaturation, by heat, followed by primers binding to the target region. The DNA polymerase then uses these primers and deoxynucleotide triphosphates (dNTPs) to extend the DNA, creating copies of the target DNA. These copies are called amplicons.

This test allows the detection of *Listeria* spp. in environmental samples and food products previously enriched by culture in *Listeria* Special Broth (LSB or LSB II). It includes the following 4 main steps:

- Enrichment,
- DNA extraction,
- Real-time PCR,
- Data analysis & interpretation.

The FDRS protocol (Free DNA Removal Solution) can be applied to remove free DNA from food and environmental enriched samples prior to PCR analysis. In the context of validation, this protocol only concerns the environmental samples. It is performed by a selected enzyme and its specific buffer under optimized conditions. The iQ-

Check lysis buffer associated with thermal lysis inactivates the enzyme, allowing extraction from intact and living cells.

The PCR can be performed using either the classical iQ-Check APF (Application Protocol File) which corresponds to a 1h50 min PCR run or the APF Fast (reduction of the number of cycles + time reduction of some steps) to reduce the PCR run time down to 1h10 min.

2.1.2 Protocols

The different steps are described below:

Enrichment step	- Protocols available ▪ LSB broth for 22 - 24 h $\pm$ 1 h at 30 $\pm$ 1°C for all categories. (Protocol 1) ▪ LSB broth for 24 - 26 h at 30 $\pm$ 1°C for all categories (Protocol 2) ▪ LSB broth for 18 - 26 h at 30 $\pm$ 1°C for the production environmental category (Protocols 3 and 4) ▪ LSB II broth for 18 - 26 h at 37 $\pm$ 1°C for composite foods and environmental samples (Protocol 5) ▪ Prewarmed (37°C) LSB II broth for 18 - 26 h at 37 $\pm$ 1°C for dairy products, meat products, vegetables products, fishery and seafood products (Protocol 6)
Optional iQ-Check Free DNA Removal Solution (FDRS)	- Activate the iQ-Check Free DNA Removal Solution (FDRS). - Pipette 10 μl of activate reagent into the bottom of each well of a 96-Deep Well microplate. - Add 100 μl of decanted enriched LSB or LSB II per well. Seal the Deep Well microplate with the X-Pierce sealing film. - Incubate in the thermoshaker without shaking for 15 to 30 min at 37°C. - Proceed to Easy II DNA extraction protocol using 100 μl of treated enriched sample.
Lysis step	- Standard II protocol (Protocol 1): ▪ Centrifugation of 1.5 ml enriched LSB broth at 10000 - 12000 g for 5 min. ▪ Discard the supernatant. ▪ Addition of 250 μl of lysis reagent (A: lysis reagent + F: lysis beads). ▪ Resuspend pellet by pipetting the reagent up and down in the tube. ▪ Agitation using the "Disruptor Genie" for 3 min $\pm$ 1 min. ▪ Incubation at 95 - 100°C for 15 - 20 min. ▪ Vortex at high speed. ▪ Centrifugation at 10000 - 12000 g for 5 min.

	- Easy II protocol (Protocols 2 to 6): ▪ Aliquot 100 µl of lysis reagent (A + F) to tubes or wells of Deep Well plate. ▪ Add 100 µl of enriched LSB or LSB II broth. ▪ Place tubes in the cell disruptor for 3 min ± 1 min (for tubes only). ▪ Incubation at 95 - 100°C for 15 - 20 min in a heat block (tubes) or in the plate agitator-incubator (Deep Well plates and tubes) under agitation at 1300 rpm. ▪ Centrifugation at 10000 - 12000 g for 2 min (tubes only).
PCR	- Add 5 µl of lysates supernatant to 45 µl of PCR mix (reagent B + reagent C). - Run PCR. - In case of inhibition, a 1/10 dilution is applied to the DNA extract.
Confirmation	The positive PCR tests are confirmed by: - Reference method protocol: streaking 10 µl of the enriched LSB broth or LSB II onto O&A or Palcam plates incubated for 24 to 48 h at 37°C ± 1°C. The typical colonies are confirmed by the tests described in the ISO method. - Alternative method: streaking 100 µl of enriched LSB or LSB II broth onto Agar <i>Listeria</i> or RAPID'<i>Listeria</i> Agar or RAPID'<i>L.mono</i> Agar incubated for 24 h at 37°C ± 1°C. The only presence of typical colonies allows to confirm the positive PCR result. - By any other method certified by NF Validation based on a principle different from that used in the iQ-Check method starting from the same enrichment step.

It is possible to store the enrichment broths for 72 h at 5°C ± 3°C before proceeding to PCR and confirmatory tests.

The protocols are summarized in **Table 1**.

Table 1 – Summary of the protocols

Validation study	Protocol	Scope	Enrichment step	FDRS	Lysis step	APF ¹
Initial 2007	Protocol 1	All categories	LSB for 22 – 24 h at 30°C ± 1°C	Without	Standard II	Classic
	Protocol 2		LSB for 24 – 26 h at 30°C ± 1°C	Without	Easy II	Fast
Extension 2019	Protocol 3	Environmental samples	LSB for 18 – 26 h at 30°C ± 1°C	Without	Easy II	Classic
	Protocol 4		LSB for 18 – 26 h at 30°C ± 1°C	With	Easy II	Fast
Extensions 2023	Protocol 5	Composite foods Environmental samples	LSB II for 18 – 26 h at 37°C ± 1°C	With / without	Easy II	Fast
	Protocol 6	Dairy products	Pre-warmed (37°C) LSB II broth for 18 - 26 h at 37 ± 1°C	With / without	Easy II	Fast
Extensions 2024	Protocol 6	Meat and poultry products; Vegetables; fishery and seafood products	Pre-warmed (37°C) LSB II broth for 18 - 26 h at 37 ± 1°C	With / without	Easy II	Fast

2.1.3 Restriction

There is no restriction for use.

2.2 Reference method

The reference method corresponds to the ISO 11290-1 (May 2017): Microbiology of the food chain - Horizontal method for the detection and enumeration of *Listeria monocytogenes* and of *Listeria* spp.- Part 1: detection method.

The flow diagram is given in **Appendix 2**.

2.3 Study design

The enrichment broths used for the reference method and the alternative method are different; it was thus an **unpaired study design for all the protocols tested**.

¹ Application Protocol File
ADRIA
Summary report (Version 0)
iQ Check *Listeria* spp.

3 METHOD COMPARISON STUDY

The method comparison study is a study performed by the expert laboratory to compare the alternative method with the reference method.

The study was carried out on a variety of samples and strains representative of the most frequently encountered products. This does not constitute an exhaustive list of the different matrices in the scope.

For any comment on the alternative method, please contact AFNOR Certification by logging on to the web page <http://nf-validation.afnor.org/contact-2/>.

3.1 Initial validation study and extension/renewal studies: results - LSB protocol

The following combinations of protocols were used for interpretation of the data obtained for this study (See Table 2).

Table 2 – Combinations of protocols

Interpretation	Protocol used for the categories tested in previous validation studies	Extension Environmental samples
A1	Protocol 1 (Categories 1 to 6)	/
B1	Protocol 1 (Categories 1 to 5)	Protocol 3 – APF Classic
C1	Protocol 1 (Categories 1 to 5)	Protocol 4 – APF Classic
D1	Protocol 1 (Categories 1 to 5)	Protocol 3 – APF Fast
E1	Protocol 1 (Categories 1 to 5)	Protocol 4 – APF Fast
A2	Protocol 2 (Categories 1 to 6)	/
B2	Protocol 2 (Categories 1 to 5)	Protocol 3 – APF Classic
C2	Protocol 2 (Categories 1 to 5)	Protocol 4 – APF Classic
D2	Protocol 2 (Categories 1 to 5)	Protocol 3 – APF Fast
E2	Protocol 2 (Categories 1 to 5)	Protocol 4 – APF Fast

3.1.1 Sensitivity study

The sensitivity (SE) is the ability of the method to detect the analyte by either the reference or alternative method.

3.1.1.1 Number and nature of the samples

363 samples were analyzed for the initial validation study in 2007 covering 4 food categories and production environmental samples.

For the extension study run in 2008 (modification of Taq provider and modification of probes chemistry), the following tests were carried on:

- 218 lysates from the initial validation study were tested again by Bio-Rad using both versions of the kit (Standard II lysis protocol).
- 133 additional samples were tested with both versions of the kit by the expert laboratory (IPL).

Note that only the results obtained with the modified mix are provided in the raw data tables for the tests run in 2008 as same results were observed using both kits.

47 samples have been excluded from the previous validation studies as they were highly contaminated or because the contamination was not determined.

For the renewal study, 101 samples were tested with the Standard II protocol (Protocol 1) providing 60 positive and 41 negative results; 127 samples were tested with the Easy II protocol (Protocol 2) providing 64 positive and 63 negative results. For the extension study which concerns the environmental samples category, 68 samples were tested with and without applying FDRS protocol with both APF (Classic and Fast), providing 38 positive and 30 negative results.

Taking into account all the studies, 550 samples were tested using protocol 1 and 469 using protocol 2. The distribution per tested category and type is given in Tables 3 and 4.

Table 3 - Number of samples tested per study - Standard II lysis (protocol 1)

Category		Protocol	APF	Type		Positive	Negative	Total
1	Composite foods	P1	Classic	a	RTE	14	8	22
				b	RTRH	12	9	21
				c	Pastries, egg products	13	14	27
				Total		39	31	70
2	Meat products	P1	Classic	a	Raw	28	16	44
				b	RTE, RTRH	16	9	25
				c	Delicatessen	30	14	44
				Total		74	39	113
3	Dairy products	P1	Classic	a	Raw milk cheeses	19	15	34
				b	Raw milk	15	4	19
				c	Heat treated dairy products	22	26	48
				Total		56	45	101
4	Fishery products	P1	Classic	a	Raw fish	16	16	32
				b	Smoked and cured fish	17	17	34
				c	RTE, RTRH	14	13	27
				Total		47	46	93
5	Vegetables	P1	Classic	a	Fresh and frozen vegetables	16	12	28
				b	Pre-cooked, under atmosphere	18	14	32
				c	RTE, RTRH	6	16	22
				Total		40	42	82
6	Environmental Samples	P1	Classic	a	Process water	13	10	23
				b	Sponges, swabs	20	20	40
				c	Dusts, residues	21	7	28
				Total		54	37	91
		P3	Classic	a	Process water	12	11	23
				b	Sponges, swabs	11	10	21
				c	Dusts, residues	15	9	24
				Total		38	30	68
		P4	Classic	a	Process water	12	11	23
				b	Sponges, swabs	11	10	21
				c	Dusts, residues	15	9	24
				Total		38	30	68
		P3	Fast	a	Process water	12	11	23
				b	Sponges, swabs	11	10	21
				c	Dusts, residues	15	9	24
				Total		38	30	68
		P4	Fast	a	Process water	12	11	23
				b	Sponges, swabs	11	10	21
				c	Dusts, residues	15	9	24
				Total		38	30	68
A1: Total P1						310	240	550
B1: Total P1 + P3 Classic						294	233	527
C1: Total P1 + P4 Classic						294	233	527
D1: Total P1 + P3 Fast						294	233	527
E1: Total P1 + P4 Fast						294	233	527

Table 4 - Number of samples tested per study — Easy II lysis (protocol 2)

Category		Protocol	APF	Type		Positive	Negative	total
1	Composite foods	P2	Classic	a	RTE	14	9	23
				b	RTRH	12	10	22
				c	Pastries, egg products	12	11	23
				Total		38	30	68
2	Meat products	P2	Classic	a	Raw	25	11	36
				b	RTE, RTRH	11	7	18
				c	Delicatessen	29	12	41
				Total		65	30	95
3	Dairy products	P2	Classic	a	Raw milk cheeses	14	16	30
				b	Raw milk	14	4	18
				c	Heat treated dairy products	18	21	39
				Total		46	41	87
4	Fishery products	P2	Classic	a	Raw fish	11	10	21
				b	Smoked and cured fish	13	11	24
				c	RTE, RTRH	11	10	21
				Total		35	31	66
5	Vegetables	P2	Classic	a	Fresh and frozen vegetables	13	10	23
				b	Precooked, under atmosphere	18	13	31
				c	RTE, RTRH	6	13	19
				Total		37	36	73
6	Environmental Samples	P2	Classic	a	Process water	8	12	20
				b	Sponges, swabs	20	20	40
				c	Dusts, residues	11	9	20
				Total		39	41	80
		P3	Classic	a	Process water	12	11	23
				b	Sponges, swabs	11	10	21
				c	Dusts, residues	15	9	24
				Total		38	30	68
		P4	Classic	a	Process water	12	11	23
				b	Sponges, swabs	11	10	21
				c	Dusts, residues	15	9	24
				Total		38	30	68
		P3	Fast	a	Process water	12	11	23
				b	Sponges, swabs	11	10	21
				c	Dusts, residues	15	9	24
				Total		38	30	68
		P4	Fast	a	Process water	12	11	23
				b	Sponges, swabs	11	10	21
				c	Dusts, residues	15	9	24
				Total		38	30	68
A2: Total P2						260	209	469
B2: Total P2 + P3 Classic						259	198	457
C2: Total P2 + P4 Classic						259	198	457
D2: Total P2 + P3 Fast						259	198	457
E2: Total P2 + P4 Fast						259	198	457

3.1.1.2 Distribution of the contamination for *Listeria* spp. detection

The number of samples contaminated per *Listeria* spp., *Listeria* spp. and *Listeria monocytogenes*, and *Listeria monocytogenes* for each extraction protocol is given in Tables 5 to 7.

Table 5 - Number of samples contaminated per *Listeria* spp., *Listeria* spp. and *Listeria monocytogenes*, and *Listeria monocytogenes* – Standard II lysis (Protocol 1)

Category	<i>Listeria</i> spp. other than <i>Listeria monocytogenes</i> (A)	<i>Listeria monocytogenes</i> (B)	<i>Listeria monocytogenes</i> + <i>Listeria</i> spp. other than <i>L. monocytogenes</i> (C)	A+C
1	13	22	4	17
2	26	14	34	60
3	15	37	4	19
4	7	31	11	18
5	6	22	10	16
6	10	29	15	25
All categories	77	155	78	155

Table 6 - Number of samples contaminated per *Listeria* spp., *Listeria* spp. and *Listeria monocytogenes*, and *Listeria monocytogenes* - Easy II lysis (Protocol 2)

Category	<i>Listeria</i> spp other than <i>Listeria monocytogenes</i> (A)	<i>Listeria monocytogenes</i> (B)	<i>Listeria monocytogenes</i> + <i>Listeria</i> spp other than <i>L. monocytogenes</i> (C)	A+C
1	14	20	4	18
2	22	12	31	53
3	15	27	4	19
4	6	20	11	17
5	7	18	10	17
6	10	14	15	25
All categories	74	111	75	149

Table 7 - Number of samples contaminated per *Listeria* spp., *Listeria* spp. and *Listeria monocytogenes*, and *Listeria monocytogenes* - Easy II lysis (Protocol 3 or 4)

Category	<i>Listeria</i> spp other than <i>Listeria monocytogenes</i> (A)	<i>Listeria monocytogenes</i> (B)	<i>Listeria monocytogenes</i> + <i>Listeria</i> spp other than <i>L. monocytogenes</i> (C)	A+C
6	7	15	15	22

According to the AFNOR technical rules, 15 to 25 samples per category need to be contaminated with *Listeria* spp. alone or associated with *Listeria monocytogenes*. This is the case for each category and each tested protocol.

3.1.1.3 Artificial contamination of the samples

Artificial contaminations were done by spiking (See **Appendix 3**). Strains were injured using different protocols and the injury level was evaluated by comparing enumeration done onto selective media (Palcam) and non-selective media (TSYEA).

148 samples were artificially contaminated; 138 gave positive result by at least one of the methods.

The repartition of positive samples per inoculation protocol and inoculation level is given in Table 8.

Table 8 - Repartition of the positive samples per inoculation protocol and inoculation level

		Naturally contaminated	Artificially contaminated						Total
			Spiking protocol			Seeding protocol			
			≤ 5 CFU	5 < x ≤ 10 CFU	10<x< 30 CFU	≤ 3 CFU	3 < x ≤ 10 CFU	10<x< 30 CFU	
Protocol 1	Samples number	207	5	29	10	52	7	0	310
	%	66.8%	1.6%	9.4%	3.2%	16.8%	2.3%	0.0%	100.0%
Protocol 2	Samples number	185	2	9	4	53	7	0	260
	%	71.2%	0.8%	3.5%	1.5%	20.4%	2.7%	0.0%	100.0%
Protocol 1 (cat 6)	Samples number	41	1	8	2	2	0	0	54
	%	75.9%	1.9%	14.8%	3.7%	3.7%	0.0%	0.0%	100.0%
Protocol 2 (cat 6)	Samples number	37	0	0	0	2	0	0	39
	%	94.9%	0.0%	0.0%	0.0%	5.1%	0.0%	0.0%	100.0%
Protocol 3 or 4	Samples number	3	0	0	0	35	0	0	38
	%	7.91%	0.0%	0.0%	0.0%	92.1%	0.0%	0.0%	100.0%
Protocol 1 + 3 or 4	Samples number	169	4	21	8	85	7	0	294
	%	57.5%	1.4%	7.5%	2.7%	28.9%	2.4%	0.0%	100.0%
Protocol 2 + 3 or 4	Samples number	151	2	9	4	86	7	0	259
	%	58.8%	0.8%	3.5%	1.5%	33.2%	2.7%	0.0%	100.0%

66.8 % and 71.2 % of the samples were naturally contaminated respectively for the Standard II lysis protocol and the Easy II lysis protocol.

57.5 % and 58.3 % of the samples were naturally contaminated when protocol 3 or 4 (environmental samples category) were respectively combined with protocols 1 and 2 (food categories).

3.1.1.4 Protocol applied during the validation study

> **Enrichment, lysis and PCR protocols**

The minimum incubation time was evaluated for all the study.

A summary of the protocols evaluated during the initial validation study and the extensions in 2019 is shown in Table 9.

Table 9 – Protocols applied

Validation study	Protocol	Scope	Enrichment step	FDRS	Lysis step	APF ²
Initial 2007	Protocol 1	All categories	LSB for 22 h at 30°C ± 1°C	Without	Standard II	Classic
	Protocol 2		LSB for 24 h at 30°C ± 1°C	Without	Easy II	Classic
Extension 2019	Protocol 3	Environmental samples	LSB for 18 h at 30°C ± 1°C	Without	Easy II	Classic
						Fast
	Protocol 4		LSB for 18 h at 30°C ± 1°C	With	Easy II	Classic
						Fast

An incubation time of 15 min in the thermoshaker was applied for the validation study.

> **Confirmation protocols**

During the validation study, the following protocols were tested:

- Streaking 10 µl of enriched LSB broth onto O&A and Palcam plates,
- Streaking 0.1 ml enriched LSB broth onto RAPID'*Listeria* Agar,
- Streaking 0.1 ml enriched LSB broth onto RAPID'*L.mono* Agar.

The presence of typical colonies allows to confirm the positive PCR Tests but during the validation study, the typical colonies were confirmed using the tests described in the reference method (Gram, catalase) and by biochemical galleries (API *Listeria*).

The confirmation was run after 22 h incubation time (shortest incubation time applied for the standard II extraction protocol).

² Application Protocol File

For negative PCR samples, the enriched LSB was subcultured in Fraser for 24h ± 2h at 37°C in order to have a total duration of incubation equivalent to the ISO method before streaking onto O&A and Palcam plates. This protocol only concerns the samples tested for this study.

> **Enrichment broth storage**

The enriched LSB broths from positive and discordant samples were tested again after storage for 72 h at 5°C ± 3°C. DNA extractions, PCR tests and confirmatory tests were run again.

3.1.1.5 Test results

Raw data per category are given in **Appendix 4**. The results are given in Tables 10 and 11.

**Table 10 – Interpretation of sample results between the reference and alternative method (based on the confirmed alternative) –
Standard II lysis**

Category		Protocol	APF	PA	PD	TND	TNA	Total
1	Composite foods	Protocol 1	Classic	24	10	5	31	70
2	Meat products	Protocol 1	Classic	59	10	5	39	113
3	Dairy products	Protocol 1	Classic	43	8	5	45	101
4	Fishery products	Protocol 1	Classic	39	6	2	46	93
5	Vegetable products	Protocol 1	Classic	30	6	4	42	82
6	Environmental samples	Protocol 1	Classic	47	4	3	37	91
		Protocol 3	Classic	27	5	6	30	68
		Protocol 4	Classic	27	5	6	30	68
		Protocol 3	Fast	27	5	6	30	68
		Protocol 4	Fast	27	5	6	30	68
A1: Total P1				242	44	24	240	550
B1: Total P1 + P3 Classic				222	45	27	233	527
C1: Total P1 + P4 Classic				222	45	27	233	527
D1: Total P1 + P3 Fast				222	45	27	233	527
E1: Total P1 + P4 Fast				222	45	27	233	527

$$\text{With } TND = ND + ND_{FN(alt)} + PA_{FP(alt)} \quad TNA = NA + NA_{FN(alt)} + PD_{FP(alt)}$$

Table 11 – Interpretation of sample results between the reference and alternative method (based on the confirmed alternative) –

Easy II lysis

Category		Protocol	APF	PA	PD	TND	TNA	Total
1	Composite foods	Protocol 2	Classic	23	10	5	30	68
2	Meat products	Protocol 2	Classic	51	9	5	30	95
3	Dairy products	Protocol 2	Classic	36	6	4	41	87
4	Seafood products	Protocol 2	Classic	29	6	0	31	66
5	Vegetable products	Protocol 2	Classic	30	4	3	36	73
6	Environmental samples	Protocol 2	Classic	34	2	3	41	80
		Protocol 3	Classic	27	5	6	30	68
		Protocol 4	Classic	27	5	6	30	68
		Protocol 3	Fast	27	5	6	30	68
		Protocol 4	Fast	27	5	6	30	68
A2: Total P2				203	37	20	209	469
B2: Total P2 + P3 Classic				196	40	23	198	457
C2: Total P2 + P4 Classic				196	40	23	198	457
D2: Total P2 + P3 Fast				196	40	23	198	457
E2: Total P2 + P4 Fast				196	40	23	198	457

With $TND = ND + ND_{FN(alt)} + PA_{FP(alt)}$ $TNA = NA + NA_{FN(alt)} + PD_{FP(alt)}$

3.1.1.6 Calculation of relative trueness (RT), sensitivity (SE) and false positive ratio (FPR) and false negative ratio (FNR) for the alternative method

The calculations are presented in Tables 12 and 13. A summary of the results is given in Tables 14 and 15.

Table 12 – Calculation of the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR) and false negative ratio (FNR) for the alternative method - Standard II lysis

Category		Protocol	APF	Type		PA	PA _{FP(alt)}	NA	NA _{FN(alt)}	ND	ND _{FN(alt)}	PD	PD _{FP(alt)}	TND	TNA	SE _{%^{alt}}	SE _{%^{ref}}	RT _%	FPR _%	FNR
1	Composite foods	P1	Classic	a	RTE	11	0	6	0	0	0	3	2	0	8	100.0	78.6	86.4	25.0	0.000
				b	RTRH	7	1	7	0	0	1	3	2	2	9	83.3	75.0	76.2	33.3	0.083
				c	Pastries, egg products	6	0	12	0	3	0	4	2	3	14	76.9	69.2	74.1	14.3	0.000
				Total		24	1	25	0	3	1	10	6	5	31	87.2	74.4	78.6	22.6	0.026
2	Meat products	P1	Classic	a	Raw	22	0	16	0	1	0	5	0	1	16	96.4	82.1	86.4	0.0	0.000
				b	RTE, RTRH	15	0	8	0	1	0	0	1	1	9	93.8	100.0	96.0	11.1	0.000
				c	Delicatessen	22	1	12	0	2	0	5	2	3	14	90.0	83.3	81.8	21.4	0.000
				Total		59	1	36	0	4	0	10	3	5	39	93.2	86.5	86.7	10.3	0.000
3	Dairy products	P1	Classic	a	Raw milk cheeses	11	1	15	0	0	2	5	0	3	15	84.2	73.7	76.5	6.7	0.105
				b	Raw milk	13	0	4	0	1	0	1	0	1	4	93.3	93.3	89.5	0,0	0,000
				c	Heat treated dairy products	19	0	25	0	1	0	2	1	1	26	95.5	90,9	93,8	3,8	0,000
				Total		43	1	44	0	2	2	8	1	5	45	91.1	85.7	87,1	4,4	0,036
4	Fishery products	P1	Classic	a	Raw fish	13	0	16	0	1	0	2	0	1	16	93.8	87,5	90,6	0,0	0,000
				b	Smoked and cured fish	14	0	17	0	0	0	3	0	0	17	100.0	82,4	91,2	0,0	0,000
				c	RTE, RTRH	12	0	12	0	1	0	1	1	1	13	92.9	92,9	92,6	7,7	0,000
				Total		39	0	45	0	2	0	6	1	2	46	95.7	87.2	91,4	2,2	0,000
5	Vegetables	P1	Classic	a	Fresh and frozen vegetables	12	0	11	0	2	0	2	1	2	12	87.5	87,5	85,7	8,3	0,000
				b	Pre cooked, under atmosphere	15	0	13	0	1	0	2	1	1	14	94.4	88,9	90,6	7,1	0,000
				c	RTE, RTRH	3	0	15	0	1	0	2	1	1	16	83.3	66,7	86,4	6,3	0,000
				Total		30	0	39	0	4	0	6	3	4	42	90.0	85.0	87,8	7,1	0,000

Category		Protocol	APF	Type		PA	PA _{FP(alt)}	NA	NA _{FN(alt)}	ND	ND _{FN(alt)}	PD	PD _{FP(alt)}	TND	TNA	SE _{alt} %	SE _{ref} %	RT %	FPR %	FNR
6	Environmental Samples	P1	Classic	a	Process water	12	0	9	0	1	0	0	1	1	10	92.3	100,0	95,7	10,0	0,000
				b	Sponges, swabs	17	0	20	0	2	0	1	0	2	20	90.0	95,0	92,5	0,0	0,000
				c	Dusts, residues	18	0	7	0	0	0	3	0	0	7	100.0	85,7	89,3	0,0	0,000
				Total		47	0	36	0	3	0	4	1	3	37	94.4	92.6	92,3	2,7	0,000
		P3	Classic	a	Process water	9	0	10	0	0	1	2	1	1	11	91.7	83,3	87,0	9,1	0,083
				b	Sponges, swabs	10	0	9	0	0	0	1	1	0	10	100.0	90,9	95,2	10,0	0,000
				c	Dusts, residues	8	1	9	0	4	0	2	0	5	9	66.7	86,7	70,8	11,1	0,000
				Total		27	1	28	0	4	1	5	2	6	30	84.2	86.8	83,8	10,0	0,026
		P4	Classic	a	Process water	9	0	11	0	0	1	2	0	1	11	91.7	83,3	87,0	0,0	0,083
				b	Sponges, swabs	10	0	10	0	0	0	1	0	0	10	100.0	90,9	95,2	0,0	0,000
				c	Dusts, residues	8	0	9	0	5	0	2	0	5	9	66.7	86,7	70,8	0,0	0,000
				Total		27	0	30	0	5	1	5	0	6	30	84.2	86.8	83,8	0,0	0,026
		P3	Fast	a	Process water	9	0	10	0	0	1	2	1	1	11	91.7	83,3	87,0	9,1	0,083
				b	Sponges, swabs	10	0	9	0	0	0	1	1	0	10	100.0	90,9	95,2	10,0	0,000
				c	Dusts, residues	8	0	7	0	5	0	2	2	5	9	66.7	86,7	70,8	22,2	0,000
				Total		27	0	26	0	5	1	5	4	6	30	84.2	86.8	83,8	13,3	0,026
		P4	Fast	a	Process water	9	0	11	0	0	1	2	0	1	11	91.7	83,3	87,0	0,0	0,083
				b	Sponges, swabs	10	0	10	0	0	0	1	0	0	10	100.0	90,9	95,2	0,0	0,000
				c	Dusts, residues	8	0	9	0	5	0	2	0	5	9	66.7	86,7	70,8	0,0	0,000
				Total		27	0	30	0	5	1	5	0	6	30	84.2	86.8	83,8	0,0	0,026
A1: Total P1						242	3	225	0	18	3	44	15	24	240	92.3	85.8	87.6	7.5	0.010
B1: Total P1 + P3 Classic						222	4	217	0	19	4	45	16	27	233	90.8	84.7	86.3	8.6	0.014
C1: Total P1 + P4 Classic						222	3	219	0	20	4	45	14	27	233	90.8	84.7	86.3	7.3	0.014
D1: Total P1 + P3 Fast						222	3	215	0	20	4	45	18	27	233	90.8	84.7	86.3	9.0	0.014
E1: Total P1 + P4 Fast						222	3	219	0	20	4	45	14	27	233	90.8	84.7	86.3	7.3	0.014

Table 13 – Calculation of the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR) and false negative ratio (FNR) for the alternative method - Easy II lysis

Category		Protocol	APF	Type	PA	PA _{FP(alt)}	NA	NA _{FN(alt)}	ND	ND _{FN(alt)}	PD	PD _{FP(alt)}	TND	TNA	SE _{alt} %	SE _{ref} %	RT %	FPR %	FNR
1	Composite foods	P2	Classic	a RTE	11	0	6	0	0	0	3	3	0	9	100.0	78.6	87.0	33.3	0.000
				b RTRH	7	0	9	0	1	1	3	1	2	10	83.3	75.0	77.3	10.0	0.083
				c Pastries, egg products	5	0	8	0	3	0	4	3	3	11	75.0	66.7	69.6	27.3	0.000
				Total	23	0	23	0	4	1	10	7	5	30	86.8	73.7	77.9	23.3	0.026
2	Meat products	P2	Classic	a Raw	20	0	11	0	1	0	4	0	1	11	96.0	84.0	86.1	0.0	0.000
				b RTE, RTRH	10	0	6	0	1	0	0	1	1	7	90.9	100.0	94.4	14.3	0.000
				c Delicatessen	21	0	11	0	3	0	5	1	3	12	89.7	82.8	80.5	8.3	0.000
				Total	51	0	28	0	5	0	9	2	5	30	92.3	86.2	85.3	6.7	0.000
3	Dairy products	P2	Classic	a Raw milk cheeses	9	0	12	1	1	1	3	3	2	16	85.7	78.6	83.3	18.8	0.143
				b Raw milk	12	0	2	0	1	0	1	2	1	4	92.9	92.9	88.9	50.0	0.000
				c Heat treated dairy products	15	0	20	0	1	0	2	1	1	21	94.4	88.9	92.3	4.8	0.000
				Total	36	0	34	1	3	1	6	6	4	41	91.3	87.0	88.5	14.6	0.043
4	Fishery products	P2	Classic	a Raw fish	9	0	10	0	0	0	2	0	0	10	100.0	81.8	90.5	0.0	0.000
				b Smoked and cured fish	10	0	11	0	0	0	3	0	0	11	100.0	76.9	87.5	0.0	0.000
				c RTE, RTRH	10	0	10	0	0	0	1	0	0	10	100.0	90.9	95.2	0.0	0.000
				Total	29	0	31	0	0	0	6	0	0	31	100.0	82.9	90.9	0.0	0.000
5	Vegetables	P2	Classic	a Fresh and frozen vegetables	12	0	9	0	1	0	0	1	1	10	92.3	100.0	95.7	10.0	0.000
				b Pre cooked, under atmosphere	15	0	13	0	1	0	2	0	1	13	94.4	88.9	90.3	0.0	0.000
				c RTE, RTRH	3	0	11	0	1	0	2	2	1	13	83.3	66.7	84.2	15.4	0.000
				Total	30	0	33	0	3	0	4	3	3	36	91.9	89.2	90.4	8.3	0.000

Category		Protocol	APF	Type		PA	PA _{FP(alt)}	NA	NA _{FN(alt)}	ND	ND _{FN(alt)}	PD	PD _{FP(alt)}	TND	TNA	SE _{alt} %	SE _{ref} %	RT %	FPR %	FNR
6	Environmental samples	P2	Classic	a	Process water	7	0	11	0	0	0	1	1	0	12	100.0	87.5	95.0	8.3	0.000
				b	Sponges, swabs	17	0	20	0	2	0	1	0	2	20	90.0	95.0	92.5	0.0	0.000
				c	Dusts, residues	10	0	8	0	1	0	0	1	1	9	90.9	100.0	95.0	11.1	0.000
				Total		34	0	39	0	3	0	2	2	3	41	92.3	94.9	93.8	4.9	0.000
		P3	Classic	a	Process water	9	0	10	0	0	1	2	1	1	11	91.7	83.3	87.0	9.1	0.083
				b	Sponges, swabs	10	0	9	0	0	0	1	1	0	10	100.0	90.9	95.2	10.0	0.000
				c	Dusts, residues	8	1	9	0	4	0	2	0	5	9	66.7	86.7	70.8	11.1	0.000
				Total		27	1	28	0	4	1	5	2	6	30	84.2	86.8	83.8	10.0	0.026
		P4	Classic	a	Process water	9	0	11	0	0	1	2	0	1	11	91.7	83.3	87.0	0.0	0.083
				b	Sponges, swabs	10	0	10	0	0	0	1	0	0	10	100.0	90.9	95.2	0.0	0.000
				c	Dusts, residues	8	0	9	0	5	0	2	0	5	9	66.7	86.7	70.8	0.0	0.000
				Total		27	0	30	0	5	1	5	0	6	30	84.2	86.8	83.8	0.0	0.026
		P3	Fast	a	Process water	9	0	10	0	0	1	2	1	1	11	91.7	83.3	87.0	9.1	0.083
				b	Sponges, swabs	10	0	9	0	0	0	1	1	0	10	100.0	90.9	95.2	10.0	0.000
				c	Dusts, residues	8	0	7	0	5	0	2	2	5	9	66.7	86.7	70.8	22.2	0.000
				Total		27	0	26	0	5	1	5	4	6	30	84.2	86.8	83.8	13.3	0.026
		P4	Fast	a	Process water	9	0	11	0	0	1	2	0	1	11	91.7	83.3	87.0	0.0	0.083
				b	Sponges, swabs	10	0	10	0	0	0	1	0	0	10	100.0	90.9	95.2	0.0	0.000
				c	Dusts, residues	8	0	9	0	5	0	2	0	5	9	66.7	86.7	70.8	0.0	0.000
				Total		27	0	30	0	5	1	5	0	6	30	84.2	86.8	83.8	0.0	0.026
A2: Total P2						203	0	188	1	18	2	37	20	20	209	92.3	85.8	87.8	9.6	0.012
B2: Total P2 + P3 Classic						196	1	177	1	19	3	40	20	23	198	91.1	84.6	86.2	10.6	0.015
C2: Total P2 + P4 Classic						196	0	179	1	20	3	40	18	23	198	91.1	84.6	86.2	9.1	0.015
D2: Total P2 + P3 Fast						196	0	175	1	20	3	40	22	23	198	91.1	84.6	86.2	11.1	0.015
E2: Total P2 + P4 Fast						196	0	179	1	20	3	40	18	23	198	91.1	84.6	86.2	9.1	0.015

Table 14 - Summary of results – Standard II lysis

		A1	B1	C1	D1	E1
Sensitivity for the alternative method	$SE_{alt} = \frac{(PA + PD)}{(PA + TND + PD)} \times 100 \%$	92.3%	90.8%	90.8%	90.8%	90.8%
Sensitivity for the reference method	$SE_{ref} = \frac{(PA + TND)}{(PA + TND + PD)} \times 100 \%$	85.8%	84.7%	84.7%	84.7%	84.7%
Relative trueness	$RT = \frac{(PA + TNA)}{N} \times 100 \%$	87.6%	86.3%	86.3%	86.3%	86.3%
False positive ratio for the alternative method (unpaired evaluation)	$FPR = \frac{PA_{FP(alt)} + PD_{FP(alt)}}{TNA} \times 100 \%$	7.5%	8.6%	7.3%	9.0%	7.3%
False negative ratio for the alternative method (unpaired evaluation)	$FNR = \frac{NA_{FN(alt)} + ND_{FN(alt)}}{PA + TND + PD}$	0.010	0.014	0.014	0.014	0.014

Table 15 - Summary of results – Easy II lysis

		A2	B2	C2	D2	E2
Sensitivity for the alternative method	$SE_{alt} = \frac{(PA + PD)}{(PA + TND + PD)} \times 100 \%$	92.3%	91.1%	91.1%	91.1%	91.1%
Sensitivity for the reference method	$SE_{ref} = \frac{(PA + TND)}{(PA + TND + PD)} \times 100 \%$	85.8%	84.6%	84.6%	84.6%	84.6%
Relative trueness	$RT = \frac{(PA + TNA)}{N} \times 100 \%$	87.8%	86.2%	86.2%	86.2%	86.2%
False positive ratio for the alternative method (unpaired evaluation)	$FPR = \frac{PA_{FP(alt)} + PD_{FP(alt)}}{TNA} \times 100 \%$	9.6%	10.6%	9.1%	11.1%	9.1%
False negative ratio for the alternative method (unpaired evaluation)	$FNR = \frac{NA_{FN(alt)} + ND_{FN(alt)}}{PA + TND + PD}$	0.012	0.015	0.015	0.015	0.015

3.1.1.7 Analysis of discordant results

> Negative deviations

The negative deviations are listed in Table 16 for the renewal study and Table 17 for the extension study.

For the renewal study (2019), 24 and 20 negative deviations were respectively observed for the Standard II protocol and the Easy II protocol. For 3 samples ($ND_{FN(alt)}$) (3474, 5340 and 1312), *Listeria* spp. strains were isolated from the enrichment broth. In these cases, the contamination level was probably just at the limit of detection of the alternative method.

For sample 3474 (raw milk cheese), the PCR was positive using the Easy II protocol after 72 h storage of the LSB broth. For sample 5340 (raw milk cheese), the PCR result was positive using the Standard II protocol after storage.

For the environmental samples tested for the extension, 6 negative deviations were observed with all the protocols (with or without FDRS, APF Classic and Fast). The presence of *Listeria* spp. was not confirmed in the enrichment broth for these samples. These discordant results were probably linked to the unpaired study design.

None of the samples in negative agreement (NA) for both extraction protocols tested for the extension study (environmental samples) was confirmed positive with cultural methods.

One sample (3471: Raw milk cheese) in negative agreement was confirmed positive ($NA_{FN(alt)}$) for Protocol 2 (Easy lysis).

> Positive deviations

They are listed in Table 18 for the renewal and Table 19 for the extension.

For the renewal study (2019), 44 and 37 positive deviations were respectively observed with the Standard II and the Easy II protocols. They concern 16 artificially contaminated samples and 30 naturally contaminated samples. 28 samples were contaminated with *Listeria monocytogenes*.

For the extension study, 5 positive deviations were observed for the 4 tested protocols; 2 samples were naturally contaminated and 3 artificially contaminated.

Table 16 - Negative deviations (renewal study)

◆ Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

Date of analysis	Ref.	Product	Inoculation level (CFU/sample)	ISO 11290-1 result	Alternative method: iQ Check <i>Listeria</i> spp										Category	Type	
					After incubation time												
					Standard II protocol				Easy II protocol		Confirmation	Final result		Agreement			
					2006		2008 and 2019		2006 and 2019			Standard II lysis APF Classic	Easy II lysis APF Classic	Standard II lysis APF Classic			Easy II lysis APF Classic
					Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Identifications						
2019	1666	RTRH (puff ham and cheese)	1.6	+			37.12/38.64/40.45	+ / + / +	-	-	- (5 Fraser/AL/Palcam)	-	-	PA _{FP(alt)}	ND	1	b
2019	4457	RTRH (quiche lorraine)	2.6	+			-/35.00/-	- / + / -	- / -/38.74	- / - / +	<i>L. innocua</i>	-	-	ND _{FN(alt)}	ND _{FN(alt)}	1	b
2006	N10	Pastry	/	+	N/A	-			N/A	-	Ø	-	-	ND	ND	1	c
2019	1681	Tortilla	3.4	+			-	-	-	-	/	-	-	ND	ND	1	c
2019	5333	Pastry	2.6	+			-	-	-	-	/	-	-	ND	ND	1	c
2006	M9	Horse meat	/	+	N/A	-	N/A	-	N/A	-	/	-	-	ND	ND	2	a
2006	T6	Beef and pork balls	/	+	N/A	-	N/A	-	N/A	-	Ø	-	-	ND	ND	2	b
2006	AA2	Merguez	/	+	N/A	-	N/A	-	N/A	-	/	-	-	ND	ND	2	c
2006	BB12	Seasoned sausage	/	+	N/A	-			N/A	-	Ø	-	-	ND	ND	2	c
2006	O5	Pâté	/	+	38.53	+			N/A	-	Ø	-	-	PA _{FP(alt)}	ND	2	c
2019	3474	Raw milk cheese	2.2	+			- / - / -	- / - / -	- / - / -	- / - / -	<i>L. innocua</i>	-	-	ND _{FN(alt)}	ND _{FN(alt)}	3	a
2019	5340	Raw milk cheese	2.2	+			-/41.12/-	- / + / -	36.17	+	<i>L. innocua</i>	-	+	ND _{FN(alt)}	PA	3	a
2019	5341	Raw milk cheese	4.6	+			47.78/-/-	+ / - / -	- / - *	i / - *	- (5 Fraser/AL/Palcam)	-	-	PA _{FP(alt)}	ND	3	a
2019	5336	Raw milk	3.6	+			-	-	-	-	/	-	-	ND	ND	3	b
2006	A12	Cheese	/	+	N/A	-	N/A	-	N/A	-	Ø	-	-	ND	ND	3	c
2008	B1	Salmon fillet	/	+	N/A	-	N/A	-			/	-	/	ND	/	4	a
2008	B15	RTRH meal (fish)	/	+	N/A	-	N/A	-			/	-	/	ND	/	4	c
2006	N14	Frozen mushrooms	/	+	N/A	-			N/A	-	Ø	-	-	ND	ND	5	a
2008	B19	Frozen spinach	/	+	N/A	-	N/A	-			/	-	/	ND	/	5	a
2006	O2	Pre-baked potatoes	/	+	N/A	-	N/A	-	N/A	-	Ø	-	-	ND	ND	5	b
2006	R11	Potatoes to stuff	/	+	N/A	-	N/A	-	N/A	-	Ø	-	-	ND	ND	5	c
2008	F10	Ice-cold water	10.0	+	N/A	-	N/A	-			/	-	/	ND	/	6	a
2006	G13	Surface sample	/	+	N/A	-			N/A	-	Ø	-	-	ND	ND	6	b
2006	I2	Surface sample	/	+	N/A	-	N/A	-	N/A	-	Ø	-	-	ND	ND	6	b
2019	5589	Dust (dairy environment)		+					-	-	Gram NC		-	/	ND	6	c

Table 17 - Negative deviations (extension study)

Date of analysis	Ref	Product	Inoculation level (CFU/sample)	ISO 11290-1 result	Alternative method: iQ Check <i>Listeria</i> spp																Category	Type	
					18h at 30°C ± 1°C																		
					Easy II lysis LSB 18h 30°C				FDRS Easy II lysis LSB 18h 30°C				Confirmation	Final result Easy II lysis		Final result FDRS Easy II lysis		Agreement Easy II lysis		Agreement FDRS Easy II lysis			
					APF Classic		APF Fast		APF Classic		APF Fast			APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic			APF Fast
Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Identifications	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast							
2019	4686	Rinsing water (seafood environment)	2.0	+	-	-	-	-	-	-	-	-	/	-	-	-	-	ND	ND	ND	ND	6	a
2019	4047	Residues (seafood environment)	0.8+0.8	+	-	-	-	-	-	-	-	-	/	-	-	-	-	ND	ND	ND	ND	6	c
2019	4689	Residues (seafood environment)	2.0	+	-	-	-	-	-	-	-	-	/	-	-	-	-	ND	ND	ND	ND	6	c
2019	4690	Residues (seafood environment)	1.0+1.6	+	-	-	-	-	-	-	-	-	/	-	-	-	-	ND	ND	ND	ND	6	c
2019	5085	Residues (vegetable environment)	2.6	+	38.08/41.32/-	+ /+/-	-	-	-	-	-	-	- (5Fraser/AL/Palcam)	-	-	-	-	PA _{FP(alt)}	ND	ND	ND	6	c
2019	5589	Dust (dairy environment)	/	+	-	-	-	-	-	-	-	-	(GRAM NC)	-	-	-	-	ND	ND	ND	ND	6	c

Table 18 - Positive deviations (renewal study)

Date of analysis	Ref	Product	Inoculation level (CFU/sample)	ISO 11290-1 result	Alternative method: iQ Check <i>Listeria</i> spp										Category	Type		
					After incubation time													
					Standard II protocol				Easy II protocol		Confirmation	Final result		Agreement				
					2006		2008 and 2019		2006 and 2019			Standard II lysis APF Classic	Easy II lysis APF Classic	Standard II lysis APF Classic	Easy II lysis APF Classic			
					Ct FAM	Result	Ct FAM	Result	Ct FAM	Result								
2019	1659	RTE salad (ham cabbage and cheese)	1.0+1.6	-			20.87	+	25.69	+	<i>L.monocytogenes</i>	+	+	PD	PD	1	a	
2019	1676	RTE sandwich (ham and butter)	1.4	-			27.68	+	32.23	+	<i>L.monocytogenes</i>	+	+	PD	PD	1	a	
2019	4452	RTE sandwich (tuna)	2.2	-			22.33	+	25.55	+	<i>L.innocua</i>	+	+	PD	PD	1	a	
2019	1667	RTRH (puff ham and cheese)	1.4	-			23.73	+	31.12	+	<i>L.monocytogenes</i>	+	+	PD	PD	1	b	
2019	1668	RTRH (Couscous)	1.6	-			21.39	+	26.61	+	<i>L.monocytogenes</i>	+	+	PD	PD	1	b	
2019	4455	RTRH (pasta)	2.6	-			19.53	+	23.84	+	<i>L.innocua</i>	+	+	PD	PD	1	b	
2019	1663	Pastry	0.6+0.6	-			22.9	+	26.58	+	<i>L.monocytogenes</i>	+	+	PD	PD	1	c	
2019	1671	Tortilla	0.6	-			21.06	+	26.52	+	<i>L.innocua</i>	+	+	PD	PD	1	c	
2019	1672	Pastry	0.6	-			19.73	+	25.9	+	<i>L.innocua</i>	+	+	PD	PD	1	c	
2019	1678	Pastry	3.4	-			20.6	+	25.16	+	<i>L.monocytogenes</i>	+	+	PD	PD	1	c	
2006	AA5	Pork meat	/	-	31.02	+	25.20	+	31.99	+	<i>L.monocytogenes</i>	+	+	PD	PD	2	a	
2006	CC12	Beef trim	/	-	34.60	+	30.22	+	36.36	+	<i>L.monocytogenes</i>	+	+	PD	PD	2	a	
2006	CC13	Beef trim	/	-	22.00	+	21.47	+	29.81	+	<i>L.monocytogenes</i>	+	+	PD	PD	2	a	
2006	K5	Ground beef	/	-	32.02	+			34.85	+	<i>L.welshimeri</i>	+	+	PD	PD	2	a	
2008	G6	Cutlet ham	/	-	35.69	+	36.52	+			<i>L.welshimeri</i>	+	/	PD	/	2	a	
2006	AA8	Sausages	/	-	29.81	+	22.02	+	29.04	+	<i>L.welshimeri</i>	+	+	PD	PD	2	c	
2006	M7	Smoked ham	/	-	25.77	+	23.18	+	29.48	+	<i>L.monocytogenes</i>	+	+	PD	PD	2	c	
2006	N1	Sausages	/	-	35.87	+			39.27	+	<i>L.monocytogenes</i>	+	+	PD	PD	2	c	
2006	O4	Merguez	/	-	25.55	+	31.7	+	33.79	+	<i>L.monocytogenes</i>	+	+	PD	PD	2	c	
2006	O8	Bacon	/	-	33.16	+			38.23	+	<i>L.welshimeri</i>	+	+	PD	PD	2	c	
2008	B2	Cheese	/	-	33.17	+	31.36	+			<i>L.ivanovii</i>	+	/	PD	/	3	a	
2019	3470	Raw milk cheese	1.8	-			33.49	+	37.91	+	<i>L.welshimeri</i>	+	+	PD	PD	3	a	
2019	3471	Raw milk cheese	1.8	-			35.89	+	-/-	-/-	<i>L.welshimeri</i>	+	-	PD	NA	3	a	
2019	3473	Raw milk cheese	1.8+1.0	-			27.02	+	31.53	+	<i>L.monocytogenes</i> <i>L.innocua</i>	+	+	PD	PD	3	a	
2019	3475	Raw milk cheese	1.8+1.0	-			31.09	+	37.23	+	<i>L.monocytogenes</i>	+	+	PD	PD	3	a	
2006	E7	Raw milk	/	-	15.63	+	30.69	+	18.86	+	<i>L.monocytogenes</i>	+	+	PD	PD	3	b	
2006	B3	Cheese	/	-	25.36	+	28.25	+	31.65	+	<i>L.monocytogenes</i>	+	+	PD	PD	3	c	
2006	N18	Cheese	/	-	22.72	+	11.72	+	25.24	+	<i>L.monocytogenes</i>	+	+	PD	PD	3	c	
2006	W3	Roast fish	/	-	34.16	+			39.25	+	<i>L.monocytogenes</i>	+	+	PD	PD	4	a	
2006	N21	Langoustines	/	-	22.61	+	20.69	+	25.55	+	<i>L.monocytogenes</i>	+	+	PD	PD	4	a	
2006	E3	Herring	/	-	30.46	+			33.84	+	<i>L.monocytogenes</i>	+	+	PD	PD	4	b	
2006	R20	Smoked tuna	/	-	37.51	+			38.73	+	<i>L.monocytogenes</i>	+	+	PD	PD	4	b	
2006	S5	Smoked fish	/	-	22.37	+			22.77	+	<i>L.monocytogenes</i> <i>L.innocua</i>	+	+	PD	PD	4	b	
2006	M14	Cooked fish fillet	/	-	30.64	+			32.37	+	<i>L.innocua</i>	+	+	PD	PD	4	c	
2008	B4	Green beans	/	-	30.21	+	28.33	+			<i>L.monocytogenes</i>	+	/	PD	/	5	a	
2008	B14	Potatoes	/	-	33.41	+	32.32	+			<i>L.monocytogenes</i>	+	/	PD	/	5	a	
2006	AA17	Frozen French fries	/	-	26.89	+	11.79	+	24.38	+	<i>L.monocytogenes</i>	+	+	PD	PD	5	b	
2006	M2	Frozen French fries	/	-	21.64	+			25.96	+	<i>L.monocytogenes</i>	+	+	PD	PD	5	b	
2006	B13	Hash browns	/	-	27.27	+	21.42	+	26.74	+	<i>L.monocytogenes</i> <i>L.innocua</i>	+	+	PD	PD	5	c	
2008	B17	Hash browns	/	-	18.21	+	15.31	+			<i>L.monocytogenes</i>	+	/	PD	/	5	c	
2019	5704	RTRH vegetables	2.2	-					22.59	+	<i>L.innocua</i>		+	/	PD	5	c	
2019	5592	Rinsing water (dairy environment)	/	-					27.68	+	<i>L.innocua</i>		+	/	PD	6	a	
2006	I16	Surface sample	/	-	18.10	+	15.19	+	21.59	+	<i>L.innocua</i>	+	+	PD	PD	6	b	
2008	A3	Residues (cheese industry)	/	-	14.12	+	12.24	+			<i>L.innocua</i>	+	/	PD	/	6	c	
2008	C11	Dirty water	6.3	-	33.31	+	33.03	+			<i>L.monocytogenes</i>	+	/	PD	/	6	c	
2008	F30	Residues (butchery industry)	/	-	24.89	+	28.37	+			<i>L.monocytogenes</i>	+	/	PD	/	6	c	

Table 19 - Positive deviations (Extension study)

Date of analysis	Ref	Product	Inoculation level (CFU/sample)	ISO 11290-1 result	Alternative method: iQ Check <i>Listeria</i> spp																Category	Type	
					18h at 30°C ± 1°C																		
					Easy II lysis LSB 18h 30°C				FDRS Easy II lysis LSB 18h 30°C				Confirmation	Final result Easy II lysis		Final result FDRS Easy II lysis		Agreement Easy II lysis		Agreement FDRS Easy II lysis			
					APF Classic		APF Fast		APF Classic		APF Fast			APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast		
					Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Identifications	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast		
2019	4684	Rinsing water (seafood environment)	1.0+1.6	-	28.27	+	29.85	+	28.71	+	30.27	+	<i>L.monocytogenes/ L.innocua</i>	+	+	+	+	PD	PD	PD	PD	6	a
2019	5592	Rinsing water (dairy environment)	/	-	36.24	+	36.2	+	36.32	+	33.19	+	<i>L.innocua</i>	+	+	+	+	PD	PD	PD	PD	6	a
2019	5077	Sponge (dairy environment)	0.2+1.6	-	26.77	+	27.65	+	27.05	+	27.38	+	<i>L.monocytogenes/ L.innocua</i>	+	+	+	+	PD	PD	PD	PD	6	b
2019	4050	Residues (dairy environment)	1.6+1.2	-	31.00	+	30.73	+	30.41	+	30.60	+	<i>L.monocytogenes</i>	+	+	+	+	PD	PD	PD	PD	6	c
2019	4059	Residues (vegetable environment)	/	-	28.59	+	28.11	+	28.28	+	28.39	+	<i>L.innocua</i>	+	+	+	+	PD	PD	PD	PD	6	c

The analyses of discordant results according to the EN ISO 16140-2:2016 is the following (See Tables 20 and 21).

Table 20 - Analyses of discordant results - Standard II lysis

								Unpaired		
Category		Protocol	APF	Type		N+	TND	PD	TND-PD	AL
1	Composite foods	P1	Classic	a	RTE	14	0	3	-3	
				b	RTRH	12	2	3	-1	
				c	Pastries, egg products	13	3	4	-1	
				Total		39	5	10	-5	
2	Meat products	P1	Classic	a	Raw	28	1	5	-4	
				b	RTE, RTRH	16	1	0	1	
				c	Delicatessen	30	3	5	-2	
				Total		74	5	10	-5	
3	Dairy products	P1	Classic	a	Raw milk cheeses	19	3	5	-2	
				b	Raw milk	15	1	1	0	
				c	Heat treated dairy products	22	1	2	-1	
				Total		56	5	8	-3	
4	Fishery products	P1	Classic	a	Raw fish	16	1	2	-1	
				b	Smoked and cured fish	17	0	3	-3	
				c	RTE, RTRH	14	1	1	0	
				Total		47	2	6	-4	
5	Vegetables	P1	Classic	a	Fresh and frozen vegetables	16	2	2	0	
				b	Pre-cooked, under atmosphere	18	1	2	-1	
				c	RTE, RTRH	6	1	2	-1	
				Total		40	4	6	-2	
6	Environmental samples	P1	Classic	a	Process water	13	1	0	1	
				b	Sponges, swabs	20	2	1	1	
				c	Dusts, residues	21	0	3	-3	
				Total		54	3	4	-1	
		P3	Classic	a	Process water	12	1	2	-1	
				b	Sponges, swabs	11	0	1	-1	
				c	Dusts, residues	15	5	2	3	
				Total		38	6	5	1	
		P4	Classic	a	Process water	12	1	2	-1	
				b	Sponges, swabs	11	0	1	-1	
				c	Dusts, residues	15	5	2	3	
				Total		38	6	5	1	
		P3	Fast	a	Process water	12	1	2	-1	
				b	Sponges, swabs	11	0	1	-1	
				c	Dusts, residues	15	5	2	3	
				Total		38	6	5	1	
		P4	Fast	a	Process water	12	1	2	-1	
				b	Sponges, swabs	11	0	1	-1	
				c	Dusts, residues	15	5	2	3	
				Total		38	6	5	1	
A1: Total P1						310	24	44	-20	6
B1: Total P1 + P3 Classic						294	27	45	-18	6
C1: Total P1 + P4 Classic						294	27	45	-18	6
D1: Total P1 + P3 Fast						294	27	45	-18	6
E1: Total P1 + P4 Fast						294	27	45	-18	6

Table 21 - Analyses of discordant results - Easy II lysis

									Unpaired	
Category		Protocol	APF	Type		N+	TND	PD	TND-PD	AL
1	Composite foods	P2	Classic	a	RTE	14	0	3	-3	3
				b	RTRH	12	2	3	-1	
				c	Pastries, egg products	12	3	4	-1	
				Total		38	5	10	-5	
2	Meat products	P2	Classic	a	Raw	25	1	4	-3	3
				b	RTE, RTRH	11	1	0	1	
				c	Delicatessen	29	3	5	-2	
				Total		65	5	9	-4	
3	Dairy products	P2	Classic	a	Raw milk cheeses	14	2	3	-1	3
				b	Raw milk	14	1	1	0	
				c	Heat treated dairy products	18	1	2	-1	
				Total		46	4	6	-2	
4	Fishery products	P2	Classic	a	Raw fish	11	0	2	-2	3
				b	Smoked and cured fish	13	0	3	-3	
				c	RTE, RTRH	11	0	1	-1	
				Total		35	0	6	-6	
5	Vegetables	P2	Classic	a	Fresh and frozen vegetables	13	1	0	1	3
				b	Precooked, under atmosphere	18	1	2	-1	
				c	RTE, RTRH	6	1	2	-1	
				Total		37	3	4	-1	
6	Environmental samples	P2	Classic	a	Process water	8	0	1	-1	3
				b	Sponges, swabs	20	2	1	1	
				c	Dusts, residues	11	1	0	1	
				Total		39	3	2	1	
		P3	Classic	a	Process water	12	1	2	-1	3
				b	Sponges, swabs	11	0	1	-1	
				c	Dusts, residues	15	5	2	3	
				Total		38	6	5	1	
		P4	Classic	a	Process water	12	1	2	-1	3
				b	Sponges, swabs	11	0	1	-1	
				c	Dusts, residues	15	5	2	3	
				Total		38	6	5	1	
		P3	Fast	a	Process water	12	1	2	-1	3
				b	Sponges, swabs	11	0	1	-1	
				c	Dusts, residues	15	5	2	3	
				Total		38	6	5	1	
		P4	Fast	a	Process water	12	1	2	-1	3
				b	Sponges, swabs	11	0	1	-1	
				c	Dusts, residues	15	5	2	3	
				Total		38	6	5	1	
A2: Total P2						260	20	37	-17	6
B2: Total P2 + P3 Classic						259	23	40	-17	6
C2: Total P2 + P4 Classic						259	23	40	-17	6
D2: Total P2 + P3 Fast						259	23	40	-17	6
E2: Total P2 + P4 Fast						259	23	40	-17	6

The observed values for TND - PD meet the acceptability limit for each individual category and for all the combined categories (calculated values $\leq$ AL) whatever the protocols taken into account for interpretation.

3.1.1.8 Enrichment broth storage at 5 ± 3 °C for 72 h

The following changes were observed (See Table 22 and Table 23).

Table 22 - Enrichment broth storage (Renewal study)

Date of analysis	Ref	Product	Alternative method: iQ Check <i>Listeria</i> spp				Category	Type
			Before storage		After storage			
			Agreement Standard II lysis APF Classic	Agreement Easy II lysis APF Classic	Agreement Standard II lysis 72h APF Classic	Agreement Easy II lysis 72h APF Classic		
2019	4457	RTRH (quiche lorraine)	ND	ND	ND	PA	1	b
2006	N3	Frozen meat	PA	PA	ND	ND	2	a
2019	3471	Raw milk cheese	PD	NA	PD	PD	3	a
2019	3474	Raw milk cheese	ND	ND	ND	PA	3	a
2019	5340	Raw milk cheese	ND	PA	PA	ND	3	a
2006	C1	Smoked salmon	NA	NA	PD	PD	4	b
2006	N4	Sandwich (tuna)	PA	PA	ND	ND	4	c
2006	N6	Sandwich (shrimp)	PA	PA	ND	ND	4	c

Table 23 - Enrichment broth storage (Renewal study)

Date of analysis	Ref	Product	Alternative method: iQ Check <i>Listeria</i> spp								Category	Type
			Before storage				After storage					
			Agreement Easy II lysis		Agreement FDRS Easy II lysis		Agreement Easy II lysis 72h		Agreement FDRS Easy II lysis 72h			
			APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast		
2019	4047	Residues (seafood environment)	ND	ND	ND	ND	PA	PA	PA	ND	6	c

The analyses of discordant become (See Table 24 and Table 25).

Table 24 - Analysis of discordant after storage 72 h at 5 ± 3°C -**Standard II lysis**

									Unpaired	
Category		Protocol	APF	Type		N+	TND	PD	TND-PD	AL
1	Composite foods	P1	Classic	a	RTE	13	0	3	-3	
				b	RTRH	12	2	3	-1	
				c	Pastries, egg products	12	3	4	-1	
				Total		37	5	10	-5	
2	Meat products	P1	Classic	a	Raw	19	2	2	0	
				b	RTE, RTRH	10	0	0	0	
				c	Delicatessen	26	3	5	-2	
				Total		55	5	7	-2	
3	Dairy products	P1	Classic	a	Raw milk cheeses	15	2	4	-2	
				b	Raw milk	12	1	1	0	
				c	Heat treated dairy products	14	0	1	-1	
				Total		41	3	6	-3	
4	Fishery products	P1	Classic	a	Raw fish	9	0	2	-2	
				b	Smoked and cured fish	9	0	4	-4	
				c	RTE, RTRH	11	2	1	1	
				Total		29	2	7	-5	
5	Vegetables	P1	Classic	a	Fresh and frozen vegetables	12	1	0	1	
				b	Pre-cooked, under atmosphere	16	1	2	-1	
				c	RTE, RTRH	3	1	0	1	
				Total		31	3	2	1	
6	Environmental samples	P1	Classic	a	Process water	7	0	0	0	
				b	Sponges, swabs	19	2	1	1	
				c	Dusts, residues	10	0	0	0	
				Total		36	2	1	1	
		P3	Classic	a	Process water	12	1	2	-1	
				b	Sponges, swabs	11	0	1	-1	
				c	Dusts, residues	15	4	2	2	
				Total		38	5	5	0	
		P4	Classic	a	Process water	12	1	2	-1	
				b	Sponges, swabs	11	0	1	-1	
				c	Dusts, residues	15	4	2	2	
				Total		38	5	5	0	
		P3	Fast	a	Process water	12	1	2	-1	
				b	Sponges, swabs	11	0	1	-1	
				c	Dusts, residues	15	4	2	2	
				Total		38	5	5	0	
		P4	Fast	a	Process water	12	1	2	-1	
				b	Sponges, swabs	11	0	1	-1	
				c	Dusts, residues	15	5	2	3	
				Total		38	6	5	1	
A2: Total P1						229	20	33	-13	6
B2: Total P1 + P3 Classic						231	23	37	-14	6
C2: Total P1 + P4 Classic						231	23	37	-14	6
D2: Total P1 + P3 Fast						231	23	37	-14	6
E2: Total P1 + P4 Fast						231	24	37	-13	6

Table 25 - Analysis of discordant after storage 72 h at 5 ± 3°C -**Easy II lysis**

									Unpaired	
Category		Protocol	APF	Type		N+	TND	PD	TND-PD	AL
1	Composite foods	P2	Classic	a	RTE	14	0	3	-3	
				b	RTRH	12	1	3	-2	
				c	Pastries, egg products	12	3	4	-1	
				Total		38	4	10	-6	
2	Meat products	P2	Classic	a	Raw	19	2	2	0	
				b	RTE, RTRH	10	0	0	0	
				c	Delicatessen	26	3	5	-2	
				Total		55	5	7	-2	
3	Dairy products	P2	Classic	a	Raw milk cheeses	15	2	4	-2	
				b	Raw milk	12	1	1	0	
				c	Heat treated dairy products	14	0	1	-1	
				Total		41	3	6	-3	
4	Fishery products	P2	Classic	a	Raw fish	9	0	2	-2	
				b	Smoked and cured fish	9	0	4	-4	
				c	RTE, RTRH	11	2	1	1	
				Total		29	2	7	-5	
5	Vegetables	P2	Classic	a	Fresh and frozen vegetables	12	1	0	1	
				b	Pre-cooked, under atmosphere	16	1	2	-1	
				c	RTE, RTRH	5	1	1	0	
				Total		33	3	3	0	
6	Environmental samples	P2	Classic	a	Process water	8	0	1	-1	
				b	Sponges, swabs	19	2	1	1	
				c	Dusts, residues	11	1	0	1	
				Total		38	3	2	1	
		P3	Classic	a	Process water	12	1	2	-1	
				b	Sponges, swabs	11	0	1	-1	
				c	Dusts, residues	15	4	2	2	
				Total		38	5	5	0	
		P4	Classic	a	Process water	12	1	2	-1	
				b	Sponges, swabs	11	0	1	-1	
				c	Dusts, residues	15	4	2	2	
				Total		38	5	5	0	
		P3	Fast	a	Process water	12	1	2	-1	
				b	Sponges, swabs	11	0	1	-1	
				c	Dusts, residues	15	4	2	2	
				Total		38	5	5	0	
		P4	Fast	a	Process water	12	1	2	-1	
				b	Sponges, swabs	11	0	1	-1	
				c	Dusts, residues	15	5	2	3	
				Total		38	6	5	1	
A2: Total P2						234	20	35	-15	6
B2: Total P2 + P3 Classic						234	22	38	-16	6
C2: Total P2 + P4 Classic						234	22	38	-16	6
D2: Total P2 + P3 Fast						234	22	38	-16	6
E2: Total P2 + P4 Fast						234	23	38	-15	6

The observed values for TND - PD meet the acceptability limit for each individual category and for all the combined categories (calculated values $\leq$ AL) whatever the protocols taken into account for interpretation.

3.1.1.9 Confirmation

The presence of *Listeria* spp. was confirmed from LSB broth for 293 samples. Typical colonies were observed on RAPID'*Listeria* spp. for 288 samples, and on RAPID'*L.mono* for 265 samples.

For 15 samples tested with protocol 1, 20 samples tested with protocol 2, and 6 samples tested combining protocols 3 and 4, it was impossible to confirm the presence of *Listeria* spp. in the enrichment broth even when proceeding to several subcultures in Fraser broth prior streaking onto Agar *Listeria* and Palcam plates. The samples are listed in Table 26 and Table 27.

Note that when the FDRS protocol was applied prior the Easy II lysis protocol, the number of PPNA samples was reduced from 6 to 0 sample. The percentage of false positive results decreases from 10.0% to 0.0% with the APF Classic and from 13.3 % to 0.0% with the APF Fast when using the FDRS protocol.

Table 26 – Positive presumptive not confirmed samples. Protocols 1 and 2

Date of analysis	Ref	Product	Alternative method: iQ Check <i>Listeria</i> spp												Category	Type
			After incubation time													
			Standard II protocol Protocol 1				Easy II protocol Protocol 2		Confirmation	Final result Standard II lysis	Final result Easy II lysis	Agreement Standard II lysis	Agreement Easy II lysis			
			2006		2008 and 2019		2006 and 2019			APF Classic	APF Classic	APF Classic	APF Classic			
			Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Identifications							
2019	3938	RTE salad			40.21/ 39.47/ 40.12	+ / + / +	43.3 / - / -	+ / - / -	- (5Fraser/ AL/Palcam)	-	-	PD _{FP(alt)}	PD _{FP(alt)}	1	a	
2019	5431	RTE salad			40.59 / - / -	+ / - / -	-	-	- (5Fraser/ AL/Palcam)	-	-	PD _{FP(alt)}	NA	1	a	
2019	5741	RTE salad					40.16 / - / 40.43	+ / - / +	NC on TSYEA	/	-	/	PD _{FP(alt)}	1	a	
2019	5742	RTE salad					33.87 /34.96/ 39.04	+ / + / +	NC on TSYEA	/	-	/	PD _{FP(alt)}	1	a	
2019	5444	RTRH (Paella)			36.95/ 37.81/ 38.55	+ / + / +	-	-	- (5Fraser/ AL/Palcam)	-	-	PD _{FP(alt)}	NA	1	b	
2019	5445	RTRH Pasta			40.86/ 40.24/ 48.35	+ / + / +	-	-	- (5Fraser/ AL/Palcam)	-	-	PD _{FP(alt)}	NA	1	b	
2019	5739	RTRH (rice and veal)			-	-	42.04 / - / -	+ / - / -	/	-	-	NA	PD _{FP(alt)}	1	b	
2006	BB1	Dessert (profiteroles)	44.04	+	37.97	+	40.49	+	Ø	-	-	PD _{FP(alt)}	PD _{FP(alt)}	1	c	
2019	5438	Pastry			39.15 / - / 37.21	+ / - / +	40.31/ 39.00/ 38.72	+ / + / +	- (5Fraser/ AL/Palcam)	-	-	PD _{FP(alt)}	PD _{FP(alt)}	1	c	
2019	5735	Pastry					39.52 / - / 38.89	+ / - / +	/	/	-	/	PD _{FP(alt)}	1	c	
2006	CC9	Cooked ground beef	38.04	+			45.53	+	Ø	-	-	PD _{FP(alt)}	PD _{FP(alt)}	2	b	
2006	BB15	Cooking pork meat	42.20	+			N/A	-	Ø	-	-	PD _{FP(alt)}	NA	2	c	

Date of analysis	Ref	Product	Alternative method: iQ Check <i>Listeria</i> spp												Category	Type
			After incubation time													
			Standard II protocol Protocol 1				Easy II protocol Protocol 2		Confirmation	Final result Standard II lysis	Final result Easy II lysis	Agreement Standard II lysis	Agreement Easy II lysis			
			2006		2008 and 2019		2006 and 2019			APF Classic	APF Classic	APF Classic	APF Classic			
			Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Identifications							
2006	X14	Merguez	36.53	+			38.40	+	/	-	-	PD _{FP(alt)}	PD _{FP(alt)}	2	c	
2019	4429	Raw milk cheese	-	-	43.77/-/-	+/-/-	-	-	- (5Fraser/ AL/Palcam)	-	-	NA	PD _{FP(alt)}	3	a	
2019	4432	Raw milk cheese	-	-	39.39/-/-	+/-/-	-	-	- (5Fraser/ AL/Palcam)	-	-	NA	PD _{FP(alt)}	3	a	
2019	4462	Raw milk cheese	-	-	40.23/ 42.24/-	+/+/-	-	-	- (5Fraser/ AL/Palcam)	-	-	NA	PD _{FP(alt)}	3	a	
2019	4459	Raw milk	-	-	40.42/-/-	+/-/-	-	-	- (5Fraser/ AL/Palcam)	-	-	NA	PD _{FP(alt)}	3	b	
2019	4461	Raw milk	-	-	40.37/ 39.5/-	+/+/-	36.96/-/-	+/-/-	- (5Fraser/ AL/Palcam)	-	-	NA	PD _{FP(alt)}	3	b	
2006	AA19	Ice-cream	41.61	+			41.50	+	Ø	-	-	PD _{FP(alt)}	PD _{FP(alt)}	3	c	
2019	5446	RTRH Seafood			40.89/-/ 38.92	+/-/+	-	-	- (5Fraser/ AL/Palcam)	-	-	PD _{FP(alt)}	NA	4	c	
2006	Z7	Frozen cauliflower	34.84	+			34.09	+	-	-	-	PD _{FP(alt)}	PD _{FP(alt)}	5	a	
2006	CC4	Cucumber	44.13	+	36.42	+	N/A	-	Ø	-	-	PD _{FP(alt)}	NA	5	b	
2019	4434	RTE salad			45/ 39.36/ 41.62	+/+/+	41.29/ 35.56/ 36.80	+/+/+	- (5Fraser/ AL/Palcam)	-	-	PD _{FP(alt)}	PD _{FP(alt)}	5	c	
2019	5443	RTE (Macédoine)	-	-	40.41/-/-	+/-/-	-	-	- (5Fraser/ AL/Palcam)	-	-	NA	PD _{FP(alt)}	5	c	
2006	CC17	Process water (vegetable industry)	40.33	+			42.24	+	Ø	-	-	PD _{FP(alt)}	PD _{FP(alt)}	6	a	
2019	5673	Residues (dairy environment)					40.48/-/-	+/-/-	- (5Fraser/ AL/Palcam)	/	-	/	PD _{FP(alt)}	6	c	

Table 27 – Positive presumptive not confirmed samples. Protocols 3 or 4

Date of analysis	Ref	Product	Inoculation level (CFU/sample)	ISO 11290-1 result	Alternative method: iQ Check <i>Listeria</i> spp																		Category	Type
					18h at 30°C ± 1°C																			
					Easy II lysis LSB 18h 30°C Protocol 3				FDRS Easy II lysis LSB 18h 30°C Protocol 4				Confir- mation	Final result Easy II lysis Protocol 3		Final result FDRS Easy II lysis Protocol 4		Agreement Easy II lysis Protocol 3		Agreement FDRS Easy II lysis Protocol 4				
					APF Classic		APF Fast		APF Classic		APF Fast			APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast	APF classic	APF Fast			
					Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Identi- fications											
2019	4058	Rinsing water (poultry environment)	/	-	39.35/ 40.27/-	+ /+/-	-	-	-	-	-	-	- (5Fraser/ AL/Palcam)	-	-	-	-	PD _{FP(alt)}	NA	NA	NA	6	a	
2019	5591	Rinsing water (meat environment)	/	-	-	-	40.16/ -/-	+/-/-	-	-	-	-	- (5Fraser/ AL/Palcam)	-	-	-	-	NA	PD _{FP(alt)}	NA	NA	6	a	
2019	5580	Wipe (vegetable environment)	2.6	-	39.38 /-/-	+/-/-	-	-	-	-	-	-	- (5Fraser/ AL/Palcam)	-	-	-	-	PD _{FP(alt)}	NA	NA	NA	6	b	
2019	5584	Wipe after cleaning process (vegetable environment)	/	-	-	-	41.02 /-/-	+/-/-	-	-	-	-	- (5Fraser/ AL/Palcam)	-	-	-	-	NA	PD _{FP(alt)}	NA	NA	6	b	
2019	4056	Residues (seafood environment)	/	-	-	-	41.78/-/-	+/-/-	-	-	-	-	- (5Fraser/ AL/Palcam)	-	-	-	-	NA	PD _{FP(alt)}	NA	NA	6	c	
2019	5672	Residues (vegetable environment)	/	-	-	-	38.75/-/ 41.03	+/-/+	-	-	-	-	- (5Fraser/ AL/Palcam)	-	-	-	-	NA	PD _{FP(alt)}	NA	NA	6	c	

3.1.1.10 PCR inhibition

1086 DNA extracts were tested for the overall validation studies after enrichment broths incubation time and 598 after enrichment broths storage. The inhibitions observed are listed in Table 28.

The inhibitions concern 17 samples for the Standard II extraction protocol and 12 samples for the Easy II extraction protocol.

Results were obtained when a 1/10 dilution of the lysates was applied except for samples 1665 and 1673 for which the dilution was not necessary. The inhibition represents 2.7%.

Note that no PCR inhibition was observed for the extension study concerning the environment samples category.

Table 28 – PCR inhibitions

Date of analysis	Code	Product	Before storage						After storage					
			Standard II lysis			Easy II lysis			Standard II lysis			Easy II lysis		
			Ct CI	Ct FAM	PCR result	Ct CI	Ct FAM	PCR result	Ct CI	Ct FAM	PCR result	Ct CI	Ct FAM	PCR result
2006	BB18	Delicatessen	N/A/29.52*	N/A/N/A*	i/-*									
2006	BB5	Seasoned sausage	N/A/29.99*	N/A/N/A*	i/-*									
2006	O18	Cheese	N/A/35.56*	N/A/N/A*	i/-*									
2006	C8	Raw milk	N/A/33.83* 33.83	43.29/33.36* 33.36	i/+* +									
2006	G17	Salmon	N/A/32.59*	N/A/N/A*	i/-*									
2006	AA16	Mini beef balls	N/A*	N/A/14.48*	i/+*									
2006	Q13	Chocolate ice-cream	N/A/N/A*	N/A/24.21*	i/+*									
2006	CC1	Chickpeas	N/A/35.12*	N/A/N/A*	i/-*									
2006	X1	Residues Hareng	-/ 35.79*	- /23.78*	i/+*									
2019	4451	RTE salad (roasted chicken)	-/ 35.79*	- /23.78*	i/+*									
2019	4465	Raw milk cheese	-/ 32.18*	- /-*	i/-*									
2019	5334	Pastry	-/ 32.22*	-/ 30.89*	i/+*									
2006	E9	Surface sample				N/A/N/A*	N/A/20.23*	i/+*						
2019	1665	RTRH Quiche Lorraine				32.74/32.14	-/29.89	i/+						
2019	1673	RTE salad (ham)				33.11/32.55	-/26.04	i/+						
2019	5334	Pastry				-/ 32.33*	-/ 33.34*	i/ +*						
2019	5341	Raw milk cheese				-/ 32.30*	-/ -*	i/ -*						
2019	5442	Beetroot				32.77 / 33.12*	-/-*	i/-*						
2019	1658	RTE salad (ham)							-/-*	-/15.97*	-/+*			
2019	3474	Raw milk cheese							-/ 32.98*/ 32.50*/ 32.92*	-/ -*/-*/-*	i/-*/-*/-*	-/ 32.75*	-/ 39.39*	i/+*
2019	3475	Raw milk cheese							- 35.30*	-/ 34.42*	i/+*	-/ -*	-/ 23.1*	i/+*
2019	4432	Raw milk cheese							-/ 32.11*	-/-*	-/-*	-/ 32.68*	-/-*	i/-*
2019	5334	Pastry							-/-*	-/ 24.26*	i/+*			
2019	3468	Raw milk cheese										-/-*	-/26.18*	i/+*
2019	3470	Raw milk cheese										-/32.11*	-/34.81*	i/+*
2019	3471	Raw milk cheese										-/-*	-/26.01*	i/+*

3.1.2 Relative Level of Detection (RLOD)

The relative level of detection is the level of detection at $P = 0.50$ (LOD_{50}) of the alternative (proprietary) method divided by the level of detection at $P = 0.50$ (LOD_{50}) of the reference method.

3.1.2.1 Experimental design

Seven matrix/strain pairs were analyzed by the reference and the alternative methods. The matrix/strain pairs are listed in Table 29.

Table 29 - Matrix/strain pairs tested

Category	Matrix	Strain	Origin	Inoculation protocol	Enrichment protocol
Composite food	Deli salad	<i>L. ivanovii</i> Ad1769	Ewe milk	Seeding 48 h at $3^{\circ}\text{C} \pm 2^{\circ}\text{C}$	LSB 22h (Standard II) and 24 h (Easy II)
Meat products	Rillettes	<i>L. welshimeri</i> L90	Ground beef	/	
Dairy products	Raw milk	<i>L. monocytogenes</i> 1/2b L37	Maroilles	/	
Seafood products	Smoked salmon	<i>L. monocytogenes</i> 1/2a L5	Smoked salmon	/	
Vegetables	Raw vegetable mix	<i>L. seeligeri</i> L140	Salad	/	
Production environmental samples	Process water	<i>L. innocua</i> 1/2c L144	Surface	/	LSB 16 h with and without FDRS
	Process water (vegetables)	<i>L. monocytogenes</i> Ad2503	Vegetable industry	Seeding 48 h at $3^{\circ}\text{C} \pm 2^{\circ}\text{C}$	

The following protocol was applied for the RLOD tested for the renewal and extension study:

- A negative control: 5 samples,
- A low contamination level providing fractional recovery data, with 20 replicates,
- A high contamination level, with 5 replicates.

A total plate count determination on each matrix was performed to estimate the total microbial load on the day of analysis.

3.1.2.2 Calculation

The raw data are given in **Appendix 5**.

The RLOD calculations were performed using the Excel spreadsheet available at <http://standards.iso.org/iso/16140> - RLOD version 4 (2024-01-10). The RLOD are given in Table 30.

Table 30 - Presentation of RLOD before and after confirmation of the alternative method results

Category		Matrix / strain pair	AL	RLOD [95% confidence limit]
1	Composite food	Deli salad / <i>Listeria ivanovii</i> Ad1769	2.5	1.107 [0.565; 2.167]
2	Meat products	Rillettes / <i>Listeria welshimeri</i> L90 Protocols 1 & 2		0.817 [0.410; 1.628]
3	Dairy products	Raw milk / <i>Listeria monocytogenes</i> L37 Protocols 1 & 2		1.139 [0.507; 2.558]
4	Vegetables	Vegetables mix / <i>Listeria seeligeri</i> L140 Protocols 1 & 2		1.223 [0.605; 2.471]
5	Fishery products	Smoked salmon / <i>Listeria monocytogenes</i> L5 Protocols 1 & 2		1.106 [0.552; 2.216]
6	Production environmental samples	Process water / <i>Listeria innocua</i> L144 Protocols 1 & 2		1.000 [0.457; 2.187]
		Process water / <i>Listeria monocytogenes</i> Ad2503 Protocol 3 (Classic) & Protocol 4 (Classic & Fast) (A)		1.210 [0.564; 2.598]
		Process water / <i>Listeria monocytogenes</i> Ad2503 Protocol 3 (Fast) (B)		1.351 [0.620; 2.944]
Combined A				
Combined B				1.089 [0.831; 1.428]

The LOD₅₀ calculations were done using the Excel spreadsheet available at <http://standards.iso.org/iso/16140> POD-LOD calculation program - version 12, 2024-03-05. The tests are given in Table 31.

Table 31 - LOD₅₀ results

Strain/Matrix pair	Level of detection at 50% (CFU / sample size)	
	Reference method	Alternative method
Deli salad / <i>Listeria ivanovii</i> Ad1769c	0.6 [0.4; 1.1]	0.7 [0.4; 1.2]
Rillettes / <i>Listeria welshimeri</i> L90 Protocols 1 & 2	0.4 [0.2; 0.6]	0.2 [0.1; 0.4]
Raw milk / <i>Listeria monocytogenes</i> L37 Protocols 1 & 2	0.6 [0.3; 1.2]	0.7 [0.4; 1.3]
Vegetables mix / <i>Listeria seeligeri</i> L140 Protocols 1 & 2	0.5 [0.3; 0.9]	0.8 [0.4; 1.4]
Smoked salmon / <i>Listeria monocytogenes</i> L5 Protocols 1 & 2	0.6 [0.3; 1.0]	0.7 [0.4; 1.2]
Process water / <i>Listeria innocua</i> L144 Protocols 1 & 2	0.7 [0.4; 1.3]	0.6 [0.3; 1.1]
Process water / <i>Listeria monocytogenes</i> Ad2503 Protocol 3 (Classic)& Protocol 4 (Classic & Fast) (A)	0.6 [0.4; 0.7]	0.8 [0.5; 1.5]
Process water / <i>Listeria monocytogenes</i> Ad2503 Protocol 3 (Fast) (B)		0.9 [0.5; 1.47]
Combined (A)	0.6 [0.4; 0.7]	0.6 [0.5; 0.8]
Combined (B)		0.6 [0.5; 0.8]

Note: the LOD₅₀ have been recalculated according to the most recent spreadsheet available on the ISO website. No change was observed with the previous values.

The RLOD values (using the confirmed alternative method results) meet the acceptability limit of 2.5 for unpaired studies, for all matrix/strain pairs tested whatever the protocol used.

The LOD₅₀ varies from 0.4 to 0.7 CFU/sample size for the reference method and from 0.2 to 0.9 CFU/ sample size for the alternative method.

3.1.3 Inclusivity and exclusivity

The inclusivity study involves pure target strains to be detected or enumerated by the alternative method. The exclusivity study involves pure non-target strains, which can be potentially cross-reactive, but are not expected to be detected or enumerated by the alternative method.

3.1.3.1 Protocols

> Inclusivity

84 target strains (50 *Listeria monocytogenes* and 34 *Listeria* spp. different from *Listeria monocytogenes*) were tested in 2006 for the initial validation study.

Strains were grown in nutrient broth for 22 h at 30°C. The LSB broth was then inoculated between 10 to 100 cells/225 ml and incubated for 24 h at 30°C. The Easy II extraction protocol was applied before performing the PCR test.

For the extension study performed in 2009, 51 target strains (25 *Listeria monocytogenes* and 26 *Listeria* spp. different from *Listeria monocytogenes*) were tested.

Strains were grown in nutrient broth for 24 h at 30°C. The LSB broth was then inoculated between 10 to 100 cells/225 ml and incubated for 24 h at 30°C. The Standard II extraction protocol was applied before performing the PCR test (new kit).

For the extension study performed in 2019, 20 *Listeria monocytogenes* and 30 *Listeria* spp. different from *Listeria monocytogenes* were tested. The strains were grown in BHI for 24 h at 37°C and inoculated between 10 to 100 CFU/225 ml LSB broth. The broths were incubated for 18 h at 30°C before applying the protocol of the alternative method (Easy II lysis protocol with and without FDRS).

> Exclusivity

For the initial validation study, 32 non-target strains were grown in nutrient broth for 24 h at 30°C, inoculated at a level around 10^5 cells/ml. The broths were incubated for 24 h at 30°C before proceeding to lysis step (Easy II extraction protocol) and PCR.

For the extension study performed in 2009, 30 non-target strains were grown in nutrient broth for 24 h at 30°C, inoculated at a level around 10^5 cells/ml. The broths were incubated for 24 h at 30°C before proceeding to lysis step (Standard II extraction protocol) and PCR (new kit).

For the extension study performed in 2019, no additional testing was required.

3.1.3.2 Results

The raw data are given in **Appendix 6**.

> Inclusivity

The 75 *Listeria monocytogenes* strains and 60 *Listeria* spp. different from *Listeria monocytogenes* strains tested in 2006 and 2009 gave positive PCR tests.

For the extension study (2019), the 50 tested strains gave positive PCR results and characteristic colonies on the selective Agar plates (Agar *Listeria*, Palcam, RAPID'*L.mono* and RAPID'*Listeria* spp); for two *Listeria seeligeri* strains (CIP 100100 and BR18), colonies were observed on selective agar plates only after subculture in Fraser broth.

> Exclusivity

No cross reaction was observed among the 62 non-target strains tested.

3.1.4 Practicability

The alternative method practicability was evaluated according to the AFNOR criteria relative to method comparison study.

Storage conditions, shelf-life and modalities of utilisation after first use	The storage temperature is 2 - 8°C. The shelf-life is given on the package. All the reagents shall be stored at the temperature mentioned on the package.		
Time to result	Steps	Reference method	Alternative method
	Negative samples		
	Sampling, enrichment	Day 0	Day 0
	Subculture in Fraser 1	Day 1	/
	Lysate	/	Day 1
	PCR	/	Day 1
	Streaking onto plates (O1/P1)	Day 1	/
	Second streaking (O2/P2)	Day 2	/
	Reading plates (O1/P1)	Days 2 - 3	/
	Reading plates (O2/P2)	Days 3 - 4	/
	Presumptive positive or positive results		
	Subculture of typical colonies	Days 3 - 4	/
	Streaking onto plates	/	Day 1
	Reading plates	/	Days 2 - 3
	Confirmation test	Days 4 - 5	/
	Results	Days 5 - 6 Days 8 - 10 *	/
	* In the case of rhamnose and xylose tests are carried out in tubes.		
Common step with the reference method	There is no common step		

The negative results are available in 1 day and the positive results in 2 or 3 days.

3.2 Extension study for the use of LSB II medium

3.2.1 Sensitivity study

3.2.1.1 Number and nature of samples

Combining the six categories tested with LSBII broth, 414 samples were tested providing 208 positive and 206 negative results.

The distribution per tested category and type is given in Table 32.

Table 32 – Distribution per tested category and type

Category		Type		Positive samples	Negative samples	Total
1	Composite foods	a	Ready-to-eat	10	12	22
		b	Ready-to-reheat	18	13	31
		c	Confectionaries, pastries and egg products	7	13	20
		Total		35	38	73
2	Production environmental samples	a	Surfaces samples	10	10	20
		b	Dusts and wastes	11	9	20
		c	Process water	12	8	20
		Total		33	27	60
3	Dairy products	a	Raw milk cheese (cow, ewe, goat)	10	13	23
		b	Other raw milk-based products (raw milk, cream, butter, fermented milk)	11	9	20
		c	Pasteurized milk-based products (pasteurized cheese, ice cream, milk)	13	11	24
		Total		34	33	67
4	Poultry and meat products	a	Raw products (fresh or frozen)	12	8	20
		b	Meat based products ready to reheat	7	23	30
		c	Raw and cooked delicatessen	13	9	22
		Total		32	40	72
5	Vegetables	a	Raw vegetables products (fresh and frozen)	15	10	25
		b	Precooked (RTC), under atmosphere and frozen	15	13	28
		c	RTE, RTRH	11	13	24
		Total		41	37	78
6	Fishery and seafood products	a	Raw products	11	9	20
		b	Smoked, marinated products	12	12	24
		c	Processed products	10	10	20
		Total		33	31	64
All categories				208	206	414

3.2.1.2 Artificial contamination of samples

Naturally contaminated products were preferentially analysed, but artificial contaminations were also carried out using the seeding protocol by direct inoculations of products using a liquid inoculum, followed by storage for 48-72 h at $3^{\circ}\text{C} \pm 2^{\circ}\text{C}$ or seeding 2 weeks at -20°C for frozen products or by spiking after heat treatment.

The artificial contaminations are presented in **Appendix 7**.

The repartition of the positive samples per inoculation protocol and inoculation level is given in Table 33.

Table 33 - Repartition of positive naturally and artificially contaminated samples per inoculation level

Category	Naturally contaminated	Spiking protocol		Seeding protocol		Total positive samples
		$\leq 5 \text{ CFU}$	$5 < x \leq 10 \text{ CFU}$	$\leq 3 \text{ CFU}$	$3 < x \leq 10 \text{ CFU}$	
1	25	0	0	4	6	35
2	4	0	0	22	7	33
3	12	4	0	15	3	34
4	17	2	0	11	2	32
5	17	0	0	18	6	41
6	13	0	0	16	4	33
Number of samples	88	6	0	86	28	208
%	42.3%	2.9%	0.0%	41.3%	13.5%	100.0%

Combining all the categories, 42.3 % of the samples were naturally contaminated.

The distribution per target analytes is given in Table 34.

Table 34 – Distribution per target analytes

Category	<i>Listeria</i> spp (A)	<i>Listeria</i> spp + <i>Listeria monocytogenes</i> (B)	Total (A+B)	<i>Listeria monocytogenes</i> (C)	Total positive samples
	Number of samples	Number of samples	Number of samples	Number of samples	
1	6	17	23	12	35
2	3	14	17	16	33
3	12	4	16	18	34
4	11	10	21	11	32
5	12	8	20	21	41
6	6	9	15	18	33
Total	50	62	112	96	208

The number of samples contaminated with *Listeria* spp. alone or mixed with *Listeria monocytogenes* is comprised between 15 and 25 per category as required in the AFNOR Technical rules.

3.2.1.3 Protocols applied during the validation study

> **Enrichment, lysis and PCR protocols**

The minimum incubation time was evaluated for all studies.

A summary of the protocols evaluated during the extensions in 2023 and 2024 is shown in the table below.

Table 35 – Protocols applied

Validation study	Scope	Enrichment step	FDRS	Lysis step	APF ³
Extension June 2023	Composite food Production environmental samples	LSBII for 18 h at 37°C ± 1°C	With / without	Easy II	Fast
Extension October 2023	Dairy products	Pre-warmed LSBII for 18 h at 37°C ± 1°C	With / without	Easy II	Fast
Extension October 2024	Meat and poultry products	Prewarmed LSBII for 18 h at 37°C ± 1°C	Without*	Easy II	Fast
Extension December 2024	Vegetables, Fishery and seafood products	Prewarmed LSBII for 18 h at 37°C ± 1°C	Without*	Easy II	Fast

* The FDRS protocol was not tested during the extension on these categories. According to AFNOR technical rules version 12, additional data were provided by Bio-Rad to support the use of the FDRS protocol on this category. Data are available upon request to Bio-Rad.

In case of PCR inhibition, 1:10 dilution of the DNA extract in water was applied.

> **Instruments**

Several extensions and data sets have been generated with CFX96 (standard and Deep Well) and Opus Deep Well systems, showing compatibility and equivalence of the results between thermocyclers. It was therefore accepted by the technical

committee to evaluate only CFX Opus Deep Well system for the extension performed in 2024.

> **Confirmation protocols**

The positive PCR tests were confirmed by:

- Streaking **10 µl** of the enriched LSB II broth onto O&A and Palcam plates incubated for 24 to 48 h at $37 \pm 1^\circ\text{C}$. The typical colonies were confirmed by the tests described in the ISO method (gram and catalase). For the study, API Listeria galleries were also used to identify the isolated colonies as this information is required for an AFNOR Validation study.
- Streaking **100 µl** of enriched LSB II broth onto Agar Listeria (AL), RAPID'*Listeria* Agar and RAPID'L.mono Agar incubated for 24 h at $37 \pm 1^\circ\text{C}$. The only presence of typical colonies allows to confirm the positive PCR result.
- An additional protocol was applied to be in agreement with the ISO 16140-2 requirements: subculture of the LSB II in Fraser broth (24 h $\pm$ 2 h at 37°C) before streaking onto O&A and PALCAM plates.

> **Enrichment broth storage or 72 h at $5^\circ\text{C} \pm 3^\circ\text{C}$**

The enrichment broth (LSB II) from positive and discordant samples were stored for 72 h at $5^\circ\text{C} \pm 3^\circ\text{C}$ and the alternative method was tested again.

3.2.1.4 Test results

Raw data are given in **Appendix 8**.

The results for all categories are given in Table 36 (**CFX 96 DW**-without FDRS), Table 37 (**CFX 96 DW**-with FDRS), Table 38 (**CFX Opus DW**-without FDRS) and Table 39 (**CFX Opus DW**-with FDRS).

Table 36 – Interpretation of sample results between the reference and alternative method (based on the confirmed alternative method) -

CFX 96 DW - Without FDRS

Category		PA	PD	TND	TNA	Total
1	Composite foods	24	5	6	38	73
2	Production environmental samples	28	3	2	27	60
3	Dairy products	17	11	6	33	67
TOTAL		69	19	14	98	200

Unpaired evaluation:

$$TND = ND + ND_{FN(alt)} + PA_{FP(alt)}$$

$$TNA = NA + NA_{FN(alt)} + PD_{FP(alt)}$$

Table 37 – Interpretation of sample results between the reference and alternative method (based on the confirmed alternative method) -

CFX 96 DW - With FDRS

Category		PA	PD	TND	TNA	Total
1	Composite foods	24	5	6	38	73
2	Production environmental samples	28	3	2	27	60
3	Dairy products	15	11	8	33	67
TOTAL		67	19	16	98	200

Table 38 – Interpretation of sample results between the reference and alternative method (based on the confirmed alternative method) -

CFX Opus DW - Without FDRS

Category		PA	PD	TND	TNA	Total
1	Composite foods	23	5	7	38	73
2	Production environmental samples	28	3	2	27	60
3	Dairy products	17	11	6	33	67
4	Meat and poultry products	18	6	8	40	72
5	Vegetables	25	9	7	39	80
6	Fishery and seafood products	25	6	2	31	64
TOTAL		136	40	32	206	414

Table 39 – Interpretation of sample results between the reference and alternative method (based on the confirmed alternative method) -

CFX Opus DW - With FDRS

Category		PA	PD	TND	TNA	Total
1	Composite foods	23	5	8	37	73
2	Production environmental samples	28	3	2	27	60
3	Dairy products	16	10	7	34	67
TOTAL		67	18	17	98	200

3.2.1.5 *Calculation of relative trueness (RT), sensitivity (SE) and false positive ratio (FPR)*

The calculations are presented in Table 40 (**CFX 96 DW**-without FDRS), Table 41 (**CFX 96 DW**-with FDRS), Table 42 (CFX **Opus**-without FDRS), Table 43 (CFX **Opus**-with FDRS).

A summary of the results is given in Table 44 considering the categories evaluated per condition:

- 3 categories for CFX 96 DW with and without FDRS and CFX Opus DW with FDRS
- 6 categories for CFX Opus DW without FDRS.

Table 40 – Calculation of the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR) CFX 96 DW- Without FDRS

Category		Type		PA	PA _{FP(alt)}	NA	NA _{FN(alt)}	PD	ND	ND _{FN(alt)}	PD _{FP(alt)}	TND	TNA	SE _{alt} %	SE _{ref} %	RT %	FPR %	FNR
1	Composite foods	a	Ready-to-eat	6	0	12	0	0	3	1	0	4	12	60.0	100.0	81.8	0.0	0.100
		b	Ready-to-reheat	12	0	10	0	4	1	1	3	2	13	88.9	77.8	80.6	23.1	0.056
		c	Confectionaries. pastries and egg products	6	0	10	0	1	0	0	3	0	13	100.0	85.7	95.0	23.1	0.000
		Total		24	0	32	0	5	4	2	6	6	38	82.9	85.7	84.9	15.8	0.057
2	Production environmental samples	a	Surfaces samples	10	0	10	0	0	0	0	0	0	10	100.0	100.0	100.0	0.0	0.000
		b	Dusts and wastes	9	0	9	0	1	1	0	0	1	9	90.9	90.9	90.0	0.0	0.000
		c	Process water	9	1	8	0	2	0	0	0	1	8	91.7	83.3	85.0	12.5	0.000
		Total		28	1	27	0	3	1	0	0	2	27	93.9	90.9	91.7	3.7	0.000
3	Dairy products	a	Raw milk cheeses (cow. goat. ewe)	6	0	13	0	4	0	0	0	0	13	100.0	60.0	82.6	0.0	0.000
		b	Other raw milk-based products	7	0	9	0	2	2	0	0	2	9	81.8	81.8	80.0	0.0	0.000
		c	Pasteurized milk-based products	4	0	9	0	5	4	0	2	4	11	69.2	61.5	62.5	18.2	0.000
		Total		17	0	31	0	11	6	0	2	6	33	82.4	67.6	74.6	6.1	0.000
All categories				69	1	90	0	19	11	2	8	14	98	86.3	81.4	83.5	9.2	0.02

Table 41 – Calculation of the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR) CFX 96 DW- With FDRS

Category		Type		PA	PA _{FP(alt)}	NA	NA _{FN(alt)}	PD	ND	ND _{FN(alt)}	PD _{FP(alt)}	TND	TNA	SE _{alt} %	SE _{ref} %	RT %	FPR %	FNR
1	Composite foods	a	Ready-to-eat	6	1	12	0	0	2	1	0	4	12	60.0	100.0	81.8	8.3	0.100
		b	Ready-to-reheat	12	0	13	0	4	1	1	0	2	13	88.9	77.8	80.6	0.0	0.056
		c	Confectionaries. pastries and egg products	6	0	12	0	1	0	0	1	0	13	100.0	85.7	95.0	7.7	0.000
		Total		24	1	37	0	5	3	2	1	6	38	82.9	85.7	84.9	5.3	0.057
2	Production environmental samples	a	Surfaces samples	10	0	10	0	0	0	0	0	10	100.0	100.0	100.0	0.0	0.000	
		b	Dusts and wastes	9	1	9	0	1	0	0	0	1	9	90.9	90.9	90.0	11.1	0.000
		c	Process water	9	0	8	0	2	1	0	0	1	8	91.7	83.3	85.0	0.0	0.000
		Total		28	1	27	0	3	1	0	0	2	27	93.9	90.9	91.7	3.7	0.000
3	Dairy products	a	Raw milk cheeses (cow. goat. ewe)	5	0	12	0	4	0	1	1	1	13	90.0	60.0	78.3	7.7	0.100
		b	Other raw milk-based products	7	0	9	0	2	2	0	0	2	9	81.8	81.8	80.0	0.0	0.000
		c	Pasteurized milk-based products	3	0	11	0	5	4	1	0	5	11	61.5	61.5	58.3	0.0	0.077
		Total		15	0	32	0	11	6	2	1	8	33	76.5	67.6	71.6	3.0	0.059
All categories				67	2	96	0	19	10	4	2	16	98	84.3	81.4	82.5	4.1	0.039

Table 42 – Calculation of the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR) CFX Opus DW- Without FDRS

Category		Type		PA	PA _{FP(alt)}	NA	NA _{FN(alt)}	PD	ND	ND _{FN(alt)}	PD _{FP(alt)}	TND	TNA	SE _{alt} %	SE _{ref} %	RT %	FPR %	FNR
1	Composite foods	a	Ready-to-eat	5	0	11	0	0	3	2	1	5	12	50.0	100.0	77.3	8.3	0.200
		b	Ready-to-reheat	12	0	12	0	4	1	1	1	2	13	88.9	77.8	80.6	7.7	0.056
		c	Confectionaries, pastries and egg products	6	0	11	0	1	0	0	2	0	13	100.0	85.7	95.0	15.4	0.000
		Total		23	0	34	0	5	4	3	4	7	38	80.0	85.7	83.6	10.5	0.086
2	Production environmental samples	a	Surfaces samples	10	0	10	0	0	0	0	0	0	10	100.0	100.0	100.0	0.0	0.000
		b	Dusts and wastes	9	0	9	0	1	1	0	0	1	9	90.9	90.9	90.0	0.0	0.000
		c	Process water	9	1	8	0	2	0	0	0	1	8	91.7	83.3	85.0	12.5	0.000
		Total		28	1	27	0	3	1	0	0	2	27	93.9	90.9	91.7	3.7	0.000
3	Dairy products	a	Raw milk cheeses (cow, goat, ewe)	6	0	13	0	4	0	0	0	0	13	100.0	60.0	82.6	0.0	0.000
		b	Other raw milk-based products	7	0	8	0	2	2	0	1	2	9	81.8	81.8	80.0	11.1	0.000
		c	Pasteurized milk-based products	4	0	11	0	5	4	0	0	4	11	69.2	61.5	62.5	0.0	0.000
		Total		17	0	32	0	11	6	0	1	6	33	82.4	67.6	74.6	3.0	0.000
4	Meat and poultry products	a	Raw products (fresh or frozen)	7	0	8	0	2	2	1	0	3	8	75.0	83.3	75.0	0.0	0.083
		b	Meat based products ready to reheat	3	0	20	1	1	3	0	2	3	23	57.1	85.7	86.7	8.7	0.143
		c	Raw and cooked delicatessen	8	1	4	0	3	1	0	5	2	9	84.6	76.9	77.3	66.7	0.000
		Total		18	1	32	1	6	6	1	7	8	40	75.0	81.3	80.6	20.0	0.063
5	Vegetables	a	Raw vegetables products (fresh)	9	2	9	0	4	0	0	1	2	10	86.7	73.3	76.0	30.0	0.000
		b	Precooked (RTC), under atmosphere and frozen	11	2	10	0	2	0	0	3	2	13	86.7	86.7	85.7	38.5	0.000
		c	RTE, RTRH	5	0	11	1	3	1	2	2	3	14	72.7	72.7	76.0	14.3	0.273
		Total		25	4	30	1	9	1	2	6	7	37	82.9	78.0	79.5	27.0	0.073
6	Fishery and seafood products	a	Raw products	7	0	8	0	4	0	0	1	0	9	100.0	63.6	80.0	11.1	0.000
		b	Smoked, marinated products	9	0	10	1	2	1	0	1	1	12	91.7	83.3	87.5	8.3	0.083
		c	Processed products	9	1	9	0	0	0	0	1	1	10	90.0	100.0	95.0	20.0	0.000
		Total		25	1	27	1	6	1	0	3	2	31	93.9	81.8	87.5	12.9	0.030
All categories				136	7	182	3	40	19	6	21	32	206	84.6	80.8	82.6	13.6	0.043

Table 43 – Calculation of the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR) CFX Opus DW- With FDRS

Category	Type	PA	PA _{FP(alt)}	NA	NA _{FN(alt)}	PD	ND	ND _{FN(alt)}	PD _{FP(alt)}	TND	TNA	SE _{alt} %	SE _{ref} %	RT %	FPR %	FNR
1	a Ready-to-eat	5	1	11	0	0	3	2	0	6	11	45.5	100.0	72.7	9.1	0.182
	b Ready-to-reheat	12	0	13	0	4	1	1	0	2	13	88.9	77.8	80.6	0.0	0.056
	c Confectionaries, pastries and egg products	6	0	13	0	1	0	0	0	0	13	100.0	85.7	95.0	0.0	0.000
	Total	23	1	37	0	5	4	3	0	8	37	77.8	86.1	82.2	2.7	0.083
2	a Surfaces samples	10	0	10	0	0	0	0	0	0	10	100.0	100.0	100.0	0.0	0.000
	b Dusts and wastes	9	0	9	0	1	1	0	0	1	9	90.9	90.9	90.0	0.0	0.000
	c Process water	9	0	8	0	2	1	0	0	1	8	91.7	83.3	85.0	0.0	0.000
	Total	28	0	27	0	3	2	0	0	2	27	93.9	90.9	91.7	0.0	0.000
3	a Raw milk cheeses (cow, goat, ewe)	6	0	13	1	3	0	0	0	0	14	100.0	66.7	87.0	0.0	0.111
	b Other raw milk-based products	7	0	9	0	2	2	0	0	2	9	81.8	81.8	80.0	0.0	0.000
	c Pasteurized milk-based products	3	0	11	0	5	4	1	0	5	11	61.5	61.5	58.3	0.0	0.077
	Total	16	0	33	1	10	6	1	0	7	34	78.8	69.7	74.6	0.0	0.061
All categories		67	1	97	1	18	12	4	0	17	98	83.3	82.4	82.5	1.0	0.049

Table 44 - Summary of results – LSB II (protocols 5 and 6)

		All categories			
		CFX 96 DW		CFX Opus DW	
		w/o FDRS	w FDRS	w/o FDRS	w FDRS
Sensitivity for the alternative method	$SE_{alt} = \frac{(PA + PD)}{(PA + TND + PD)} \times 100 \%$	86.3 %	84.3 %	84.6%	83.3 %
Sensitivity for the reference method	$SE_{ref} = \frac{(PA + TND)}{(PA + TND + PD)} \times 100 \%$	81.4 %	81.4 %	80.8%	82.4 %
Relative trueness	$RT = \frac{(PA + TNA)}{N} \times 100 \%$	83.5 %	82.5 %	82.6%	82.5 %
False positive ratio for the alternative method (unpaired evaluation)	$FPR = \frac{PA_{FP(alt)} + PD_{FP(alt)}}{TNA} \times 100 \%$	9.2 %	4.1 %	13.6%	1.0 %
False negative ratio for the alternative method (unpaired evaluation)	$FNR = \frac{NA_{FN(alt)} + ND_{FN(alt)}}{PA + TND + PD}$	0.020	0.039	0.043	0.049

3.2.1.6 Analysis of discordant results

The negative deviations for all categories are given in Table 45, the negative agreements with positive confirmation in Table 46 and the positive deviations in Table 47.

Table 45 - Negative deviations – LSBII (protocols 5 and 6)

Year of analysis	Sample N°	Product	Strain inoculated	Inoculation level CFU/test portion	Reference method: ISO 11290-1*	Alternative method: iQ-Check <i>Listeria</i> spp- LSB II 18 h at 37°C																Category	Type			
						PCR result												Confirmation	Agreement							
						Without FDRS						With FDRS							Without FDRS		With FDRS					
						CXF96 DW			CFX Opus DW			CXF96 DW			CFX Opus DW				CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW				
						CQ target	cQ IC	Result	CQ target	cQ IC	Result	CQ target	cQ IC	Result	CQ target	cQ IC	Result									
2023	3302	RTE (Sandwich tuna and crudity)	/	/	<i>L. monocytogenes</i> <i>L. innocua</i>	N/A	33.78	-	N/A	33.93	-	N/A	34.23	-	N/A	35.61	-	-	ND	ND	ND	ND	1	a		
2023	3670	RTE (Sandwich ham and cheese)	/	/	<i>L. seeligeri</i>	40,54	36.26	+	N/A 39.74 38.40	36.46 34.07 34.05	- + +	38.72	36.02	+	N/A 38.22 38.42	36.50 34.62 36.07	- + +	<i>L. mono</i>	PA	ND _{FN(alt)}	PA	ND _{FN(alt)}	1	a		
2023	749	Potato fritter with cheese	/	/	<i>L. monocytogenes</i>	N/A	36.82	-	N/A	35.87	-	43.22 39.37 N/A	36.20 36.40 35.39	+ + -	N/A	35.96	-	-	ND	ND	PA _{FP(alt)}	ND	1	a		
2023	761	RTE (vegetable and cheese)	/	/	<i>L. monocytogenes</i>	N/A	37.41	-	N/A	35.47	-	N/A	35.19	-	N/A	34.52	-	-	ND	ND	ND	ND	1	a		
2023	3304	RTE (Sandwich cheese and ham)	/	/	<i>Listeria seeligeri</i>	N/A	33.98	-	N/A	33.86	-	N/A	35.04	-	N/A	35.51	-	<i>L. seelig</i>	ND _{FN(alt)}	ND _{FN(alt)}	ND _{FN(alt)}	ND _{FN(alt)}	1	a		
2023	3297	RTRH (Falafel)	/	/	<i>L. innocua</i>	N/A N/A N/A	33.69 33.71 34.04	- - -	N/A N/A N/A	28.36 32.88 33.34	- - -	N/A N/A N/A	34.03 33.89 33.38	-/-/-	N/A N/A N/A	34.28 33.35 33.47	- - -	<i>L. innoc</i>	ND _{FN(alt)}	ND _{FN(alt)}	ND _{FN(alt)}	ND _{FN(alt)}	1	b		
2023	3471	RTRH (soya, tomato, basilic)	/	/	<i>L. innocua</i>	N/A	33.13	-	N/A	33.39	-	N/A	33.20	-	N/A	32.85	-	-	ND	ND	ND	ND	1	b		
2023	733	Rinsing water	<i>Listeria monocytogenes</i> Ad1679	2,4	<i>L. monocytogenes</i>	29,33	32.25	+	29.24	31.69	+	N/A	33.49	-	N/A	32.71	-	-	PA _{FP(alt)}	PA _{FP(alt)}	ND	ND	2	c		
2023	961	Wastes (Salmon)	<i>Listeria monocytogenes</i> Ad549 <i>Listeria welshimeri</i> Ad1268	1,0 0,4	<i>L. monocytogenes</i> <i>L. innocua</i>	N/A	34.89	-	N/A	34.30	-	41.57 N/A N/A	40.40 33.33 33.00	+ - -	N/A	41.48	-	-	ND	ND	PA _{FP(alt)}	ND	2	b		
2023	1729	Raw cow milk cheese	/	/	<i>L. innocua</i>	38,03	32.37	+	37.49	34.16	+	N/A N/A 40.74	32.85 33.24 32.61	-/-/+	39.07	33.25	+	<i>L. innoc</i>	PA	PA	ND _{FN(alt)}	PA	3	a		
2023	2825	Pasteurized cow milk	<i>Listeria monocytogenes</i> AOOL099 <i>L. innocua</i> Ad1788	0,8 0,2	<i>L. mono</i>	N/A	32.73	-	N/A	32.5	-	N/A	32.95	-	N/A	32.71	-	-	ND	ND	ND	ND	3	c		
2023	2826	Pasteurized cow milk	<i>Listeria monocytogenes</i> 17866 <i>L. innocua</i> Ad1787	0,6 0,6	<i>L. mono</i>	N/A	33	-	N/A	32.92	-	N/A	32.86	-	N/A	32.55	-	-	ND	ND	ND	ND	3	c		
2023	2831	Pasteurized goat milk	<i>Listeria monocytogenes</i> 17866	1,0	<i>L. mono</i>	N/A	32.65	-	N/A	32.39	-	N/A	32.7	-	N/A	32.63	-	-	ND	ND	ND	ND	3	c		
2023	2932	Raw cow milk	/	/	<i>L. innocua</i>	N/A	33	-	N/A	32.79	-	N/A	33.39	-	N/A	32.71	-	-	ND	ND	ND	ND	3	b		
2023	2934	Raw cow milk	/	/	<i>L. mono</i>	N/A	32.96	-	N/A	33.01	-	N/A	32.64	-	N/A	33.02	-	-	ND	ND	ND	ND	3	b		
2023	3071	Half-skimmed milk powder	<i>Listeria monocytogenes</i> Ad250	0,6	<i>L. mono</i>	N/A	32.46	-	N/A	32.39	-	N/A	32.82	-	N/A	32.49	-	-	ND	ND	ND	ND	3	c		
2023	3544	Pasteurized ewe milk cheese	<i>L. innocua</i> Ad661	3,8	<i>L. innocua</i>	39,98	32.7	+	39.76	33.14	+	N/A N/A N/A	33.12 33.02 32.54	-/-/-	N/A N/A N/A	32.83 32.66 32.45	-/-/-	<i>L. innoc</i>	PA	PA	ND _{FN(alt)}	ND _{FN(alt)}	3	c		

* Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)
ADRIA
Summary report (Version 0)
iQ-Check *Listeria* spp.

Year of analysis	Sample N°	Product	Strain inoculated	Inoculation level (CFU/test portion)	ISO 11290-1*	iQ-Check <i>Listeria</i> spp.					Category	Type
						PCR result (CFX Opus- Without FDRS)			Confirmation result	Agreement		
						Cq target	Cq CI	Result				
2024	1279	Ground poultry	/	/	<i>L. welshimeri</i> <i>L. monocytogenes</i>	N/A/N/A/N/A	33.42/33.04/33.08	-/-/-	<i>L. monocytogenes</i>	ND _{FN(alt)}	4	a
2024	1280	Ham	/	/	<i>L. monocytogenes</i>	N/A	32.96	-	-	ND	4	a
2024	1925	Steak haché de volaille	/	/	<i>L. welshimeri</i>	N/A	33.24	-	-	ND	4	a
2024	1705	Wine beef	<i>Listeria monocytogenes</i> Ad1218 <i>Listeria welshimeri</i> Ad3204	0.9 1.4	<i>L. monocytogenes</i> <i>L. welshimeri</i>	N/A/N/A/N/A	32.89/32.68/33.04	-/-/-	-	ND	4	b
2024	2265	Duck parmentier meat	<i>Listeria innocua</i> Ad671	1.4	<i>L. innocua</i>	N/A	32.75	-	-	ND	4	b
2024	2661	Veal paupiette, mixed vegetables	<i>Listeria monocytogenes</i> A00C052	4.6	<i>L. monocytogenes</i>	N/A	33.15	-	-	ND	4	b
2024	1289	Smoked chorizo	/	/	<i>L. welshimeri</i>	37.21/36.84/38.03	33.32/32.3/32.42	+/+/+	-	PA _{FP(alt)}	4	c
2024	1291	Cooked ham	/	/	<i>L. monocytogenes</i>	N/A	32.87	-	-	ND	4	c
2024	2606	Broccoli	<i>Listeria monocytogenes</i> 1011/1410	0.4	<i>L. monocytogenes</i>	37.7/N/A/N/A	32.68/32.5/32.57	+/-/-	-	PA _{FP(alt)}	5	a
2024	2611	Chives	<i>Listeria monocytogenes</i> 1011/1410	0.4	<i>L. monocytogenes</i>	40.63/N/A/N/A	32.79/32.91/32.91	+/-/-	-	PA _{FP(alt)}	5	a
2024	2192	Frozen pumpkin brick	/	/	<i>L. welshimeri</i>	39.23/N/A/N/A	33.18/32.67/32.51	+/-/-	-	PA _{FP(alt)}	5	b
2024	3510	Frozen mixed vegetable soup	<i>Listeria monocytogenes</i> Ad1498	4.2	<i>L. monocytogenes</i>	38.27	33.63	+	-	PA _{FP(alt)}	5	b
2024	2195	Pre-fried potatoes	/	/	<i>L. grayi</i>	N/A	33.13	-	-	ND	5	c
2024	2929	Grilled eggplant	/	/	<i>L. seeligeri</i>	N/A/N/A/N/A	33.16/32.99/33.17	-/-/-	<i>L. seeligeri</i>	ND _{FN(alt)}	5	c
2024	2931	Smoked vegetable knack	/	/	<i>L. seeligeri</i>	N/A/N/A/N/A	32.95/32.49/32.46	-/-/-	<i>L. seeligeri</i>	ND _{FN(alt)}	5	c
2024	3122	Diced smoked salmon	/	/	<i>L. welshimeri</i>	N/A	32.52	-	-	ND	6	b
2024	3120	Squid rings	/	/	<i>L. monocytogenes</i>	40.52/39.84/38.16	32.71/33.14/32.69	+/+/+	-	PA _{FP(alt)}	6	c

♦ Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

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Summary report (Version 0)

iQ-Check *Listeria* spp.

Table 46 - Negative agreement with positive confirmation results– LSBII (protocols 5 and 6)

Year of analysis	Sample N°	Product	Strain inoculated	Inoculation level CFU/test portion	ISO 11290-1*	Alternative method: iQ-Check <i>Listeria</i> spp- LSB II 18 h at 37°C																		Category	Type
						PCR result												Confirmation	Agreement						
						Without FDRS						With FDRS							Without FDRS		With FDRS				
						CXF96 DW			CFX Opus DW			CXF96 DW			CFX Opus DW										
						CQ target	cQ IC	Result	CQ target	cQ IC	Result	CQ target	cQ IC	Result	CQ target	cQ IC	Result		CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW			
2023	3940	Raw ewe milk cheese	<i>L. ivanovii</i> Ad1737	0.4	-	39.73	32.45	+	39.41	32.65	+	37.92	32.22	+	N/A/N/A/N/A	32.53 /33.22/ 32.99	-/-/-	<i>L. ivanovii</i>	PD	PD	PD	NA _{FN(alt)}			

Year of analysis	Sample N°	Product	Strain inoculated	Inoculation level (CFU/test portion)	ISO 11290-1♦	iQ-Check <i>Listeria</i> spp.					Category	Type
						PCR result (CFX Opus- Without FDRS)			Confirmation result	Agreement		
						Cq target	Cq CI	Result				
2024	1926	Beef tongue in sauce	/	/	-	N/A	32.75		+ (Fraser) <i>L. innocua</i>	NA _{FN(alt)}	4	b
2024	3747	Whole cooked beetroot	<i>Listeria monocytogenes</i> Ad2598	2.6	-	N/A	33.58	-	<i>L. mono</i>	NA _{FN(alt)}	5	c
2024	3112	Octopus marinade with peppers	/	/	-	N/A/N/A/N/A	32.72/32.64/32.93	-/-/-	<i>L. mono</i>	NA _{FN(alt)}	6	b

♦ Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

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Summary report (Version 0)

iQ-Check *Listeria* spp.

Table 47 - Positive deviations – LSBII (protocols 5 and 6)

Sample N°	Product	Strain inoculated	Inoculation level CFU/test portion	Reference method : ISO 11290-1*	Alternative method: iQ-Check <i>Listeria</i> spp- LSB II 18 h at 37°C														Category	Type					
					PCR result												Confirmation	Agreement							
					Without FDRS						With FDRS							Without FDRS		With FDRS					
					CFX96 DW			CFX Opus DW			CFX96 DW			CFX Opus DW				CFX 96 DW		CFX Opus DW					
					CQ target	cQ IC	Result	CQ target	cQ IC	Result	CQ target	cQ IC	Result	CQ target	cQ IC	Result		CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW				
3300	RTRH (Paella)	/	/	-	36.27	33.17	+	42.25	33.48	+	38.00	33.33	+	42.97	33.46	+	<i>L. innocua</i>	PD	PD	PD	PD	1	b		
3310	Salmon nuggets	/	/	-	35.24	33.47	+	38.89	34.04	+	35.05	33.83	+	39.12	34.13	+	<i>L. monocytogenes</i>	PD	PD	PD	PD	1	b		
3469	Chicken wings	/	/	-	35.74	33.11	+	36.08	33.11	+	35.24	33.40	+	35.34	32.87	+	<i>L. monocytogenes</i>	PD	PD	PD	PD	1	b		
3472	RTRH (cheese and vegetable)	/	/	-	28.91	36.21	+	28.45	36.04	+	28.08	33.65	+	28.26	32.80	+	<i>L. monocytogenes</i>	PD	PD	PD	PD	1	b		
3808	Onion tortilla	<i>Listeria monocytogenes</i> Ad1757 <i>Listeria seeligeri</i> Ad1780	0.8 1.6	-	22.13	N/A	+	21.48	N/A	+	22.07	N/A	+	20.65	N/A	+	<i>L. monocytogenes</i> <i>L. innocua</i>	PD	PD	PD	PD	1	c		
732	Process water	<i>Listeria monocytogenes</i> Ad615	5.6	-	29.93	33.58	+	29.90	32.11	+	29.64	32.56	+	29.48	31.77	+	<i>L. monocytogenes</i>	PD	PD	PD	PD	2	c		
759	Wastes (Trout)	/	/	-	33.32	33.05	+	31.64	32.41	+	33.32	33.05	+	31.37	32.27	+	<i>L. monocytogenes</i>	PD	PD	PD	PD	2	b		
966	Process water	<i>Listeria monocytogenes</i> Ad243 <i>Listeria innocua</i> Ad1257	0.6 0.8	-	28.36	32.04	+	28.29	32.01	+	28.55	31.64	+	28.54	31.56	+	<i>L. monocytogenes</i>	PD	PD	PD	PD	2	c		
2742	Raw cow milk cheese	/	/	-	29.78	33.8	+	29.93	32.66	+	29.82	36.28	+	29.71	36.22	+	<i>L. monocytogenes</i>	PD	PD	PD	PD	3	a		
2743	Raw cow milk cheese	/	/	-	29.93	39.73	+	29.12	N/A	+	28.86	N/A	+	28.5	N/A	+	<i>L. innocua</i>	PD	PD	PD	PD	3	a		
2829	Pasteurized ewe milk cheese	<i>Listeria monocytogenes</i> Ad630 <i>L. innocua</i> Ad661	0.6 0.2	-	34.25	33.12	+	34.73	32.46	+	35.71	32.62	+	35.09	33.02	+	<i>L. monocytogenes</i>	PD	PD	PD	PD	3	c		
2835	Pasteurized flavoured cow milk	<i>L. seeligeri</i> Ad1237	0.4	-	23.56	N/A	+	23.99	N/A	+	24.13	N/A	+	24.6	N/A	+	<i>L. seeligeri</i>	PD	PD	PD	PD	3	c		
2935	Raw cow milk	/	/	-	27.85	31.98	+	28.02	31.25	+	28.67	32.15	+	28.18	31.49	+	<i>L. innocua</i>	PD	PD	PD	PD	3	b		
3072	Half-skimmed milk powder	<i>L. innocua</i> 16969	1	-	32.28	32.18	+	32.17	32.29	+	32.44	32.31	+	32.16	32.15	+	<i>L. innocua</i>	PD	PD	PD	PD	3	c		
3543	Pasteurized ewe milk cheese	<i>Listeria monocytogenes</i> Ad630	5	-	32.74	32.07	+	33.34	32.71	+	32.85	32.1	+	32.85	32.32	+	<i>L. monocytogenes</i>	PD	PD	PD	PD	3	c		
3546	Pasteurized cow cheese	<i>L. innocua</i> Ad661	3.8	-	39.62	34.99	+	36.75	33.9	+	38.41	33.23	+	40.21	33.86	+	<i>L. innocua</i>	PD	PD	PD	PD	3	c		
3701	Raw milk butter	<i>Listeria monocytogenes</i> Ad3119 <i>L. innocua</i>	0.4 0.6	-	30.59	33.01	+	30.11	32.35	+	30.56	32.96	+	30.24	32.79	+	<i>L. monocytogenes</i> <i>L. innocua</i>	PD	PD	PD	PD	3	b		
3939	Raw ewe milk cheese	<i>L. ivanovii</i> Ad675	0.6	-	35.18	32.44	+	35.04	32.69	+	35.60	32.24	+	35.24	32.27	+	<i>L. ivanovii</i>	PD	PD	PD	PD	3	a		
3940	Raw ewe milk cheese	<i>L. ivanovii</i> Ad1737	0.4	-	39.73	32.45	+	39.41	32.65	+	37.92	32.22	+	N/A/N /N/A	32.53/ 33.22/ 32.99	-/-	<i>L. ivanovii</i>	PD	PD	PD	NA _{FN(alt)}	3	a		

Year of analysis	Sample N°	Product	Strain inoculated	Inoculation level (CFU/test portion)	ISO 11290-1*	iQ-Check <i>Listeria</i> spp.					Category	Type
						PCR result CFX Opus- Without FDRS)			Confirmation result	Agreement		
						Cq target	Cq CI	Result				
2024	1283	Pork flank	/	/	-	32.95	32.63	+	<i>L. monocytogenes</i>	PD	4	a
2024	1923	Escalope de dinde	/	/	-	33.81	32.93	+	<i>L. monocytogenes</i>	PD	4	a
2024	2660	Sliced beef, potatoes and pepper sauce	<i>Listeria monocytogenes</i> A00C052	4.6	-	37.6	32.63	+	<i>L. monocytogenes</i>	PD	4	b
2024	1707	Bacon	<i>Listeria seeligeri</i> Ad1297	2.2	-	30.57	32.48	+	<i>L. seeligeri</i>	PD	4	c
2024	1927	Saucisse (kit charcuterie vrac)	/	/	-	37.42	33.37	+	<i>L. monocytogenes</i>	PD	4	c
2024	2549	Smoked bacon	/	/	-	35.01	33.2	+	<i>L. welshimeri</i>	PD	4	c
2024	2181	Cauliflower	/	/	-	30.29	32.27	+	<i>L. monocytogenes</i>	PD	5	a
2024	2608	Cauliflower	<i>Listeria monocytogenes</i> 1011/1410 <i>Listeria seeligeri</i> Ad1293	0.2/0.5 (0.7)	-	33.02	32.46	+	<i>L. seeligeri</i>	PD	5	a
2024	3735	Onions	<i>Listeria monocytogenes</i> Ad1238	1.8	-	27.3	32.25	+	<i>L. monocytogenes</i>	PD	5	a
2024	2860	Vegetables wok	/	/	-	31.9	32.15	+	<i>L. monocytogenes</i>	PD	5	a
2024	2618	Frozen cauliflower florets	<i>Listeria welshimeri</i> Ad3251	1.6	-	33.98	33.05	+	<i>L. welshimeri</i>	PD	5	b
2024	3127	Parisian stir-fry	/	/	-	34.53	N/A	+	<i>L. innocua</i>	PD	5	b
2024	2191	Whitened potatoes	/	/	-	21.23	33.06	+	<i>L. monocytogenes</i> <i>L. innocua</i>	PD	5	c
2024	2612	Mix of raw vegetables	<i>Listeria welshimeri</i> Ad3251 <i>Listeria monocytogenes</i> Ad1672	0.3/1.2 (1.5)	-	30.79	31.96	+	<i>L. monocytogenes</i>	PD	5	c
2024	3740	Vegetal balls	<i>Listeria monocytogenes</i> Ad1498	2.0	-	24.84	33.57	+	<i>L. monocytogenes</i>	PD	5	c
2024	2937	Salmon paupiettes	/	/	-	38.03	32.53	+	<i>L. monocytogenes</i>	PD	6	a
2024	2740	Raw fillet of saithe	<i>Listeria seeligeri</i> Ad2638	2.2	-	26.31	31.18	+	<i>L. seeligeri</i>	PD	6	a
2024	3111	Sardine	/	/	-	30.26	32.03	+	<i>L. innocua</i>	PD	6	a
2024	3479	Trout steak	/	/	-	28.1	31.63	+	<i>L. monocytogenes</i>	PD	6	a
2024	2746	Smoked mackerel fillet	<i>Listeria innocua</i> Ad1674	2.4	-	22.98	30.43	+	<i>L. innocua</i>	PD	6	b
2024	2748	Squid with chorizo, marinated	<i>Listeria monocytogenes</i> Ad128		-	25.51	30.73	+	<i>L. monocytogenes</i>	PD	6	b

* Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

> **Negative deviations**

For all six categories tested, a total of 34 samples were found in negative deviations in at least one of the conditions. It concerns 13 artificially contaminated samples and 21 naturally contaminated samples. The presence of *Listeria* spp was confirmed in the enrichment broth for 8 samples (3670 & 3304: RTE Sandwich cheese and ham; 3297: Falafel; 1729: Raw cow milk cheese; 3544: Pasteurized ewe milk cheese, 1279, ground poultry, 2929: grilled eggplant and 2931: smoked vegetables knack). For some samples with negative PCR results and positive confirmation results, several PCR tests were performed. Only two samples showed late positive results after retest indicating a contamination level at the limit of detection of the method. In some cases, positives PCR results were found after 72h storage.

According to the ISO 16140-2 (2016), samples in negative agreement (NA) were also confirmed by proceeding to a subculture in Fraser broth before streaking onto selective agar plates and the presence of a *Listeria* spp strain was detected in the enriched LSB II broths for four sample (3940, 1926, 3112, 3747).

> **Positive deviations**

For all six categories tested, a total of 40 samples were found in positive deviations in at least one of the conditions. They concern 21 artificially contaminated samples and 19 naturally contaminated samples. One sample were found in positive deviation in three conditions among the 4 tested (NA_{FN(alt)} with CFX Opus with FDRS) with a very late Cq value obtained.

The analyses of discordant results according to the ISO 16140-2 for all the categories is the following (See Tables 48 to 51).

Table 48 - Analyses of discordant results -
CFX96 DW- Without FDRS

							Unpaired	
Category		Type		N+	TND	PD	TND-PD	AL
1	Composite foods	a	Ready-to-eat	10	4	0		
		b	Ready-to-reheat	18	2	4		
		c	Confectionaries, pastries and egg products	7	0	1		
		Total		35	6	5	1	3
2	Production environmental samples	a	Surfaces samples	10	0	0		
		b	Dusts and wastes	11	1	1		
		c	Process water	12	1	2		
		Total		33	2	3	-1	3
3	Dairy products	a	Raw milk cheeses (cow, goat, ewe)	10	0	4		
		b	Other raw milk-based products	11	2	2		
		c	Pasteurized milk-based products	13	4	5		
		Total		34	6	11	-5	3
All categories				102	14	19	-5	5

Table 49 - Analyses of discordant results-
CFX96 DW- With FDRS

							Unpaired	
Category		Type		N+	TND	PD	TND-PD	AL
1	Composite foods	a	Ready-to-eat	10	4	0		
		b	Ready-to-reheat	18	2	4		
		c	Confectionaries, pastries and egg products	7	0	1		
		Total		35	6	5	1	3
2	Production environmental samples	a	Surfaces samples	10	0	0		
		b	Dusts and wastes	11	1	1		
		c	Process water	12	1	2		
		Total		33	2	3	-1	3
3	Dairy products	a	Raw milk cheeses (cow, goat, ewe)	10	1	4		
		b	Other raw milk-based products	11	2	2		
		c	Pasteurized milk-based products	13	5	5		
		Total		34	8	11	-3	3
All categories				102	16	19	-3	5

**Table 50 - Analyses of discordant results-
CFX Opus DW- Without FDRS**

						Unpaired		
Category		Type	N+	TND	PD	TND-PD	AL	
1	Composite foods	a	Ready-to-eat	10	5	0		
		b	Ready-to-reheat	18	2	4		
		c	Confectionaries, pastries and egg products	7	0	1		
		Total			35	7	5	2
2	Production environmental samples	a	Surfaces samples	10	0	0		
		b	Dusts and wastes	11	1	1		
		c	Process water	12	1	2		
		Total			33	2	3	-1
3	Dairy products	a	Raw milk cheeses (cow, goat, ewe)	10	0	4		
		b	Other raw milk-based products	11	2	2		
		c	Pasteurized milk-based products	13	4	5		
		Total			34	6	11	-5
4	Meat and poultry products	a	Raw products (fresh or frozen)	12	3	2		
		b	Meat based products ready to reheat	7	3	1		
		c	Raw and cooked delicatessen	13	2	3		
		Total			32	8	6	2
5	Vegetables	a	Raw vegetables products (fresh)	15	2	4		
		b	Precooked (RTC), under atmosphere and frozen	15	2	2		
		c	RTE, RTRH	11	3	3		
		Total			41	7	9	-2
6	Fishery and seafood products	a	Raw products	11	0	4		
		b	Smoked, marinated products	12	1	2		
		c	Processed products	10	1	0		
		Total			33	2	6	-4
All categories				208	32	40	-8	6

**Table 51 - Analyses of discordant results-
CFX Opus DW- With FDRS**

						Unpaired		
Category		Type		N+	TND	PD	TND-PD	AL
1	Composite foods	a	Ready-to-eat	10	6	0		
		b	Ready-to-reheat	18	2	4		
		c	Confectionaries, pastries and egg products	7	0	1		
		Total		35	8	5	3	3
2	Production environmental samples	a	Surfaces samples	10	0	0		
		b	Dusts and wastes	11	1	1		
		c	Process water	12	1	2		
		Total		33	2	3	-1	3
3	Dairy products	a	Raw milk cheeses (cow, goat, ewe)	9	0	3		
		b	Other raw milk-based products	11	2	2		
		c	Pasteurized milk-based products	13	5	5		
		Total		33	7	10	-3	3
All categories				101	17	18	-1	6

The observed values for TND - PD meet the acceptability limit for the six individual categories as well as for all combined categories (calculated values $\leq$ AL).

3.2.1.7 Enrichment broth storage at 5 ± 3 °C for 72 h

235 enriched samples were tested again after storage of the enriched LSB II broths for 72h at $5^{\circ}\text{C} \pm 3^{\circ}\text{C}$ with both extraction protocol and thermocyclers.

The following changes were observed (see Table 52).

Table 52 – Changes observed after enrichment broths storage

Sample N°	Product	iQ-Check <i>Listeria</i> spp.								Category	Type
		LSB II 18h at 37°C				LSB II 18h at 37°C + 72 h at 5°C					
		Agreement				Agreement					
		Without FDRS		With FDRS		Without FDRS		With FDRS			
		CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW		
3304	RTE (Sandwich cheese and ham)	ND	ND	ND	ND	ND	ND	PA	PA	1	a
3670	RTE (Sandwich ham and cheese)	PA	ND _{FN(alt)}	PA	ND _{FN(alt)}	PA	PA	PA	PA	1	a
3308	Salmon nuggets	PA	PA	PA	PA	PA	PA	ND _{FN(alt)}	ND _{FN(alt)}	1	b
1729	Raw cow milk cheese	PA	PA	ND _{FN(alt)}	PA	PA	PA	PA	PA	3	a
3544	Pasteurized ewe milk cheese	PA	PA	ND _{FN(alt)}	ND _{FN(alt)}	PA	ND _{FN(alt)}	ND _{FN(alt)}	ND _{FN(alt)}	3	c
3940	Raw ewe milk cheese	PD	PD	PD	NA _{FN(alt)}	PD	PD	PD	PD	3	a
1279	Ground poultry	/	ND _{FN(alt)}	/	/	/	PA	/	/	4	a
2607	Green beans	/	PA	/	/	/	PA _{FP(alt)}	/	/	5	a
2929	Grilled eggplant	/	ND _{FN(alt)}	/	/	/	ND	/	/	5	c
2934	Grilled red peppers	/	PA	/	/	/	ND	/	/	5	c
3112	Octopus marinade with peppers	/	NA _{FN(alt)}	/	/	/	NA	/	/	6	b
2931	Smoked vegetable knack	/	ND _{FN(alt)}	/	/	/	PA _{FP(alt)}	/	/	5	c

For one sample, the modification of the results with an impact on the final TND-PD calculation was due to a non-confirmation after storage (2607)

The analyses of discordant results become (See Tables 53 to 56).

Table 53 - Analysis of discordant results after storage for 72 h at 5 ± 3°C-**CFX96 DW- Without FDRS**

						Unpaired		
Category		Type		N+	TND	PD	TND-PD	AL
1	Composite foods	a	Ready-to-eat	10	4	0		
		b	Ready-to-reheat	18	2	4		
		c	Confectionaries, pastries and egg products	7	0	1		
		Total		35	6	5	1	3
2	Production environmental samples	a	Surfaces samples	10	0	0		
		b	Dusts and wastes	11	1	1		
		c	Process water	12	1	2		
		Total		33	2	3	-1	3
3	Dairy products	a	Raw milk cheeses (cow, goat, ewe)	10	0	4		
		b	Other raw milk-based products	11	2	2		
		c	Pasteurized milk-based products	12	4	5		
		Total		33	6	11	-5	3
All categories				101	14	19	-5	5

Table 54 - Analysis of discordant results after storage for 72 h at 5 ± 3°C-**CFX96 DW- With FDRS**

						Unpaired		
Category		Type		N+	TND	PD	TND-PD	AL
1	Composite foods	a	Ready-to-eat	10	3	0		
		b	Ready-to-reheat	18	3	4		
		c	Confectionaries, pastries and egg products	7	0	1		
		Total		35	6	5	1	3
2	Production environmental samples	a	Surfaces samples	10	0	0		
		b	Dusts and wastes	11	1	1		
		c	Process water	12	1	2		
		Total		33	2	3	-1	3
3	Dairy products	a	Raw milk cheeses (cow, goat, ewe)	10	0	4		
		b	Other raw milk-based products	11	2	2		
		c	Pasteurized milk-based products	12	4	5		
		Total		33	6	11	-5	3
All categories				101	14	19	-5	5

**Table 55 - Analysis of discordant results after storage for 72 h at $5 \pm 3^\circ\text{C}$ -
CFX Opus DW- Without FDRS**

						Unpaired		
Category		Type		N+	TND	PD	TND-PD	AL
1	Composite foods	a	Ready-to-eat	10	4	0		
		b	Ready-to-reheat	18	2	4		
		c	Confectionaries, pastries and egg products	7	0	1		
		Total		35	6	5		
2	Production environmental samples	a	Surfaces samples	10	0	0		
		b	Dusts and wastes	11	1	1		
		c	Process water	12	1	2		
		Total		33	2	3		
3	Dairy products	a	Raw milk cheeses (cow, goat, ewe)	10	0	4		
		b	Other raw milk-based products	11	2	2		
		c	Pasteurized milk-based products	12	4	5		
		Total		33	6	11		
4	Meat and poultry products	a	Raw products (fresh or frozen)	12	2	2		
		b	Meat based products ready to reheat	7	3	1		
		c	Raw and cooked delicatessen	12	1	3		
		Total		31	6	6		
5	Vegetables	a	Raw vegetables products (fresh)	14	3	4		
		b	Precooked (RTC), under atmosphere and frozen	15	2	2		
		c	RTE, RTRH	11	4	3		
		Total		40	9	9		
6	Fishery and seafood products	a	Raw products	11	0	4		
		b	Smoked, marinated products	12	1	2		
		c	Processed products	10	1	0		
		Total		33	2	6		
All categories				205	30	40	-9	6

**Table 56 - Analysis of discordant results after storage for 72 h at $5 \pm 3^\circ\text{C}$ -
CFX Opus DW- With FDRS**

						Unpaired		
Category		Type		N+	TND	PD	TND-PD	AL
1	Composite foods	a	Ready-to-eat	10	3	0		
		b	Ready-to-reheat	18	3	4		
		c	Confectionaries, pastries and egg products	7	0	1		
		Total		35	6	5	1	3
2	Production environmental samples	a	Surfaces samples	10	0	0		
		b	Dusts and wastes	11	1	1		
		c	Process water	12	1	2		
		Total		33	2	3	-1	3
3	Dairy products	a	Raw milk cheeses (cow, goat, ewe)	10	0	4		
		b	Other raw milk-based products	11	2	2		
		c	Pasteurized milk-based products	12	4	5		
		Total		33	6	11	-5	3
All categories				101	14	19	-5	5

The calculated values for TND - PD meet the acceptability limit for each category as well as for all the combined categories (calculated values $\leq$ AL). Thus, the enriched LSB II broths can be kept at $5 \pm 3^\circ\text{C}$ for 72 h.

3.2.1.8 Confirmation

It was impossible to confirm the presence of *Listeria spp* in the enrichment broth after incubation time for 35 samples even when additional confirmations were carried out. The samples concerned as well as the PCR results observed are given in Table 57.

For meat and poultry products, it can be noticed that all the samples were not inoculated and with some samples probably gathered from the same source. The presence of free DNA in the sample is suspected but no FDRS treatment was evaluated on those samples.

For the other categories, when evaluated, the percentage of false positives decrease with the addition of FDRS treatment. The presence of unconfirmed positives is therefore probably due to the presence of free DNA in the sample.

Among the 176 samples confirmed positives by the alternative method ($\text{PA} + \text{PD} = 176$), the direct streaking allowed the confirmations of all the samples with similar repartition among the selective agar plates: 169 samples with RAPID'L.mono plates, and RAPID'*Listeria spp* plates; 170 with AL plates.

Table 57 – Positive PCR results not confirmed by cultural methods – LSBII protocols (5 and 6)

Sample N°	Product	Reference method: ISO 11290-1 [†]	Alternative method: iQ-Check <i>Listeria</i> spp- LSB II 18 h at 37°C																	Category	Type
			PCR result												Confirmation	Agreement					
			Without FDRS						With FDRS							Without FDRS		With FDRS			
			CXF 96 DW			CFX Opus DW			CXF 96 DW			CFX Opus DW				CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW		
			FAM Cq	IC Cq	Result	FAM Cq	IC Cq	Result	FAM Cq	IC Cq	Result	FAM Cq	IC Cq	Result							
110	Mini-involtini with cheese	-	N/A	34.89	-	44.95 N/A N/A	34.37 33.75 33.57	+ - -	N/A	36.39	-	N/A	35.07	-	-	NA	PD _{FP(alt)}	NA	NA	1	a
749	Potato fritter with cheese	<i>L. monocytogenes</i>	N/A	36.82	-	N/A	35.87	-	43.22 39.37 N/A	36.20 36.40 35.39	+ + -	N/A	35.96	-	-	ND	ND	PA _{FP(alt)}	ND	1	a
106	RTE (vegetable macedoine)	-	N/A	33.31	-	N/A	32.96	-	N/A	33.05	-	40.46	33.07	+	-	NA	NA	NA	PD _{FP(alt)}	1	a
3301	RTRH (Tomato, cereals)	-	39,10 38,88 N/A	32.93 33.13 33.23	+ + -	N/A	33.58	-	N/A	33.59	-	N/A	33.42	-	-	PD _{FP(alt)}	NA	NA	NA	1	b
3464	RTRH (Paella)	-	39,69	33.06	+	40.00 N/A N/A	32.97 32.59 32.70	+ - -	N/A	33.48	-	N/A	33.39	-	-	PD _{FP(alt)}	PD _{FP(alt)}	NA	NA	1	b
114	Pastry	-	36,50 36,71 36,35	33.16 32.87 32.74	+ + +	37.32 35.87 36.91	33.61 32.54 33.44	+ + +	37.97 42.80 43.46	32.72 32.37 33.62	+ + +	39.56	32.80	-	-	PD _{FP(alt)}	PD _{FP(alt)}	PD _{FP(alt)}	NA	1	c
118	Chocolate mousse	-	40,16 35,84 36,46	N/A 34.28 N/A	+ + +	N/A	32.87	-	N/A N/A	N/A 32.55	i/ -*	N/A N/A*	N/A 32.42*	i/ -*	-	PD _{FP(alt)}	NA	NA	NA	1	c
517	Chocolate mousse	-	38,69	33.97	+	38.26	33.39	+	N/A	33.60	-	N/A	33.42	-	-	PD _{FP(alt)}	PD _{FP(alt)}	NA	NA	1	c
961	Wastes (Salmon)	<i>L. monocytogenes</i> <i>L. innocua</i>	N/A	34.89	-	N/A	34.30	-	41.57 N/A N/A	40.40 33.33 33.00	+ - -	N/A	41.48	-	-	ND	ND	PA _{FP(alt)}	ND	2	b
733	Rinsing water	<i>L. monocytogenes</i>	29,33	32.25	+	29.24	31.69	+	N/A	33.49	-	N/A	32.71	-	-	PD _{FP(alt)}	PD _{FP(alt)}	ND	ND	2	c
1724	Raw ewe milk	-	N/A	32.65	-	39.24 N/A N/A	32.55 32.75 32.49	+ / - / -	N/A	32.55	-	N/A	32.55	-	-	NA	PD _{FP(alt)}	NA	NA	3	b
2754	Ice cream	-	40,38 34.88 35.37	33.1 32.68 32.42	+ / + / +	N/A	32.82	-	N/A	33.36	-	N/A	33.6	-	-	PD _{FP(alt)}	NA	NA	NA	3	c
3077	Half-skimmed milk powder	-	40,07 N/A N/A	32.26 32.25 32.22	+ / - / -	N/A	32.09	-	N/A	32.83	-	N/A	32.68	-	-	PD _{FP(alt)}	NA	NA	NA	3	c

♦ Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)
ADRIA
Summary report (Version 0)
iQ-Check *Listeria* spp.

Year of analysis	Sample N°	Product	Reference method: ISO 11290-1*	iQ-Check <i>Listeria</i> spp.					Category	Type
				After incubation						
				PCR result (CFX Opus- Without FDRS)			Confirmation result	Agreement		
				Cq target	Cq CI	Result				
2024	2674	Veal paupiette, mixed vegetables	-	39.87/39.26/40.08	32.92/32.57/32.76	+/+/+	-	PD _{FP(alt)}	4	b
2024	2679	Tikka massala chicken	-	41.48/N/A/40.09	33.21/32.92/32.69	+/-/+	-	PD _{FP(alt)}	4	b
2024	1289	Smoked chorizo	<i>L. welshimeri</i>	37.21/36.84/38.03	33.32/32.3/32.42	+/+/+	-	PA _{FP(alt)}	4	c
2024	1290	Pâté	-	39.03/42.1/41.01	32.85/32.33/32.51	+/+/+	-	PD _{FP(alt)}	4	c
2024	1293	Cooked smoked sausage	-	38.25/42.13/40.58	32.91/32.6/32.52	+/+/+	-	PD _{FP(alt)}	4	c
2024	1929	Pavé au poivre	-	39.12/38.12/38.09	33.14/32.49/32.3	+/+/+	-	PD _{FP(alt)}	4	c
2024	2547	Pâté	-	40.51/N/A/N/A	32.79/32.5/33.09	+/-/-	-	PD _{FP(alt)}	4	c
2024	2548	Coppa	-	38.3/N/A/40.01	33.15/32.93/33.06	+/-/+	-	PD _{FP(alt)}	4	c
2024	2605	Cabbage	-	39.85/35.92/36.18/N/A(F)	32.89/32.66/32.57/ 32.67*	+/+/-/(F)	-	PD _{FP(alt)}	5	a
2024	2606	Broccoli	<i>L. monocytogenes</i>	37.7/N/A/N/A/N/A(F)	32.68/32.5/32.57/32.51(F)	+/-/-/(F)	-	PA _{FP(alt)}	5	a
2024	2611	Chives	<i>L. monocytogenes</i>	40.63/N/A/N/A/40.28(F)	32.79/32.91/32.91/32.74(F)	+/-/-/(F)	-	PA _{FP(alt)}	5	a
2024	2192	Frozen pumpkin brick	<i>L. welshimeri</i>	39.23/N/A/N/A/N/A(F)	33.18/32.67/32.51/33.63(F)	+/-/-/(F)	-	PA _{FP(alt)}	5	b
2024	2614	Frozen ratatouille	-	40.45/40.28/39.06/N/A(F)	32.85/32.61/33.02/32.58(F)	+/+/-/(F)	-	PD _{FP(alt)}	5	b
2024	3128	Provençal soy pancake	-	41.36/N/A/N/A/N/A(F)	33/32.91/32.94/33.34(F)	+/-/-/(F)	-	PD _{FP(alt)}	5	b
2024	3493	Soy, pepper and parsley pancake	-	37.64/36.01/35.69/38.59(F)	33.06/33.12/32.51/33.09(F)	+/+/+/(F)	-	PD _{FP(alt)}	5	b
2024	3510	Frozen mixed vegetable soup	<i>L. monocytogenes</i>	38.27/40.34/N/A/N/A(F)	33.63/33.07/33.02/32.76(F)	+/+/-/(F)	-	PA _{FP(alt)}	5	b
2024	3494	Vegetable falafels with coriander and mint	-	38.96/39.1/N/A/N/A(F)	32.89/32.58/32.83/32.9(F)	+/+/-/(F)	-	PD _{FP(alt)}	5	c
2024	3758	Vegetal balls	-	40.29/39.02/38.05/N/A(F)	33.15/32.7/32.77/32.51(F)	+/+/-/(F)	-	PD _{FP(alt)}	5	c
2024	1932	Frozen red shrimps	-	38.78/39.74/N/A/N/A(F)	33.15/32.46/32.54/32.92(F)	+/+/-/(F)	-	PD _{FP(alt)}	6	a
2024	3116	Salmon fillets marinated	-	36.61/N/A/N/A/N/A(F)	32.29/32.87/32.83/32.12(F)	+/-/-/(F)	-	PD _{FP(alt)}	6	b
2024	3120	Squid rings	<i>L. monocytogenes</i>	40.52/39.84/38.16/N/A(F)	32.71/33.14/32.69/32.44(F)	+/+/-/(F)	-	PA _{FP(alt)}	6	c
2024	3481	Shrimp fritters	-	38.42/38.08/36.33/N/A(F)	32.93/32.7/33.04/32.37(F)	+/+/-/(F)	-	PD _{FP(alt)}	6	c

* Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

3.2.1.9 PCR inhibition

For categories 1, 2 and 3, 400 DNA extracts prepared with and without applying the FDRS protocol were tested after incubation time and 222 after enrichment broths storage with both thermocyclers (CFX96 Deep Well and CFX Opus Deep Well), only 13 PCR inhibitions (2.1%) were observed and concerns 5 samples (see Table 58). A 1/10 dilution in sterile water allowed to obtain a result.

For meat and poultry, vegetable, fish and seafood categories, no inhibition was observed.

Table 58 - Samples with PCR inhibitions – LSBII protocols (5 and 6)

Sample N°	Product	Incubation time	Without FDRS						With DFRS						Category	Type
			CFX96 DW			CFX Opus DW			CFX96 DW			CFX Opus DW				
			FAM Cq	IC Cq	Result	FAM Cq	IC Cq	Result	FAM Cq	IC Cq	Result	FAM Cq	IC Cq	Result		
118	Chocolate mousse	18h	40.16 35.84 36.46	N/A 34.28 N/A	+ + +	N/A/ 32.87	-	N/A N/A	N/A 32.55	i/ -*	N/A N/A*	N/A 32.42*	i/ -*	1	c	
		18 h + 72 h	N/A	32.61	-	N/A	32.33	-	N/A N/A	N/A 32.30	i/ -*	N/A	39.15			-
725	Wastes (Meat)	18 h	N/A 34.46	N/A 33.33	i/ +*	N/A 23.67	N/A 32.37	i/ +*	N/A 28.69	N/A 40.40	i/ +*	N/A 31.59	N/A 33.04	i/ +*	2	b
2747	Raw goat milk cheese	18h (pre-warmed)	N/A N/A*	N/A 32.56*	i / - *	N/A N/A*	N/A 32.62*	i / - *	N/A N/A*	N/A 32.55*	i / - *	N/A N/A*	N/A 32.41*	i / - *	3	a
2750	Raw ewe milk cheese	18h (pre-warmed)	N/A	32.6	-	N/A	32.73	-	N/A 34.33* ac N/A* N/A*	N/A 32.46*ac 32.85* 32.81*	i / +*ac / - * / - *	N/A	32.9	-	3	a
2752	Raw goat milk cheese	18h (pre-warmed) + 72h	34.97	32.63	+	35.28	32.27	+	35.84	32.6	+	N/A 36.44*	N/A 32.42 *	i / +*	3	a

*: Testing after 1/10 dilution of the extract

ac: atypical curve

3.2.2 Relative level of detection

The relative level of detection is the level of detection at $P = 0.50$ (LOD_{50}) of the alternative (proprietary) method divided by the level of detection at $P = 0.50$ (LOD_{50}) of the reference method.

The RLOD is defined as the ratio of the alternative and reference methods:

$$RLOD = \frac{LOD_{Alt.}}{LOD_{Ref.}}$$

The relative detection level is the smallest number of culturable micro-organisms that can be detected in the sample in 50% of occasions by the alternative and reference methods.

3.2.2.1 Experimental design

Six matrix/strain pairs were tested for the extension study using the following protocol:

- A negative control: 5 samples,
- A low contamination level providing fractional recovery data, with 20 replicates,
- A high contamination level, with 5 replicates.

A total plate count was performed to estimate the total microbial load on the day of analysis.

The extraction was performed using the Easy II protocol with and without the FDRS step. Two PCR instruments were tested: CFX 96 Deep Well and CFX Opus Deep Well.

The matrix/strain pairs tested are listed in Table 59.

Table 59 - Defined (matrix/strain) pairs for the RLOD determination

Category		Matrix	Strain	Origin	Inoculation and storage condition
1	Composite food	Deli salad: piémontaise	<i>Listeria innocua</i> Ad3269	Vegetables mix	48-72 h at 3°C ± 2°C
2	Production environmental samples	Process water	<i>Listeria monocytogenes</i> Ad2503	Environment from vegetables production site	48-72 h at 3°C ± 2°C
3	Dairy products	Raw ewe milk cheese	<i>Listeria ivanovii</i> Ad1737	Raw milk cheese	48-72 h at 3°C ± 2°C
4	Meat and poultry products	Pâté (Rillettes)	<i>Listeria monocytogenes</i> Ad669	Rillettes	Seeding protocol Storage 48h at 2-8°C
5	Vegetables	Frozen green peas	<i>Listeria seeligeri</i> Ad1754	Zucchini	Seeding protocol Storage 2 weeks at - 20°C
6	Fishery and seafood products	Smoked salmon	<i>Listeria monocytogenes</i> Ad670	Smoked salmon	Seeding protocol Storage 48h at 2-8°C

3.2.2.2 Calculation and interpretation of the RLOD

The raw data are given in **Appendix 9**.

The RLOD calculations were performed using the Excel spreadsheet available at <http://standards.iso.org/iso/16140> - RLOD version 4 (2024-01-10). The RLOD are given in Tables 60 to 64.

Four samples gave positive PCR results with negative confirmation for the frozen green peas matrix (1 for the blank samples and 3 for the low inoculation level). An interpretation before and after confirmation are presented below. The positives are suspected to be due to free DNA in the sample due to the nature of the product (Frozen).

Table 60 – Presentation of RLOD before and after confirmation of the alternative method results - CFX96 DW - Without FDRS

Category		Matrix / strain pair	AL	RLOD [95% confidence limit]
1	Composite food	Piemontaise / <i>Listeria innocua</i> Ad3269	2.5	1.107 [0.565; 2.1673]
2	Production environmental samples	Process water / <i>Listeria monocytogenes</i> Ad2503		1.861 [0.892; 3.882]
3	Dairy products	Raw ewe milk cheese / <i>Listeria ivanovii</i> Ad991		1.000 [0.493; 2.030]
Combined				1.260 [0.940; 1.690]

**Table 61 – Presentation of RLOD before and after confirmation
of the alternative method results - CFX96 DW - With FDRS**

Category		Matrix / strain pair	AL	RLOD [95% confidence limit]
1	Composite food	Piemontaise / <i>Listeria innocua</i> Ad3269	2.5	1.107 [0.565; 2.1673]
2	Production environmental samples	Process water / <i>Listeria monocytogenes</i> Ad2503		1.861 [0.892; 3.882]
3	Dairy products	Raw ewe milk cheese / <i>Listeria ivanovii</i> Ad991		0.886 [0.447; 1.756]
Combined				1.218 [0.817; 1.814]

**Table 62 – Presentation of RLOD before confirmation
of the alternative method results – Opus DW - Without FDRS**

Category		Matrix / strain pair	AL	RLOD [95% confidence limit]
1	Composite food	Piemontaise / <i>Listeria innocua</i> Ad3269	2.5	1.107 [0.565; 2.1673]
2	Production environmental samples	Process water / <i>Listeria monocytogenes</i> Ad2503		1.861 [0.892; 3.882]
3	Dairy products	Raw ewe milk cheese / <i>Listeria ivanovii</i> Ad991		1.000 [0.493; 2.030]
4	Meat and poultry products	Rillettes / <i>Listeria monocytogenes</i> Ad669		1.104 [0.551; 2.213]
5	Vegetables	Frozen green peas / <i>Listeria seeligeri</i> Ad1754		0.803 [0.383; 1.686]
6	Fishery and seafood products	Smoked salmon / <i>Listeria monocytogenes</i> Ad670		1.743 [0.771; 3.941]
Combined				1.260 [0.940; 1.690]

**Table 63 – Presentation of RLOD after confirmation
of the alternative method results – Opus DW- Without FDRS**

Category		Matrix / strain pair	AL	RLOD [95% confidence limit]
1	Composite food	Piemontaise / <i>Listeria innocua</i> Ad3269	2.5	1.107 [0.565; 2.1673]
2	Production environmental samples	Process water / <i>Listeria monocytogenes</i> Ad2503		1.861 [0.892; 3.882]
3	Dairy products	Raw ewe milk cheese / <i>Listeria ivanovii</i> Ad991		1.000 [0.493; 2.030]
4	Meat and poultry products	Rillettes / <i>Listeria monocytogenes</i> Ad669		1.104 [0.551; 2.213]
5	Vegetables	Frozen green peas / <i>Listeria seeligeri</i> Ad1754		1.094 [0.504; 2.373]
6	Fishery and seafood products	Smoked salmon / <i>Listeria monocytogenes</i> Ad670		1.743 [0.771; 3.941]
Combined				1.260 [0.940; 1.690]

**Table 64 – Presentation of RLOD before and after confirmation
of the alternative method results - Opus DW- With FDRS**

Category		Matrix / strain pair	AL	RLOD [95% confidence limit]
1	Composite food	Piemontaise / <i>Listeria innocua</i> Ad3269	2.5	1.107 [0.565; 2.1673]
2	Production environmental samples	Process water / <i>Listeria monocytogenes</i> Ad2503		1.861 [0.892; 3.882]
3	Dairy products	Raw ewe milk cheese / <i>Listeria ivanovii</i> Ad991		0.886 [0.447; 1.756]
Combined				1.218 [0.817; 1.814]

The LOD₅₀ calculations were done using the Excel spreadsheet available at <http://standards.iso.org/iso/16140> POD-LOD calculation program - version 12, 2024-03-05. The tests are given in Table 65.

Table 65 – LOD₅₀ results

Category		Food item	Strain	Level of detection at 50% (CFU / sample size)				
				Reference method	Alternative method			
					CFX96 DW		CFX Opus DW	
					Without FDRS	With FDRS	Without FDRS	With FDRS
1	Composite foods	Piemontaise	<i>Listeria innocua</i> Ad3269	0.5 [0.3; 0.9]	0.6 [0.3; 1.0]	0.6 [0.3; 1.0]	0.6 [0.3-1.0]	0.6 [0.3-1.0]
2	Production environmental samples	Process water	<i>Listeria monocytogenes</i> Ad2503	0.5 [0.3; 0.8]	1.1 [0.6; 2.0]	1.1 [0.6; 2.0]	1.1 [0.6-2.0]	1.1 [0.6-2.0]
3	Dairy products	Raw ewe milk cheese	<i>Listeria ivanovii</i> Ad1737	1.1 [0.7; 1.9]	1.1 [0.7; 1.9]	1.0 [0.6; 1.6]	1.1 [0.7-1.9]	1.0 [0.6-1.6]
4	Meat and poultry products	Pâté (Rillettes)	<i>Listeria monocytogenes</i> Ad669	0.5 [0.3; 0.9]	/	/	0.6 [0.3;1.0]	/
5	Vegetables	Frozen green peas	<i>Listeria seeligeri</i> Ad1754	0.8 [0.4; 1.4]	/	/	0.8 [0.5; 1.5]	/
6	Fishery and seafood products	Smoked salmon	<i>Listeria monocytogenes</i> Ad670	0.7 (0.4; 1.3]	/	/	1.4 [0.7; 2.6]	/
Combined				0.7 [0.5-0.9]	0.9 [0.7-1.3]	0.9 [0.6-1.2]	0.9 [0.7; 1.1]	0.9 [0.6-1.2]

The RLOD values using the confirmed alternative method results meet the acceptability limit of 2.5 for unpaired studies, for all matrix/strain pairs tested.

The combined LOD₅₀ is 0.7 CFU/test portion for the reference method and 0.9 CFU /test portion for the alternative method (without FDRS, using the CFX Opus Deep Well).

4 INTER-LABORATORY STUDY

The aim of the inter-Laboratory study is to determine the variability of the results obtained in different laboratories using identical samples and to compare these results with those obtained in the methods comparison study.

The inter-laboratory study was carried out in April 2007. Pasteurized milk was contaminated with *Listeria innocua* (L4) isolated from a raw milk cheese. **The results were interpreted according to the ISO 16140-2 and ISO 16140-2/A1.**

4.1 Study organisation

The study was carried out on pasteurized milk. The samples were inoculated with *Listeria innocua* L64 isolated from raw milk cheese. 13 collaborators were involved in the study.

Samples were inoculated individually. Each collaborator received:

- 24 samples for analysis with the reference method
- 24 samples for analysis with the alternative method using the Easy II extraction protocol (protocol 2)
- 1 sample for aerobic mesophilic microflora enumeration.

4.2 Experimental parameters controls

4.2.1 Strain stability and background microflora stability

Strain stability was checked by inoculating the matrix at 3 CFU/25 ml and 30 CFU/25 ml. Enumerations were performed for the high contamination level and detection analyses were performed for the low contamination level after 24 h and 48 h storage at $5 \pm 3^{\circ}\text{C}$. The results are given in Table 66.

Table 66 - Sample stability

Day	Reference method (detection)	Alternative method (detection)	Enumeration CFU/25 ml)
Day 0	-	-	34
Day 1	+	+	25
Day 2	+	+	33

No evolution was observed during storage at $5^{\circ}\text{C} \pm 3^{\circ}\text{C}$.

4.2.2 Contamination levels

The contamination levels and the sample codification were the following (see Table 67).

Table 67 - Contamination levels

Level	Samples	Theoretical target level (b/25 ml)	True level (b/25 ml sample)	Low limit / 25 ml sample	High limit / 25 ml sample
0	1 – 2 – 3 – 10 – 11 – 12 – 19 – 20	0	0	/	/
1	4 – 5 – 6 – 13 – 14 – 15 – 21 – 22	3	3.7	0.8	10.7
2	7 – 8 – 9 – 16 – 17 – 18 – 23 – 24	30	34.0	24.0	47.0

4.2.3 Logistic conditions

Temperature conditions are given in Table 68.

Table 68 - Sample temperatures at receipt

Collaborators	Temperature measured by the probe (°C)	Temperature measured at receipt (°C)
A	4.1	5.8
B	12.1	0.3
C	4.6	5.7
D	3.7	6.6
E	4.7	Not communicated
F	4.2	6.0
G	3.6	15.5
H	3.3	Not communicated
I	4.2	5.5
J	2.1	7.4
K	4.2	5.5
L	11.2	15.0
M	3.3	2.3

Labs B and L received their samples at Day 2. The temperatures at receipt were above 8°C. These Labs performed the analyses, but their results were not taken into account for interpretation.

4.3 Results analysis

The raw data are given in **Appendix 10**.

4.3.1 Expert laboratory results

The results obtained by the expert laboratory are given in Table 69.

Table 69 – Results obtained by the expert Lab.

Level	Reference method	Alternative method
L0	0/8	0/8
L1	7/8	7/8
L2	8/8	8/8

4.3.2 Results observed by the collaborative laboratories

> **Aerobic mesophilic flora enumeration**

Depending on the Lab results, the enumeration levels varied from < 1 CFU/ml to 31 CFU/ml.

> **Listeria spp. detection**

13 collaborators participated to the study. The results obtained are provided in Table 70 (reference method) and Table 71 (alternative method).

**Table 70 - Positive results by the reference method
(ALL the collaborators)**

Collaborators	Contamination level		
	L0	L1	L2
A	0	8	8
B	0	6	8
C	0	8	8
D	0	8	8
E	0	7	8
F	0	8	8
G	0	8	8
H	0	8	8
I	0	8	8
J	0	8	8
K	0	8	8
L	0	7	8
M	0	8	8
Total	P₀ = 0	P₁ = 100	P₂ = 104

**Table 71 - Positive results (before and after confirmation)
by the alternative method (ALL the collaborators)**

Collaborators	Contamination level								
	L0			L1			L2		
	PCR result	Confirmation result	Final result	PCR result	Confirmation result	Final result	PCR result	Confirmation result	Final result
A	1	0	0	8	8	8	8	8	8
B	2	0	0	6	6	6	8	8	8
C	0	0	0	8	8	8	8	8	8
D	0	0	0	8	8	8	8	8	8
E	0	0	0	8	8	8	8	8	8
F	0	0	0	8	8	8	8	8	8
G	0	0	0	8	8	8	8	8	8
H	0	0	0	8	8	8	8	8	8
I	0	0	0	8	8	8	8	8	8
J	6	0	0	8	8	8	8	8	8
K	0	0	0	7	7	7	8	8	8
L	0	0	0	8	8	8	8	8	8
M	0	0	0	8	8	8	8	8	8
Total	P₀ = 9	C₀ = 0	CP₀ = 0	P₁ = 101	C₁ = 101	CP₁ = 101	P₂ = 104	C₂ = 104	CP₂ = 104

According to the AFNOR technical rules, it is possible to include the results from a collaborator with maximum one cross contamination at Level 0. For this study, this rule was applied and the results from Lab J were excluded for interpretation (6 unspiked samples with positive PCR results not confirmed). Lab B also obtained 2 unspiked samples with positive PCR results not confirmed by cultural method but this Lab is also excluded for samples receipt at 12.1°C.

4.3.3 Results of the collaborators retained for interpretation

The results obtained with the 10 labs kept for interpretation are presented in Table 72 (reference method) and Table 73 (alternative method).

**Table 72 - Positive results by the reference method
(Without Labs B, J and L)**

Collaborators	Contamination level		
	L0	L1	L2
A	0	8	8
C	0	8	8
D	0	8	8
E	0	7	8
F	0	8	8
G	0	8	8
H	0	8	8
I	0	8	8
K	0	8	8
M	0	8	8
Total	P₀ = 0	P₁ = 79	P₂ = 80

**Table 73 - Positive results (before and after confirmation)
by the alternative method (Without Labs B, J and L)**

Collaborators	Contamination level								
	L0			L1			L2		
	PCR result	Confirmation result	Final result	PCR result	Confirmation result	Final result	PCR result	Confirmation result	Final result
A	1	0	0	8	8	8	8	8	8
C	0	0	0	8	8	8	8	8	8
D	0	0	0	8	8	8	8	8	8
E	0	0	0	8	8	8	8	8	8
F	0	0	0	8	8	8	8	8	8
G	0	0	0	8	8	8	8	8	8
H	0	0	0	8	8	8	8	8	8
I	0	0	0	8	8	8	8	8	8
K	0	0	0	7	7	7	8	8	8
M	0	0	0	8	8	8	8	8	8
Total	P₀ = 1	C₀ = 0	CP₀ = 0	P₁ = 79	C₁ = 79	CP₁ = 79	P₂ = 80	C₂ = 80	CP₂ = 80

4.4 Calculation and interpretation

4.4.1 Calculation of the specificity percentage (SP)

The percentage specificities (SP) of the reference method and of the alternative method, using the data after confirmation, based on the results of level L0 are the following (See Table 74).

Table 74 - Percentage specificity

Specificity for the reference method	$SP_{ref} = \left(1 - \left(\frac{P_0}{N_-} \right) \right) \times 100 \% =$	100 %
Specificity for the alternative method	$SP_{alt} = \left(1 - \left(\frac{CP_0}{N_-} \right) \right) \times 100 \% =$	100 %

N: number of all L0 tests

P_0 = total number of false-positive results obtained with the blank samples before confirmation

CP_0 = total number of false-positive results obtained with the blank samples

4.4.2 Calculation of the sensitivity (SE_{alt}), the sensitivity for the reference method (SE_{ref}), the relative trueness (RT), the false positive ratio for the alternative method (FPR) and the false negative ratio for the alternative method (FNR)

In this study, the fractional recovery criteria were not met (between 25 to 75% of positive results to be considered fractional). However, in the absence of other alternative, the level 1 was retained for calculation.

A summary of the results of the collaborators retained for interpretation, and obtained with the reference and the alternative methods for Level 1 is provided in Table 75.

Table 75 - Summary of the obtained results with the reference method and the alternative method for Level L1

Level	Response	Reference method positive (R+)	Reference method negative (R-)
L1	Alternative method positive (A+)	Positive Agreement (A+/R+) PA = 78	Positive Deviation (R-/A+) PD = 1
	Alternative method negative (A-)	Total Negative Deviation (A-/R+) TND = 1 (0 ND_{FN(alt)}, 0 PA_{FP(alt)})	Total Negative Agreement (A-/R-) TNA = 0

Based on the data summarized in Table 75, the values of sensitivity of the alternative and reference methods, as well as the relative trueness, false positive ratio and false negative ratio for the alternative method taking account the confirmations, are the following (See Table 76).

Table 76 - Sensitivity, relative trueness, false positive ratio percentages and false negative ratio

		Level 1
Sensitivity for the alternative method	$SE_{alt} = \frac{(PA + PD)}{(PA + TND + PD)} \times 100 \%$	98.8 %
Sensitivity for the reference method	$SE_{ref} = \frac{(PA + TND)}{(PA + TND + PD)} \times 100 \%$	98.8 %
Relative trueness	$RT = \frac{(PA + TNA)}{N} \times 100 \%$	97.5 %
False positive ratio for the alternative method	$FPR = \frac{PA_{FP(alt)} + PD_{FP(alt)}}{TNA} \times 100 \%$	/
False negative ratio for the alternative method	$FNR = \frac{NA_{FN(alt)} + ND_{FN(alt)}}{PA + TND + PD}$	0.000

4.4.3 Interpretation of data

One negative deviation was observed for Lab K (sample 13); no typical colony was observed on RAPID'*Listeria* spp. plates for this sample.

For an **unpaired study design**, the difference between (TND – PD) is calculated for the level(s) where fractional recovery is obtained (so L_1 and possibly L_2). The observed value found for (TND – PD) shall not be higher than the AL. The AL is defined as $[(TND - PD)_{max}]$ and calculated per level where fractional recovery is obtained as described below using the following three parameters:

$$(p+)_{ref} = \frac{P_{x(ref)}}{N_{x(ref)}}$$

where

$P_{x(ref)}$ = is number of samples with a positive result obtained with the reference method at level x (L_1 or L_2) for all laboratories

$N_{x(ref)}$ = is number of samples tested at level x (L_1 or L_2) with the reference method by all laboratories

$$(p+)_{alt} = \frac{CP_{x(alt)}}{N_{x(alt)}}$$

where

$CP_{x(alt)}$ = is number of samples with a confirmed positive result obtained with the alternative method at level x (L_1 or L_2) for all laboratories

$N_{x(alt)}$ = is number of samples tested at level x (L_1 or L_2) with the alternative method by all laboratories

$$(TND - PD)_{max} = \sqrt{3N_{x(ref)} \times ((p+)_{ref} + (p+)_{alt} - 2((p+)_{ref} \times (p+)_{alt}))}$$

where

$N_{x(ref)}$ = is number of samples tested for level x (L_1 or L_2) with the reference method by all laboratories.

The calculations are the following for 10 labs, according to the ISO 16140-2:

N_x	88
$(p+)_{ref}$	1.0
$(p+)_{alt}$	1.0
AL = (ND - PD) max	2.43
TND - PD	0
Conclusion	TND-PD < AL

The ISO 16140-2 requirements are fulfilled as (TND - PD) meet the AL.

There is indeed no difference between the sensitivity of the compared methods, and the alternative method complies with the reproducibility conditions.

4.4.4 Evaluation of the $LOD_{50\%}$ and RLOD between laboratories

The $LOD_{50\%}$ was calculated using the Excel spreadsheet available at https://standards.iso.org/iso/16140/-2/ed-1/en/amd/1/PODLOD-interlab_ver2.xlsm.

The RLOD is the ratio of LODs of the alternative method and of the reference method calculated as follows: $RLOD = LOD_{p;alt} / LOD_{p;ref}$.

Table 77 - $LOD_{50\%}$ and RLOD

Method	$LOD_{50\%}$	RLOD
Reference	0.695 [0.453;1.067]	1.00
Alternative	0.695 [0.453;1.067]	

5 CONCLUSION

The **method comparison study conclusions** are:

For the initial validation study and extension/renewal studies - LSB protocol

- ☒ In the sensitivity study, 6 categories were tested: 5 food categories and the environmental samples. The TND - PD meet the acceptability limits (AL) for each of the individual category, and as well for the 6 tested categories whatever the combination of protocols tested.
- ☒ The number of positive presumptive non-confirmed samples (PPNA) was significantly reduced by applying the FDRS protocol prior the Easy II lysis extraction protocol for the environmental samples.
- ☒ It is possible to store the LSB enriched samples for 72 h at $5 \pm 3^{\circ}\text{C}$ before proceeding to PCR test and confirmation.
- ☒ The Relative Levels of Detection (RLOD) are all below the AL fixed at 2.5 for the unpaired data study whatever the matrix/strain pairs.
- ☒ The inclusivity and exclusivity testing gave the expected results for the 51 target strains and the 32 non-target strains tested in 2005 and 2006 with the Standard II and the Easy II protocols as well as for the 50 non-target strains tested for the extension study performed in 2019 (LSB 22h $\pm$ 4h at 37°C , with or without FDRS).
- ☒ The alternative method allows a one-day screening of the negative samples.
- ☒ The alternative method fulfils all the ISO 16140-2, the ISO 16140-2/A1 and AFNOR technical rules.

For the extension studies for the use of LSB II medium (2023 and 2024)

- ☒ The extension study scheme corresponds to an UNPAIRED study design as the alternative and reference methods have different enrichment procedure.
- ☒ In the sensitivity study, combining all the studies, 6 categories were tested using the LSBII broth: five food categories and the production environmental samples.

- ☒ The calculated values for TND - PD meet the acceptability limits (AL) for each of the individual category, and as well for the 6 combined categories for the protocol tested (without FDRS, CFX Opus Deep Well).
- ☒ It is possible to store the LSB II enriched samples for 72 h at 5°C± 3°C before proceeding to PCR test and confirmation.
- ☒ The Relative Levels of Detection (RLOD) meet the AL fixed at 2.5 for the unpaired data study whatever the matrix/strain pairs tested.
- ☒ The alternative method fulfils all the ISO 16140-2, the ISO 16140-2/A1 and AFNOR technical rules.

The **inter-laboratory study conclusions** are:

- ☒ Despite the absence of fractional recovery level, the data and interpretations comply with the ISO 16140-2 and ISO 16140-2/A1 requirements. **The iQ-Check *Listeria* spp. method is considered equivalent to the ISO standard.**

Quimper, 04 September 2025

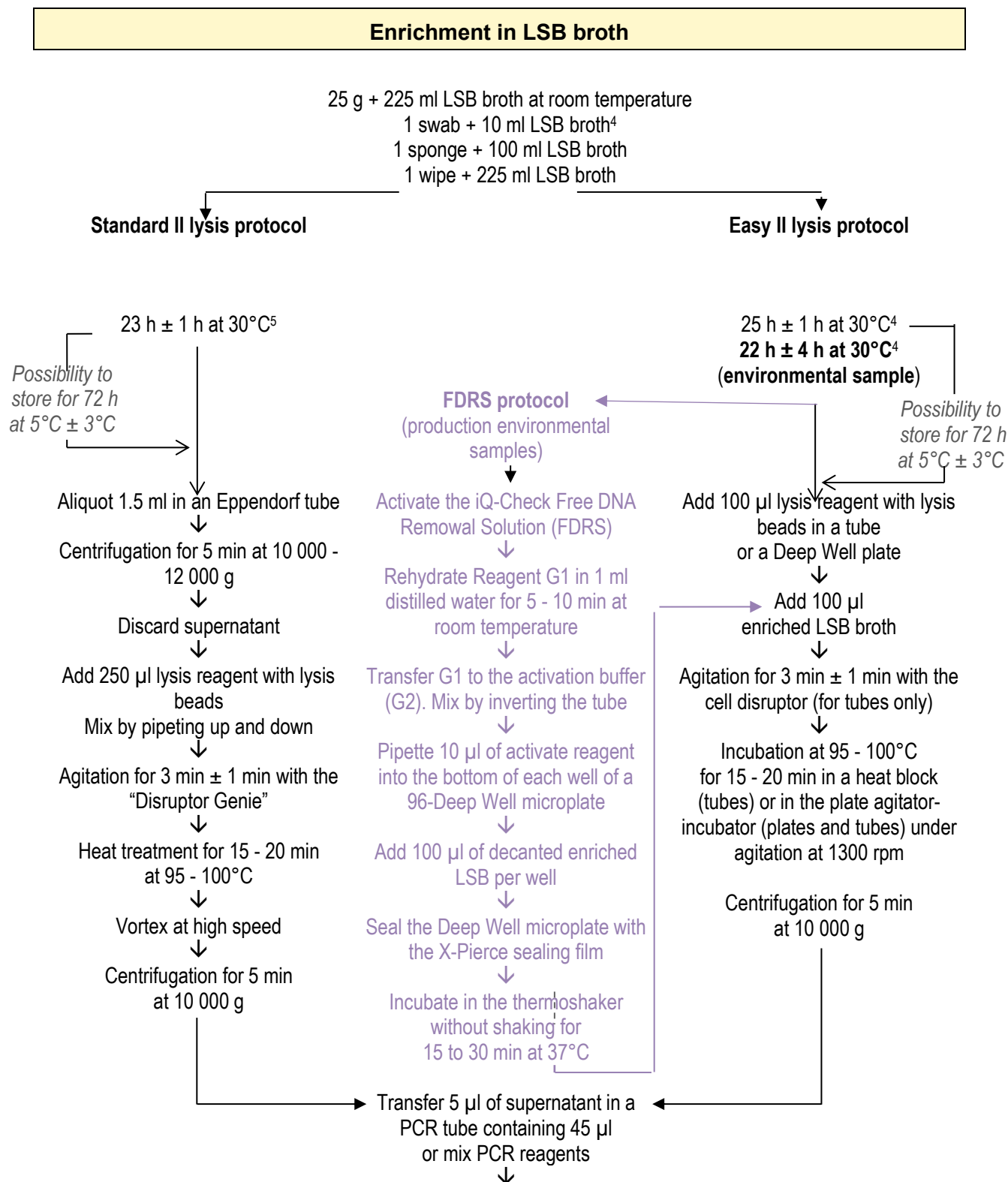
Astrid CARIOU

Manager

Method performance in food microbiology

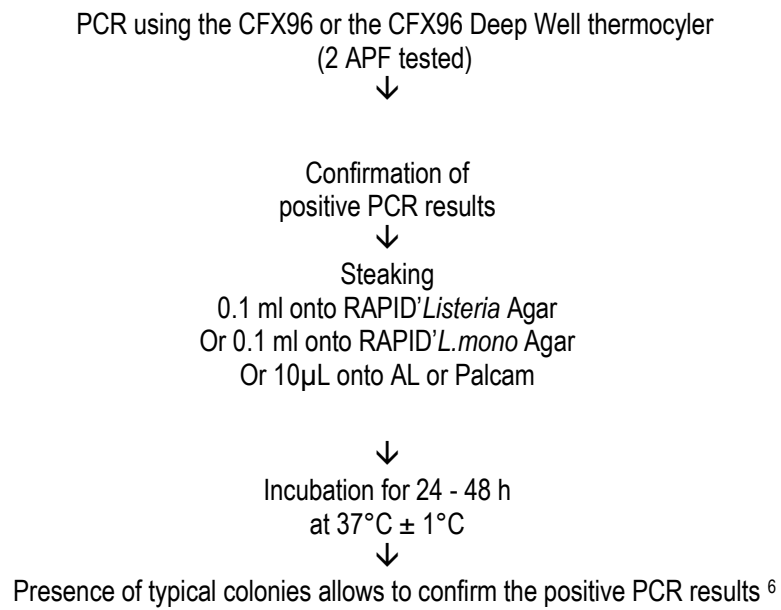
I hereby attest to the validation of the verification of the conformity of the report (opinion and interpretation).

Appendix 1 – Flow diagrams of the alternative method: iQ-Check® *Listeria* spp.



- ⁴ For sampling after cleaning process pre-moisten
- 1 swab + 1 ml broth universal neutralizing (+ 9 ml LSB)
 - 1 sponge + 10 ml broth universal neutralizing (+ 90 ml LSB)
 - 1 wipe + BPW + 10 % neutralizing agent (+ 225 ml LSB)

- ⁵ During the validation study a subculture in Fraser broth for 24h at 37°C was performed before streaking onto O&A and Palcam plates for negative PCR samples



⁶ During the validation study, the typical colonies were confirmed using the tests described in the reference method (Catalase, Gram) and 1 or 2 colonies were identified using mini-biochemical galleries.

Enrichment in LSB II broth

For food products:

25 g + 225 ml LSB II broth at room temperature (composite food)
or prewarmed 37°C (Dairy products, meat and poultry products, vegetables, fishery and seafood products)

For environmental samples:

25 g + 225 ml LSB II broth at room temperature
1 swab + 10 ml LSB II broth⁷ at room temperature
1 sponge + 100 ml LSB II broth at room temperature
1 wipe + 225 ml LSB II broth at room temperature

↓
Incubation 18 - 26 h at 37°C ± 1°C

*Possibility to store the enriched samples
for 72 h at 5 ± 3°C*

FDRS protocol (optional)

Rehydrate Reagent G1 in 1 ml distilled water
for 5 - 10 min at room temperature
↓
Transfer G1 to the activation buffer (G2).
Mix by inverting the tube
↓
Pipette 10 µl of activate reagent into the bottom of each
well of a 96-Deep Well microplate
↓
Add 100 µl of decanted enriched LSB II per well
↓
Seal the Deep Well microplate with the X-Pierce sealing
film
↓
Incubate in the thermoshaker without shaking for
15 to 30 min at 37°C

Easy II protocol:

Add 100 µl lysis reagent with lysis beads in a tube
or a Deep Well plate
↓
Add 100 µL of decanted enriched LSB II or 100 µL
FDRS treated sample
↓
Agitation for 3 min ± 1 min with the cell disruptor
(for tubes only)
↓
Incubation at 95 - 100°C
for 15 - 20 min in a heat block (tubes) or in the plate
agitator-incubator (plates and tubes) under agitation
at 1300 rpm
↓
Centrifugation for 5 min
at 10 000 g

↓
Transfer 5 µl of supernatant in a PCR tube
containing 45 µl of mix PCR reagents

↓
PCR using the CFX96 Deep Well or the CFX OPUS Deep Well thermocycler
(APF Fast tested)

↓
Confirmation of
positive PCR results

Alternative method protocol:

0.1 ml onto Agar *Listeria*, RAPID'*Listeria* Agar, and RAPID'*L.mono* Agar
Incubation 24 h at 37 ± 1°C

⁷ For sampling after cleaning process pre-moisten

- 1 swab + 1 ml broth universal neutralizing (+ 9 ml LSB)
- 1 sponge + 10 ml broth universal neutralizing (+ 90 ml LSB)
- 1 wipe + BPW + 10 % neutralizing agent (+ 225 ml LSB)

Reference method protocol:

10 µl onto O&A (AL) and Palcam
Incubation for 24 - 48 h at $37 \pm 1^\circ\text{C}$

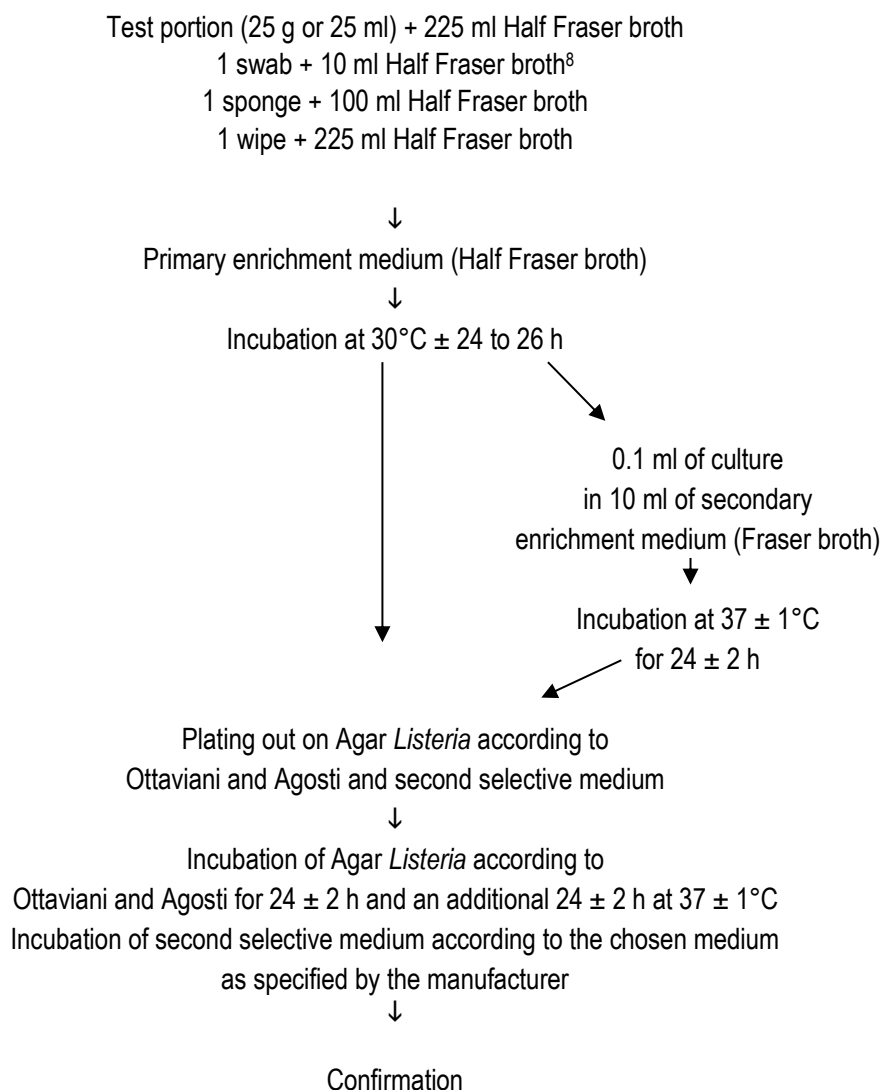


Presence of typical colonies allows to confirm the positive PCR results
for the alternative confirmation protocol

For the reference method protocol, the typical colonies are confirmed
using the tests described in the ISO method*

*** During the validation the colonies were also tested by biochemical gallery for identification**

Appendix 2 - Flow diagram of the reference method: ISO 11290-1 (2017) Microbiology of the food chain - Horizontal method for the detection and enumeration of *Listeria monocytogenes* and of *Listeria* spp.- Part 1: detection method



Target	Gram	Catalase	Beta hemolysis	CAMP test	Carbohydrates
<i>Listeria</i> spp	x	x			

⁸ For sampling after cleaning process pre-moisten

- 1 swab + 1 ml broth universal neutralizing (+ 9 ml Half-Fraser)
- 1 sponge + 10 ml broth universal neutralizing (+ 90 ml Half-Fraser)
- 1 wipe + BPW + 10 % neutralizing agent (+ 225 ml Half-Fraser)

**Appendix 3 – Artificial contamination of the samples (initial validation study, IPL, ISHA
and extension/renewal, ADRIA)**

Validation study (IPL)								
Code	Nom	Artificial contamination						Final result
		Strain			Injury applied	Injury evaluation	CFU/sample	
		Reference	Nom	Origin				
O23	Goat cheese	L7	<i>Listeria monocytogenes</i> ½ a	Cheese rind	45 minutes at 50°C, 30 minutes at -80°C	0.4	5.4	+
O27	Raw milk	L7	<i>Listeria monocytogenes</i> ½ a	Cheese rind	45 minutes at 50°C, 30 minutes at -80°C	0.4	10.8	+
O28	Raw milk	L7	<i>Listeria monocytogenes</i> ½ a	Cheese rind	45 minutes at 50°C, 30 minutes at -80°C	0.4	13.5	+
P9	Vegetables mix	L47	<i>Listeria monocytogenes</i> ½ a	Roasted apples	45 minutes at 50°C, 30 minutes at -80°C	2.1	16.0	+
P10	Cali flower and broccoli purée	L47	<i>Listeria monocytogenes</i> ½ a	Roasted apples	45 minutes at 50°C, 30 minutes at -80°C	2.1	16.0	+
P20	Pasteurized milk cheese	L37	<i>Listeria monocytogenes</i> ½ b	Raw milk cheese	45 minutes at 50°C, 30 minutes at -80°C	0.5	6.0	+
P21	Goat cheese	L37	<i>Listeria monocytogenes</i> ½ b	Raw milk cheese	45 minutes at 50°C, 30 minutes at -80°C	0.5	9.0	+
Q1	Vegetables mix	L58	<i>Listeria monocytogenes</i> 4 b	Salad	45 minutes at 50°C, 30 minutes at -80°C	1.2	10.0	+
Q6	Cauliflower gratin	L125	<i>Listeria monocytogenes</i>	Vegetables pan fried	45 minutes at 50°C, 30 minutes at -80°C	ND	3.9	+
Q7	Grated carrots	L125	<i>Listeria monocytogenes</i>	Vegetables pan fried	45 minutes at 50°C, 30 minutes at -80°C	ND	5.2	+
Q8	Vegetables pan fried	L125	<i>Listeria monocytogenes</i>	Vegetables pan fried	45 minutes at 50°C, 30 minutes at -80°C	ND	6.5	+
Q9	Goat cheese	L51	<i>Listeria monocytogenes</i> ½ b	Cheese	45 minutes at 50°C, 30 minutes at -80°C	0.4	8.8	+
Q13	Chocolate ice cream	L63	<i>Listeria monocytogenes</i> 4 e	Cheese rind	45 minutes at 50°C, 30 minutes at -80°C	1.1	3.6	+
Q15	Raw milk cheese	L63	<i>Listeria monocytogenes</i> 4 e	Cheese rind	45 minutes at 50°C, 30 minutes at -80°C	1.1	5.4	+
Q24	Raw milk cheese	L63	<i>Listeria monocytogenes</i> 4 e	Cheese rind	45 minutes at 50°C, 30 minutes at -80°C	1.1	7;2	+
C2	Cheese	L7	<i>Listeria monocytogenes</i> ½ a	Cheese rind	45 minutes at 50°C, 30 minutes at -80°C	1.2	8.0	-
C10	Raw milk	L9	<i>Listeria monocytogenes</i> ½ a	Cheese rind	45 minutes at 50°C, 30 minutes at -80°C	0.9	8.3	+
E1	Cheese	L11	<i>Listeria monocytogenes</i> ½ a	Cheese rind	30 minutes at 55°C, 30 minutes at -80°C	0.6	3.7	+
E2	Cheese	L11	<i>Listeria monocytogenes</i> ½ a	Cheese rind	30 minutes at 55°C, 30 minutes at -80°C	0.6	5.8	+
E3	Raw milk cheese	L11	<i>Listeria monocytogenes</i> ½ a	Cheese rind	30 minutes at 55°C, 30 minutes at -80°C	0.6	4.4	+
E4	Raw milk cheese	L11	<i>Listeria monocytogenes</i> ½ a	Cheese rind	30 minutes at 55°C, 30 minutes at -80°C	0.6	5.9	+
E6	Goat cheese	L37	<i>Listeria monocytogenes</i> ½ b	Raw milk cheese	30 minutes at 55°C, 30 minutes at -80°C	1.2	7.8	+
E7	Fruited cheese	L37	<i>Listeria monocytogenes</i> ½ b	Raw milk cheese	30 minutes at 55°C, 30 minutes at -80°C	1.2	9.1	+

Validation study (IPL)								
Code	Nom	Artificial contamination						Final result
		Strain			Injury applied	Injury evaluation	CFU/sample	
		Reference	Nom	Origin				
E8	Pastry	L37	<i>Listeria monocytogenes</i> ½ b	Raw milk cheese	30 minutes at 55°C, 30 minutes at -80°C	1.2	6.5	+
E18	Smoked salmon	L5	<i>Listeria monocytogenes</i> ½ a	Smoked salmon	30 minutes at 55°C, 30 minutes at -80°C	0.5	8.4	+
E19	Smoked salmon	L5	<i>Listeria monocytogenes</i> ½ a	Smoked salmon	30 minutes at 55°C, 30 minutes at -80°C	0.5	9.8	+
F2	Prawns	L12	<i>Listeria monocytogenes</i> ½ a	Smoked salmon	45 minutes at 50°C, 30 minutes at -80°C	0.6	7.5	+
F3	Prawns	L20	<i>Listeria monocytogenes</i> ½	Smoked salmon	45 minutes at 50°C, 30 minutes at -80°C	>1.0	10.0	+
F4	Crab	L12	<i>Listeria monocytogenes</i> ½ a	Smoked salmon	45 minutes at 50°C, 30 minutes at -80°C	0.6	9.0	+
F25	Fish fillet	L70	<i>Listeria monocytogenes</i>	Salmon	45 minutes at 50°C, 30 minutes at -80°C	1.0	14.0	+
F26	Fish fillet	L70	<i>Listeria monocytogenes</i>	Salmon	45 minutes at 50°C, 30 minutes at -80°C	1.0	16.0	+
H16	Smoked salmon	L12	<i>Listeria monocytogenes</i> ½ a	Smoked salmon	30 minutes at 55°C, 30 minutes at -80°C	0.5	9.0	+
H17	Smoked salmon	L12	<i>Listeria monocytogenes</i> ½ a	Smoked salmon	30 minutes at 55°C, 30 minutes at -80°C	0.5	10.5	+
F7	Celeriac	L47	<i>Listeria monocytogenes</i> ½ a	Roasted apples	45 minutes at 50°C, 30 minutes at -80°C	1.5	15.0	+
C11	Dirty water	L7	<i>Listeria monocytogenes</i> ½ a	Cheese rind	45 minutes at 50°C, 30 minutes at -80°C	1.2	6.3	+
C12	Dirty water	L9	<i>Listeria monocytogenes</i> ½ a	Cheese rind	45 minutes at 50°C, 30 minutes at -80°C	0.9	7.5	+
F9	New water	L18	<i>Listeria monocytogenes</i> ½ c	Cheese rind	45 minutes at 50°C, 30 minutes at -80°C	1.0	10.0	+
F10	Ice-cold water	L20	<i>Listeria monocytogenes</i> ½	Smoked salmon	45 minutes at 50°C, 30 minutes at -80°C	>1.0	10.0	+
F11	Sugared water	L62	<i>Listeria monocytogenes</i> 4 e	Cheese	45 minutes at 50°C, 30 minutes at -80°C	0.3	10.0	+
F17	Residues (seafood industry)	L12	<i>Listeria monocytogenes</i> ½ a	Smoked salmon	45 minutes at 50°C, 30 minutes at -80°C	0.6	10.5	+
F19	Residues (delicatessen industry)	L31	<i>Listeria monocytogenes</i> ½	Parsley	45 minutes at 50°C, 30 minutes at -80°C	0,3	48.0	-
F21	Residues (seafood industry)	L70	<i>Listeria monocytogenes</i>	Salmon	45 minutes at 50°C, 30 minutes at -80°C	1.0	10.0	+
H11	Water	L40	<i>Listeria monocytogenes</i> ½ a	Cheese rind	30 minutes at 55°C, 30 minutes at -80°C	1.4	6.4	+
H12	Water	L40	<i>Listeria monocytogenes</i> ½ a	Cheese rind	30 minutes at 55°C, 30 minutes at -80°C	1.4	5.6	+
H13	Residues (seafood industry)	L12	<i>Listeria monocytogenes</i> ½ a	Smoked salmon	30 minutes at 55°C, 30 minutes at -80°C	0.5	13.5	+
H14	Residues (cheese industry)	L40	<i>Listeria monocytogenes</i> ½ a	Cheese rind	30 minutes at 55°C, 30 minutes at -80°C	1.4	4.8	+

Renewal study (ADRIA Développement, 2019)												
Date of analysis	Ref	Product (French name)	Product	Artificial contaminations					Global result APF CLASSIC		Category	Type
				Strain	Origin	Injury protocol	Inoculation level (CFU/sample)		Standard II lysis	Easy II lysis		
							Enumeration	Mean				
2019	1658	Piémontaise jambon	RTE salad (ham)	<i>L. monocytogenes</i> Ad2598 + <i>L. seeligeri</i> Ad1754	Salad+Zucchini	Seeding 48h 3°C±2°C	2-0-1-0-2+0-0-1-0-2	1.0+1.6	+	+	1	a
2019	1659	Trio chou jambon et comté	RTE salad (ham cabbage and cheese)	<i>L. monocytogenes</i> Ad2598 + <i>L. seeligeri</i> Ad1754	Salad+Zucchini	Seeding 48h 3°C±2°C	2-0-1-0-2+0-0-1-0-2	1.0+1.6	+	+	1	a
2019	1660	Pizza jambon fromage	RTRH Pizza (ham and cheese)	<i>L. monocytogenes</i> Ad669 + <i>L. innocua</i> Ad671	Rillettes+Baccon	Seeding 48h 3°C±2°C	0-0-1-0-1+1-1-0-0-0	0.4+0.4	+	+	1	b
2019	1661	Quiche lorraine	RTRH Quiche Lorraine	<i>L. monocytogenes</i> Ad669 + <i>L. innocua</i> Ad671	Rillettes+Baccon	Seeding 48h 3°C±2°C	0-0-1-0-1+1-1-0-0-0	0.4+0.4	+	+	1	b
2019	1662	Religieuse café	Pastry	<i>L. monocytogenes</i> Ad1195 + <i>L. innocua</i> Ad644	Omelette+Raw bread	Seeding 48h 3°C±2°C	1-0-1-0-1+0-2-1-0-0	0.6+0.6	+	+	1	c
2019	1663	Eclair vanille	Pastry	<i>L. monocytogenes</i> Ad1195 + <i>L. innocua</i> Ad644	Omelette+Raw bread	Seeding 48h 3°C±2°C	1-0-1-0-1+0-2-1-0-0	0.6+0.6	+	+	1	c
2019	1664	Pizza jambon fromage	RTRH Pizza (ham and cheese)	<i>L. monocytogenes</i> Ad1494	Sausage	Seeding 48h 3°C±2°C	2-0-1-3-1	1.4	+	+	1	b
2019	1665	Quiche lorraine	RTRH Quiche Lorraine	<i>L. monocytogenes</i> Ad1494	Sausage	Seeding 48h 3°C±2°C	2-0-1-3-1	1.4	+	+	1	b
2019	1666	Feuilletés tressés emmental jambon	RTRH (puff ham and cheese)	<i>L. monocytogenes</i> Ad669	Rillettes	Seeding 48h 3°C±2°C	2-0-4-0-2	1.6	+	+	1	b
2019	1667	Feuilletés tressés emmental jambon	RTRH (puff ham and cheese)	<i>L. monocytogenes</i> Ad1494	Sausage	Seeding 48h 3°C±2°C	2-0-1-3-1	1.4	+	+	1	b
2019	1668	Couscous poulet merguez	RTRH (Couscous)	<i>L. monocytogenes</i> Ad669	Rillettes	Seeding 48h 3°C±2°C	2-0-4-0-2	1.6	+	+	1	b
2019	1669	Couscous poulet merguez	RTRH (Couscous)	<i>L. monocytogenes</i> Ad1494	Sausage	Seeding 48h 3°C±2°C	2-0-1-3-1	1.4	+	+	1	b
2019	1670	Tortilla espagnole	Tortilla	<i>L. monocytogenes</i> Ad1195	Rillette	Seeding 48h 3°C±2°C	1-0-1-0-1	0.6	-	-	1	c
2019	1671	Tortilla fraiche	Tortilla	<i>L. innocua</i> Ad1277	Poultry environment	Seeding 48h 3°C±2°C	0-1-0-2-0	0.6	+	+	1	c

Renewal study (ADRIA Développement, 2019)												
Date of analysis	Ref	Product (French name)	Product	Artificial contaminations					Global result APF CLASSIC		Category	Type
				Strain	Origin	Injury protocol	Inoculation level (CFU/sample)		Standard II lysis	Easy II lysis		
							Enumeration	Mean				
2019	1672	Paris-Brest	Pastry	<i>L. monocytogenes</i> Ad1195	Rillettes	Seeding 48h 3°C±2°C	1-0-1-0-1	0.6	+	+	1	c
2019	1673	Piémontaise jambon	RTE salad (ham)	<i>L. monocytogenes</i> Ad2598	Salad	Seeding 48h 3°C±2°C	1-1-2-2-0	1.2	+	+	1	a
2019	1674	Trio chou jambon et comté	RTE salad (ham cabbage and cheese)	<i>L. monocytogenes</i> Ad2598	Salad	Seeding 48h 3°C±2°C	1-1-2-2-0	1.2	+	+	1	a
2019	1675	Sandwich jambon emmental	RTE sandwich (ham and cheese)	<i>L. monocytogenes</i> Ad1494	Sausage	Seeding 48h 3°C±2°C	2-0-1-3-1	1.4	+	+	1	a
2019	1676	Sandwich jambon beurre	RTE sandwich (ham and butter)	<i>L. monocytogenes</i> Ad1494	Sausage	Seeding 48h 3°C±2°C	2-0-1-3-1	1.4	+	+	1	a
2019	1677	Eclair vanille	Pastry	<i>L. monocytogenes</i> Ad1195	Omelette	Seeding 48h 3°C±2°C	4-0-1-3-1	1.8	+	+	1	c
2019	1678	Paris-Brest	Pastry	<i>L. monocytogenes</i> Ad1757	Eggs	Seeding 48h 3°C±2°C	4-0-3-9-1	3.4	+	+	1	c
2019	1679	Religieuse café	Pastry	<i>L. monocytogenes</i> Ad1757	Eggs	Seeding 48h 3°C±2°C	4-0-3-9-1	3.4	-	-	1	c
2019	1680	Tortilla espagnole	Tortilla	<i>L. monocytogenes</i> Ad1195	Omelette	Seeding 48h 3°C±2°C	4-0-1-3-1	1.8	+	+	1	c
2019	1681	Tortilla fraiche	Tortilla	<i>L. monocytogenes</i> Ad1757	Eggs	Seeding 48h 3°C±2°C	4-0-3-9-1	3.4	+	+	1	c
2019	3468	Rocamadour au lait cru	Raw milk cheese	<i>L. monocytogenes</i> Ad252 + <i>L. welshimeri</i> Ad1667	Dairy product +Raw milk cheese	Seeding 48h 3°C±2°C	0-0-1-2-0+1-2-0-1-1	0.6+1.0	+	+	3	a
2019	3469	Tomme Savoie au lait cru	Raw milk cheese	<i>L. monocytogenes</i> Ad252 + <i>L. welshimeri</i> Ad1667	Dairy product +Raw milk cheese	Seeding 48h 3°C±2°C	0-0-1-2-0+1-2-0-1-1	0.6+1.0	+	+	3	a
2019	3470	Abondance au lait cru	Raw milk cheese	<i>L. welshimeri</i> Ad1667	Raw milk cheese	Seeding 48h 3°C±2°C	0-2-3-2-2	1.8	+	+	3	a
2019	3471	Selles-sur-Cher au lait cru	Raw milk cheese	<i>L. welshimeri</i> Ad1667	Raw milk cheese	Seeding 48h 3°C±2°C	0-2-3-2-2	1.8	+	-	3	a

Renewal study (ADRIA Développement, 2019)												
Date of analysis	Ref	Product (French name)	Product	Artificial contaminations					Global result APF CLASSIC		Category	Type
				Strain	Origin	Injury protocol	Inoculation level (CFU/sample)		Standard II lysis	Easy II lysis		
							Enumeration	Mean				
2019	3472	Roquefort au lait cru	Raw milk cheese	<i>L. welshimeri</i> Ad1667	Raw milk cheese	Seeding 48h 3°C±2°C	0-2-3-2-2	1.8	-	-	3	a
2019	3473	Roquefort au lait cru	Raw milk cheese	<i>L. monocytogenes</i> Ad618 + <i>L. innocua</i> Ad654	Cheese + Dairy product	Seeding 48h 3°C±2°C	3-2-1-1-2+0-1-0-1-3	1.8+1.0	+	+	3	a
2019	3474	Neufchâtel au lait cru	Raw milk cheese	<i>L. innocua</i> Ad654	Dairy product	Seeding 48h 3°C±2°C	2-2-2-3-2	2.2	+	+	3	a
2019	3475	Neufchâtel au lait cru	Raw milk cheese	<i>L. monocytogenes</i> Ad618 + <i>L. innocua</i> Ad654	Cheese + Dairy product	Seeding 48h 3°C±2°C	3-2-1-1-2+0-1-0-1-3	1.8+1.0	+	+	3	a
2019	3476	Lait cru	Raw milk	<i>L. monocytogenes</i> Ad1781	Raw milk	Seeding 48h 3°C±2°C	1-2-4-1-2	2.0	+	+	3	b
2019	3477	Lait cru	Raw milk	<i>L. monocytogenes</i> Ad1781 + <i>L. innocua</i> Ad1787	Raw milk + Raw milk	Seeding 48h 3°C±2°C	1-0-1-1-1+2-0-2-0-4	0.8+1.6	+	+	3	b
2019	3478	Lait cru	Raw milk	<i>L. monocytogenes</i> Ad1781	Raw milk	Seeding 48h 3°C±2°C	1-2-4-1-2	2.0	+	+	3	b
2019	3479	Lait cru	Raw milk	<i>L. innocua</i> Ad654	Dairy product	Seeding 48h 3°C±2°C	2-2-2-3-2	2.2	+	+	3	b
2019	3480	Lait cru	Raw milk	<i>L. monocytogenes</i> Ad1781	Raw milk	Seeding 48h 3°C±2°C	1-2-4-1-2	2.0	+	+	3	b
2019	3481	Lait cru	Raw milk	<i>L. monocytogenes</i> Ad1781 + <i>L. innocua</i> Ad1787	Raw milk + Raw milk	Seeding 48h 3°C±2°C	1-0-1-1-1+2-0-2-0-4	0.8+1.6	+	+	3	b
2019	4449	Piémontaise	RTE salad	<i>L. monocytogenes</i> 1973/2400 + <i>L. innocua</i> Ad1230	Cooked meal + Cooked meal	Seeding 48h 3°C±2°C	0-4-2-5-1+2-3-4-2-5	2.4+3.2	+	+	1	a
2019	4450	Salade jambon	RTE salad (ham)	<i>L. innocua</i> Ad1676	Cooked meal	Seeding 48h 3°C±2°C	2-5-1-2-1	2.2	+	+	1	a
2019	4451	Salade poulet rôti	RTE salad (roasted chicken)	<i>L. innocua</i> Ad1230	Cooked meal	Seeding 48h 3°C±2°C	1-2-3-5-2	2.6	+	+	1	a
2019	4452	Sandwich thon crudités	RTE sandwich (tuna)	<i>L. innocua</i> Ad1676	Cooked meal	Seeding 48h 3°C±2°C	2-5-1-2-1	2.2	+	+	1	a

Renewal study (ADRIA Développement, 2019)												
Date of analysis	Ref	Product (French name)	Product	Artificial contaminations					Global result APF CLASSIC		Category	Type
				Strain	Origin	Injury protocol	Inoculation level (CFU/sample)		Standard II lysis	Easy II lysis		
							Enumeration	Mean				
2019	4453	Sandwich jambon cheddar	RTE sandwich (ham)	<i>L. innocua</i> Ad1230	Cooked meal	Seeding 48h 3°C±2°C	1-2-3-5-2	2.6	+	+	1	a
2019	4454	Tagliatelles à la carbonara	RTRH (pasta)	<i>L. monocytogenes</i> 1973/2400 + <i>L. innocua</i> Ad1676	Cooked meal + Cooked meal	Seeding 48h 3°C±2°C	0-4-2-5-1+1-2-3-4-0	2.4+2.0	+	+	1	a
2019	4455	Macaroni sauce tomate	RTRH (pasta)	<i>L. innocua</i> Ad1230	Cooked meal	Seeding 48h 3°C±2°C	1-2-3-5-2	2.6	+	+	1	b
2019	4456	Filet de poulet et pomme de terre	RTRH (chicken fillet and potatoes)	<i>L. innocua</i> Ad1676	Cooked meal	Seeding 48h 3°C±2°C	2-5-1-2-1	2.2	+	+	1	b
2019	4457	Quiche lorraine	RTRH (quiche lorraine)	<i>L. innocua</i> Ad1230	Cooked meal	Seeding 48h 3°C±2°C	1-2-3-5-2	2.6	+	+	1	b
2019	4458	Pizza chorizo	RTRH pizza	<i>L. innocua</i> Ad1676	Cooked meal	Seeding 48h 3°C±2°C	2-5-1-2-1	2.2	+	+	1	b
2019	5333	Tarte croustillant	Pastry	<i>L. innocua</i> Ad644	Pastry	Seeding 48h 3°C±2°C	2-4-0-4-3	2.6	+	+	1	c
2019	5334	Entremets à la part	Pastry	<i>L. innocua</i> Ad644	Pastry	Seeding 48h 3°C±2°C	2-4-0-4-3	2.6	+	+	1	c
2019	5335	Champignon blanc	Mushroom	<i>L. innocua</i> Ad1177	Vegetables	Seeding 48h 3°C±2°C	5-0-0-2-2	1.8	+	+	4	a
2019	5336	Lait cru	Raw milk	<i>L. innocua</i> Ad654	Milk Product	Seeding 48h 3°C±2°C	2-3-6-4-3	3.6	+	+	3	b
2019	5337	Lait cru	Raw milk	<i>L. innocua</i> Ad654	Milk Product	Seeding 48h 3°C±2°C	2-3-6-4-3	3.6	+	+	3	b
2019	5338	Comté lait cru	Raw milk cheese	<i>L. innocua</i> Ad657	Cheese	Seeding 48h 3°C±2°C	1-1-2-4-3	2.2	+	+	3	a
2019	5339	Abondance au lait cru	Raw milk cheese	<i>L. welshimeri</i> Ad1667	Cheese	Seeding 48h 3°C±2°C	6-3-2-6-6	4.6	+	+	3	a
2019	5340	Rocamadour au lait cru	Raw milk cheese	<i>L. innocua</i> Ad657	Cheese	Seeding 48h 3°C±2°C	1-1-2-4-3	2.2	+	+	3	a

Renewal study (ADRIA Développement, 2019)												
Date of analysis	Ref	Product (French name)	Product	Artificial contaminations					Global result APF CLASSIC		Category	Type
				Strain	Origin	Injury protocol	Inoculation level (CFU/sample)		Standard II lysis	Easy II lysis		
							Enumeration	Mean				
2019	5341	Morbier Lait cru	Raw milk cheese	<i>L. welshimeri</i> Ad1667	Cheese	Seeding 48h 3°C±2°C	6-3-2-6-6	4.6	+	+	3	a
2019	5342	Camembert au lait pasteurisé	Pasteurised cheese	<i>L. innocua</i> Ad657	Cheese	Seeding 48h 3°C±2°C	1-1-2-4-3	2.2	+	+	3	c
2019	5343	Cantal au lait pasteurisé	Pasteurised cheese	<i>L. welshimeri</i> Ad1667	Cheese	Seeding 48h 3°C±2°C	6-3-2-6-6	4.6	+	+	3	c
2019	5344	Brocoli	Broccoli	<i>L. innocua</i> Ad1177	Vegetables	Seeding 48h 3°C±2°C	5-0-0-2-2	1.8	+	+	5	a
2019	5345	Eau de process (industrie de la viande)	Process water	<i>L. seeligeri</i> Ad651	Environment	Seeding 48h 3°C±2°C	0-3-3-2-2	2.0	+	+	6	a
2019	5346	Eau de process (végétaux)	Process water	<i>L. seeligeri</i> Ad651	Environment	Seeding 48h 3°C±2°C	0-3-3-2-2	2.0	+	+	6	a
2019	5703	Gratin de légumes	RTRH vegetables	<i>L. innocua</i> Ad1176	Vegetables	Seeding 48h 3°C±2°C	3-1-2-5-0	2.2	/	+	5	c
2019	5704	Gratin de légumes	RTRH vegetables	<i>L. innocua</i> Ad1176	Vegetables	Seeding 48h 3°C±2°C	3-1-2-5-0	2.2	/	+	5	c

Renewal study (ADRIA Développement, 2019)										
Date of analysis	Ref	Product (French name)	Product	Artificial contaminations					Global result	Type
				Strain	Origin	Injury protocol	Inoculation level (CFU/sample)			
Enumeration	Mean									
2019	4045	Eau de rinçage (environnement mer)	Rinsing water (seafood environment)	<i>L. monocytogenes</i> A00E008 + <i>L. innocua</i> Ad1677	Environment +Environment	Seeding 48h 3°C±2°C	1-0-1-2-0+0-0-0-2-0	0.8+0.4	-	a
2019	4046	Déchets saumon	Residues (seafood environment)	<i>L. monocytogenes</i> A00E008 + <i>L. innocua</i> Ad1677	Environment +Environment	Seeding 48h 3°C±2°C	1-0-1-2-0+0-0-0-2-0	0.8+0.4	+	c
2019	4047	Déchets poissons	Residues (seafood environment)	<i>L. monocytogenes</i> A00E008 + <i>L. welshimeri</i> Ad1268	Environment +Environment	Seeding 48h 3°C±2°C	1-0-1-2-0+1-1-0-1-1	0.8+0.8	+	c
2019	4048	Déchets pareuse	Residues (seafood environment)	<i>L. monocytogenes</i> A00E008 + <i>L. welshimeri</i> Ad1268	Environment +Environment	Seeding 48h 3°C±2°C	1-0-1-2-0+1-1-0-1-1	0.8+0.8	+	c
2019	4049	Déchets thon	Residues (seafood environment)	<i>L. innocua</i> Ad1677	Environment	Seeding 48h 3°C±2°C	0-2-5-3-3	2.6	+	c
2019	4050	Déchets chantilly	Residues (dairy environment)	<i>L. monocytogenes</i> Ad627 + <i>L. innocua</i> Ad659	Environment +Environment	Seeding 48h 3°C±2°C	2-0-3-2-1+2-1-1-2-0	1.6+1.2	+	c
2019	4051	Déchets chantilly	Residues (dairy environment)	<i>L. monocytogenes</i> Ad627 + <i>L. innocua</i> Ad659	Environment +Environment	Seeding 48h 3°C±2°C	2-0-3-2-1+2-1-1-2-0	1.6+1.2	+	c
2019	4052	Déchets fromage	Residues (dairy environment)	<i>L. innocua</i> Ad659	Environment	Seeding 48h 3°C±2°C	1-2-3-1-1	1.6	+	c
2019	4053	Déchets fromage	Residues (dairy environment)	<i>L. innocua</i> Ad659	Environment	Seeding 48h 3°C±2°C	1-2-3-1-1	1.6	+	c
2019	4054	Déchets poissons	Residues (seafood environment)	<i>L. welshimeri</i> Ad1268	Environment	Seeding 48h 3°C±2°C	3-3-1-1-1	1.8	-	c
2019	4681	Eau process (bœuf)	Process water (beef environment)	<i>L. monocytogenes</i> Ad1255	Environment +Environment	Seeding 48h 3°C±2°C	4-3-5-1-1	2.8	+	a
2019	4682	Eau de rinçage (jambon végétal)	Rinsing water (vegetable environment)	<i>L. monocytogenes</i> Ad1255 + <i>L. innocua</i> Ad1257	Environment	Seeding 48h 3°C±2°C	2-2-2-0-2+2-2-3-3-1	1.6+2.2	+	a
2019	4683	Eau rinçage (thon)	Rinsing water (seafood environment)	<i>L. monocytogenes</i> AOOE035	Environment	Seeding 48h 3°C±2°C	2-2-4-1-1	2.0	+	a
2019	4684	Eau rinçage (saumon)	Rinsing water (seafood environment)	<i>L. monocytogenes</i> Ad548 + <i>L. innocua</i> Ad1677	Environment +Environment	Seeding 48h 3°C±2°C	1-0-1-1-2+0-4-1-1-2	1.0+1.6	+	a
2019	4685	Eau rinçage (saumon)	Rinsing water (seafood environment)	<i>L. monocytogenes</i> AOOE035	Environment	Seeding 48h 3°C±2°C	2-2-4-1-1	2.0	+	a
2019	4686	Eau rinçage (thon)	Rinsing water (seafood environment)	<i>L. monocytogenes</i> AOOE035	Environment	Seeding 48h 3°C±2°C	2-2-4-1-1	2.0	+	a

Renewal study (ADRIA Développement, 2019)										
Date of analysis	Ref	Product (French name)	Product	Artificial contaminations					Global result	Type
				Strain	Origin	Injury protocol	Inoculation level (CFU/sample)			
							Enumeration	Mean		
2019	4687	Eau rinçage (thon)	Rinsing water (seafood environment)	<i>L. monocytogenes</i> Ad548 + <i>L. innocua</i> Ad1677	Environment +Environment	Seeding 48h 3°C±2°C	1-0-1-1-2+0-4-1-1-2	1.0+1.6	+	a
2019	4688	Eau rinçage (environnement mer)	Rinsing water (seafood environment)	<i>L. monocytogenes</i> AOOE035	Environment	Seeding 48h 3°C±2°C	2-2-4-1-1	2.0	+	a
2019	4689	Déchets saumon	Residues (seafood environment)	<i>L. monocytogenes</i> AOOE035	Environment	Seeding 48h 3°C±2°C	2-2-4-1-1	2.0	+	c
2019	4690	Déchets saumon herbes	Residues (seafood environment)	<i>L. monocytogenes</i> Ad548 + <i>L. innocua</i> Ad1677	Environment +Environment	Seeding 48h 3°C±2°C	1-0-1-1-2+0-4-1-1-2	1.0+1.6	+	c
2019	5077	Eponge lame cutter (environnement laitier)	Sponge (dairy environment)	<i>L. monocytogenes</i> Ad550 + <i>L. innocua</i> Ad653	Environment +Environment	Seeding 48h 3°C±2°C	0-0-0-1-0+0-1-3-2-2	0.2+1.6	+	b
2019	5078	Eponge pailasse découpe fromage	Sponge (dairy environment)	<i>L. monocytogenes</i> Ad550	Environment	Seeding 48h 3°C±2°C	2-3-2-3-1	2.2	+	b
2019	5079	Chiffonnette cutter (environnement laitier)	Wipe (dairy environment)	<i>L. innocua</i> Ad653	Environment	Seeding 48h 3°C±2°C	6-2-3-4-1	3.2	+	b
2019	5080	Déchets fromage	Residues (dairy environment)	<i>L. innocua</i> Ad653	Environment	Seeding 48h 3°C±2°C	6-2-3-4-1	3.2	+	c
2019	5081	Eau rinçage bol (environnement laitier)	Rinsing water (dairy environment)	<i>L. monocytogenes</i> Ad550 + <i>L. innocua</i> Ad653	Environment +Environment	Seeding 48h 3°C±2°C	0-0-0-1-0+0-1-3-2-2	0.2+1.6	+	a
2019	5082	Eponge cutter (environnement végétaux)	Sponge (vegetable environment)	<i>L. monocytogenes</i> Ad2503	Environment	Seeding 48h 3°C±2°C	3-2-2-2-4	2.6	+	b
2019	5083	Eponge balance (environnement végétaux)	Sponge (vegetable environment)	<i>L. monocytogenes</i> Ad2503	Environment	Seeding 48h 3°C±2°C	3-2-2-2-4	2.6	+	b
2019	5084	Chiffonnette outils découpe végétaux	Wipe (vegetable environment)	<i>L. monocytogenes</i> Ad2503	Environment	Seeding 48h 3°C±2°C	3-2-2-2-4	2.6	+	b
2019	5085	Déchets végétaux 4è gamme	Residues (vegetable environment)	<i>L. monocytogenes</i> Ad2503	Environment	Seeding 48h 3°C±2°C	3-2-2-2-4	2.6	+	c

Renewal study (ADRIA Développement, 2019)										
Date of analysis	Ref	Product (French name)	Product	Artificial contaminations					Global result	Type
				Strain	Origin	Injury protocol	Inoculation level (CFU/sample)			
							Enumeration	Mean		
2019	5086	Eau rinçage (environnement végétaux)	Rinsing water (vegetable environment)	<i>L. monocytogenes</i> Ad2503	Environment	Seeding 48h 3°C±2°C	3-2-2-2-4	2.6	+	a
2019	5087	Eponge cutter (environnement volaille)	Sponge (poultry environment)	<i>L. monocytogenes</i> Ad1272 + <i>L. innocua</i> Ad1277	Environment +Environment	Seeding 48h 3°C±2°C	0-1-0-0-0+0-2-0-2-1	0.2+1.0	+	b
2019	5088	Eponge paillasse découpe volaille	Sponge (poultry environment)	<i>L. innocua</i> Ad1277	Environment	Seeding 48h 3°C±2°C	0-0-1-1-3	1.0	+	b
2019	5089	Chiffonnette balance (environnement carné)	Wipe (meat environment)	<i>L. monocytogenes</i> Ad1272	Environment	Seeding 48h 3°C±2°C	1-1-3-2-0	1.4	+	b
2019	5090	Déchets viande veau	Residues (veal environment)	<i>L. monocytogenes</i> Ad1272 + <i>L. innocua</i> Ad1277	Environment +Environment	Seeding 48h 3°C±2°C	0-1-0-0-0+0-2-0-2-1	0.2+1.0	+	c
2019	5091	Eau rinçage (environnement volaille)	Rinsing water (poultry environment)	<i>L. monocytogenes</i> Ad1272 + <i>L. innocua</i> Ad1277	Environment +Environment	Seeding 48h 3°C±2°C	0-1-0-0-0+0-2-0-2-1	0.2+1.0	+	a
2019	5578	Chiffonnette paillasse découpe végétaux	Wipe after cleaning process (vegetable environment)	<i>L. monocytogenes</i> Ad2600	Environment	Seeding 48h 3°C±2°C	1-3-3-2-4	2.6	+	b
2019	5579	Chiffonnette après nettoyage plan de travail (environnement laitier)	Wipe (dairy environment)	<i>L. monocytogenes</i> Ad2600	Environment	Seeding 48h 3°C±2°C	1-3-3-2-4	2.6	+	b
2019	5580	Chiffonnette cutter (environnement végétaux)	Wipe (vegetable environment)	<i>L. monocytogenes</i> Ad2600	Environment	Seeding 48h 3°C±2°C	1-3-3-2-4	2.6	-	b

Appendix 4 - Sensitivity study: raw data (initial validation study, IPL, ISHA)

IPL - Legend

Total bacteria growth

Ø : no growth
L = low
M = medium
H = high

Distribution of flora

A = pure culture of suspicious colonies
B = mix with a majority of suspicious colonies
C = mix with a minority of suspicious colonies
D = mix with rare suspicious colonies
E : no suspicious colony
(x) : x typical colonies of *Listeria* if $x \leq 5$
(a) : Presence of 2 types of colonies (*L. monocytogenes* and *Listeria spp*)

Results

pos : positive
neg : negative



Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

Samples analysed in 2006

Samples analysed in 2008

COMPOSITE FOODS																														
Date of analysis	Ref	Product (French name)	Product	Reference method NF EN ISO 11290-1						Alternative method: iQ Check <i>Listeria</i> spp																	Category	Type		
										After incubation time																				
								Identifications	Result	Standard II lysis				Easy II lysis		Confirmation (LSB for 24h in 2006 and 2008; LSB for 22h in 2019)						Final result		Agreement						
				Fraser 1/2		Fraser				Standard II lysis LSB 22h 30°C (2006)		Standard II lysis LSB for 22h at 30°C (2008 & 2019) APF Classic		Easy II lysis LSB for 24h at 30°C (2006 & 2019) APF Classic								Standard II lysis APF Classic	Easy II lysis APF Classic	Standard II lysis APF Classic	Easy II lysis APF Classic					
				AL	Pal	AL	Pal			Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	AL	Pal	Subculture in Fraser if necessary	RLM	RLSP	Identifications									
2006	Q17	Salade de penne napolitaine	Salad	Ø	Ø	-LE	-ME	/	-	N/A	-			N/A	-				/	/	/	-	-	NA	NA	1	a			
2008	A6	Sandwich crabe	RTE sandwich	+LA	+LB	+MA	+MA	<i>L.monocytogenes</i>	+	17.53	+	15.51	+						+MA	+MA	<i>L.monocytogenes</i>	+	/	PA	/	1	a			
2008	B18	Taboulé	Tabbouleh	-LE	-LE	-LE	-LE	/	-	N/A	-	N/A	-						-LE	-LE	/	-	/	NA	/	1	a			
2019	1658	Piémontaise jambon	RTE salad (ham)	-	-	H-d	+d	<i>L.welshimeri</i>	+			20.02	+	25.34	+	-	-	+(H-/+)	-	-	<i>L.seeligeri</i>	+	+	PA	PA	1	a			
2019	1659	Trio chou jambon et comté	RTE salad (ham cabbage and cheese)	st	st	-	-	/	-			20.87	+	25.69	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PD	PD	1	a			
2019	1673	Piémontaise jambon	RTE salad (ham)	H+	+	H+	+	<i>L.monocytogenes</i>	+			20.28	+	-/26.04	inv/+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PA	PA	1	a			
2019	1674	Trio chou jambon et comté	RTE salad (ham cabbage and cheese)	H+	+	H+	+	<i>L.monocytogenes</i>	+			23.95	+	28.6	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PA	PA	1	a			
2019	1675	Sandwich jambon emmental	RTE sandwich (ham and cheese)	H+	+	H+	+	<i>L.monocytogenes</i>	+			25.26	+	29.89	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PA	PA	1	a			
2019	1676	Sandwich jambon beurre	RTE sandwich (ham and butter)	st	st	st	st	/	-			27.68	+	32.23	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PD	PD	1	a			
2019	1753	Salade pamplemousse	RTE salad (grapefruit)	H+	+	H+	+	<i>L.monocytogenes</i>	+			27.39	+	32.66	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PA	PA	1	a			
2019	1754	Salade de riz	RTE salad (rice)	-	-	st	st	/	-			-	-	-	-	st	st	-	-	st	/	-	-	NA	NA	1	a			
2019	3938	Salade orge lentille feta	RTE salad	H-d	-	H-d	-	/	-			40.21/ 39.47/ 40.12	+/-/+	43.3/-/-	+/-/-	H-d	+d	-	white	+(NC on TSYEA)	-(5Fraser/ AL/Palcam)	-	-	PD _{FP(alt)}	PD _{FP(alt)}	1	a			
2019	4449	Piémontaise	RTE salad	H-	+	H-	+	<i>L.innocua</i>	+			19.8	+	22.59	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PA	PA	1	a			
2019	4450	Salade jambon	RTE salad (ham)	H-	+	H-	+	<i>L.innocua</i>	+			23.03	+	27.76	+	H-	+	/	-	+	<i>L.innocua</i>	+	+	PA	PA	1	a			
2019	4451	Salade poulet rôti	RTE salad (roasted chicken)	H-	+	H-	+	<i>L.innocua</i>	+			- -i/ 23.78*	i/ +*	24.58	+	H+d/- /H-	+	/	+	+	<i>L.innocua</i>	+	+	PA	PA	1	a			
2019	4452	Sandwich thon crudités	RTE sandwich (tuna)	H+d/- /H-	-	H+d/- /H-d	-	NC on TSYEA	-			22.33	+	25.55	+	H-	+	/	-	+	<i>L.innocua</i>	+	+	PD	PD	1	a			
2019	4453	Sandwich jambon cheddar	RTE sandwich (ham)	H+/H-	+	H-	+	<i>L.innocua</i>	+			20.48	+	23.37	+	H+d/- /H-	+	/	-	+	<i>L.innocua</i>	+	+	PA	PA	1	a			
2019	4454	Tagliatelles à la carbonara	RTRH (pasta)	H+	+	H+	+	<i>L.monocytogenes</i>	+			18.22	+	20.22	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PA	PA	1	a			
2019	5431	Salade parisienne au jambon, emmental	RTE salad	st	st	st	st	/	-			40.59/-/-	+/-/-	-	-	st	-	-	-	st	-(5Fraser/ AL/Palcam)	-	-	PD _{FP(alt)}	NA	1	a			
2019	5432	Salade de poulet	RTE salad	-	-	-	-	/	-			-	-	-	-	-	-	-	-	st	/	-	-	NA	NA	1	a			
2019	5433	Sandwich bacon grillé	RTE Sandwich	-	-	st	st	/	-			-	-	-	-	-	-	H-d (Gram-)	-	st	-(5Fraser/ AL/Palcam)	-	-	NA	NA	1	a			
2019	5434	Sandwich poulet emmental	RTE Sandwich	-	-	-	-	/	-			-	-	-	-	-	-	-	-	+(Gram-)	/	-	-	NA	NA	1	a			
2019	5737	Sandwich poulet rôti	RTE sandwich	H-	+	H-	+	<i>L.welshimeri</i>	+					30.12	+	H-	+	/	+(white)	+	<i>L.welshimeri</i>	/	+	/	PA	1	a			
2019	5741	Salade de quinoa	RTE salad	-	-	-	-	/	-					40.16/-/ 40.43	+/-/+	H-d	-	-	-	+d	NC on TSYEA	/	-	/	PD _{FP(alt)}	1	a			
2019	5742	Salade pâtes et surimi	RTE salad	-	-	-	-	/	-					33.87/ 34.96/ 39.04	+/-/+	-	-	-	-	+d	NC on TSYEA	/	-	/	PD _{FP(alt)}	1	a			

COMPOSITE FOODS																													
Date of analysis	Ref	Product (French name)	Product	Reference method NF EN ISO 11290-1						Alternative method: iQ Check <i>Listeria</i> spp																Category	Type		
										After incubation time																			
										Standard II lysis				Easy II lysis		Confirmation (LSB for 24h in 2006 and 2008; LSB for 22h in 2019)						Final result		Agreement					
				Fraser 1/2		Fraser		Identifications	Result	Standard II lysis LSB 22h 30°C (2006)		Standard II lysis LSB for 22h at 30°C (2008 & 2019) APF Classic		Easy II lysis LSB for 24h at 30°C (2006 & 2019) APF Classic								Standard II lysis APF Classic	Easy II lysis APF Classic	Standard II lysis APF Classic	Easy II lysis APF Classic				
										Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	AL	Pal	Subculture in Fraser if necessary	RLM	RLSP	Identifications								
2006	BB10	Spaghettis nature	Pasta	Ø	Ø	-LE	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	1	b		
2019	1660	Pizza jambon fromage	RTRH Pizza (ham and cheese)	H+	-	H+	+	<i>L.monocytogenes</i>	+			20.73	+	25.09	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PA	PA	1	b		
2019	1661	Quiche lorraine	RTRH Quiche Lorraine	H+	+	H+	+	<i>L.monocytogenes</i>	+			21.56	+	28.22	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PA	PA	1	b		
2019	1664	Pizza jambon fromage	RTRH Pizza (ham and cheese)	H+	+	H+	+	<i>L.monocytogenes</i>	+			22.29	+	30.07	+	H+/H-d	-	/	+	+	<i>L.monocytogenes</i> / <i>L.monocytogenes</i>	+	+	PA	PA	1	b		
2019	1665	Quiche lorraine	RTRH Quiche Lorraine	H+	+	H+	+	<i>L.monocytogenes</i>	+			22.28	+	i/29.89	i/+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PA	PA	1	b		
2019	1666	Feuilletés tressés emmental jambon	RTRH (puff ham and cheese)	H+	+	H+	+	<i>L.monocytogenes</i>	+			37.12/ 38.64/ 40.45	+/-/+	-	-	-	-	-	-	-	- (5Fraser/ AL/Palcam)	-	-	PA _{FP(alt)}	ND	1	b		
2019	1667	Feuilletés tressés emmental jambon	RTRH (puff ham and cheese)	-	-	-	-	/	-			23.73	+	31.12	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PD	PD	1	b		
2019	1668	Couscous poulet merguez	RTRH (Couscous)	-	st	-	-	/	-			21.39	+	26.61	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PD	PD	1	b		
2019	1669	Couscous poulet merguez	RTRH (Couscous)	H+	+	H+	+	<i>L.monocytogenes</i>	+			21.37	+	24.73	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PA	PA	1	b		
2019	4455	Macaroni sauce tomate	RTRH (pasta)	st	-	st	-	/	-			19.53	+	23.84	+	H-	+	/	-	+	<i>L.innocua</i>	+	+	PD	PD	1	b		
2019	4456	Filet de poulet et pomme de terre	RTRH (chicken fillet and potatoes)	H-	+	H-	+	<i>L.innocua</i>	+			22.18	+	26.81	+	H-	+	/	-	+	<i>L.innocua</i>	+	+	PA	PA	1	b		
2019	4457	Quiche lorraine	RTRH (quiche lorraine)	H-	+	H-	+	<i>L.innocua</i>	+			-/35.00/-	-/-/-	-/-/38.74	-/-/+	H-	+	/	-	+	<i>L.innocua</i>	-	-	ND _{FN(alt)}	ND _{FN(alt)}	1	b		
2019	4458	Pizza chorizo	RTRH pizza	H+/H-	+	H-	+	<i>L.innocua</i>	+			20.2	+	23.95	+	H-	+	/	-	+	<i>L.innocua</i>	+	+	PA	PA	1	b		
2019	5435	Pizza lardons chèvre	RTRH pizza	-	-	-	-	/	-			-	-	-	-	-	-	-	-	+(Gram-)	/	-	-	NA	NA	1	b		
2019	5436	Pizza jambon champignons	RTRH pizza	-	-	-	-	/	-			-	-	-	-	-	-	-	-	st	/	-	-	NA	NA	1	b		
2019	5440	Quiche lorraine	RTRH Quiche Lorraine	-	-	st	-	/	-			-	-	-	-	H-d (Gram-)	-	H-d (Gram-)	white (Gram-)	st	/	-	-	NA	NA	1	b		
2019	5441	Tarte courgette et chèvre	RTRH Quiche	st	-	st	-	/	-			-	-	-	-	st	-	-	white (Gram-)	st	/	-	-	NA	NA	1	b		
2019	5444	Paëlla	RTRH (Paella)	st	st	st	st	/	-			36.95/ 37.81/ 38.55	+/-/+	-	-	st	st	-	st	st	- (5Fraser/ AL/Palcam)	-	-	PD _{FP(alt)}	NA	1	b		
2019	5445	Nouilles Royales	RTRH Pasta	st	st	st	st	/	-			40.86/ 40.24/ 48.35	+/-/+	-	-	-	-	-	-	st	- (5Fraser/ AL/Palcam)	-	-	PD _{FP(alt)}	NA	1	b		
2019	5738	Moussaka bœuf aubergine	RTRH (moussaka)	st	st	st	st	/	-					-	-	-	-	-	-	st	/	/	-	/	NA	1	b		
2019	5739	Blanquette de veau	RTRH (rice and veal)	st	st	st	st	/	-			-	-	42.04/-/	+/-/-	-	-	-	-	st	/	-	-	NA	PD _{FP(alt)}	1	b		
2019	5740	Petit salé aux lentilles vertes	RTRH (green lentils)	st	st	st	st	/	-			-	-	-	-	st	st	-	st	st	/	-	-	NA	NA	1	b		
2006	BB1	Coupe profiteroles	Dessert (profiteroles)	-LE	-LE	-ME	-ME	/	-	44.04	+	37.97	+	40.49	+				Ø	Ø	Ø	-	-	PD _{FP(alt)}	PD _{FP(alt)}	1	c		
2006	BB2	Coupe duo framboises	Dessert (raspberry)	-LE	-LE	-ME	-ME	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	1	c		
2006	E1	Tartelettes fruits	Pastry	+MA	-MA	+MA	-MA	<i>L.innocua</i>	+	16.61	+			20.46	+				+HB	+HB	<i>L.innocua</i>	+	+	PA	PA	1	c		

COMPOSITE FOODS																													
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										After incubation time																			
										Standard II lysis				Easy II lysis		Confirmation (LSB for 24h in 2006 and 2008; LSB for 22h in 2019)						Final result		Agreement					
				Fraser 1/2		Fraser		Identifications	Result	Standard II lysis LSB 22h 30°C (2006)		Standard II lysis LSB for 22h at 30°C (2008 & 2019) APF Classic		Easy II lysis LSB for 24h at 30°C (2006 & 2019) APF Classic								Standard II lysis APF Classic	Easy II lysis APF Classic	Standard II lysis APF Classic	Easy II lysis APF Classic				
										Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	AL	Pal	Subculture in Fraser if necessary	RLM	RLSP	Identifications								
2006	N10	Tartelette framboise	Pastry	+LB	+LA	+HA	+MA	<i>L.monocytogenes</i>	+	N/A	-			N/A	-				Ø	Ø	Ø	-	-	ND	ND	1	c		
2006	Z1	Tarte à la crème	Pastry	-LE	-ME	-LE	-HE	/	-	N/A	-			N/A	-				/	/	/	-	-	NA	NA	1	c		
2006	AA15	Choux chantilly	Dairy dessert	Ø	Ø	Ø	Ø	/	-	N/A	-			N/A	-				/	/	/	-	-	NA	NA	1	c		
2008	B7	Tarte au flan	Pudding	Ø	-LE	-LE	Ø	/	-	N/A	-	N/A	-						Ø	Ø	/	-	/	NA	/	1	c		
2008	C13	Paris Brest	Pastry	-LE	-LE	-ME	-ME	/	-	N/A	-	N/A	-						-ME	-ME	/	-	/	NA	/	1	c		
2008	E8	Religieuses crème pâtissière	Pastry	+MA	+MB	+MA	+HA	<i>L.monocytogenes</i>	+	16,40	+	15.29	+						+HB	+HB	<i>L.monocytogenes</i>	+	/	PA	/	1	c		
2008	G14	Bûchettes café chocolat	Pastry	-LE	-LE	-ME	-LE	/	-	N/A	-	N/A	-						-LE	-ME	/	-	/	NA	/	1	c		
2008	G15	Mille feuilles	Pastry	Ø	Ø	-LE	-LE	/	-	N/A	-	N/A	-						-LE	-ME	/	-	/	NA	/	1	c		
2008	A12	Tarte aux fraises	Pastry	Ø	Ø	-LE	-LE	/	-	N/A	+	N/A	-						Ø	Ø	/	-	/	NA	/	1	c		
2019	1662	Religieuse café	Pastry	H+/H-	+	H+/H-	+	<i>L.monocytogenes</i> / <i>L.innocua</i>	+			21.05	+	28.81	+	H-	+	/	+spp	+	<i>L.innocua</i>	+	+	PA	PA	1	c		
2019	1663	Eclair vanille	Pastry	H-	+	H-	+	<i>L.innocua</i>	-			22.9	+	26.58	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PD	PD	1	c		
2019	1670	Tortilla espagnole	Tortilla	-	-	-	-	/	-			-	-	-	-	-	-	-	-	st	/	-	-	NA	NA	1	c		
2019	1671	Tortilla fraiche	Tortilla	st	st	st	st	/	-			21.06	+	26.52	+	H-	+	/	+spp	+	<i>L.innocua</i>	+	+	PD	PD	1	c		
2019	1672	Paris-Brest	Pastry	-	-	st	st	/	-			19.73	+	25.9	+	H-	+	/	+spp	+	<i>L.innocua</i>	+	+	PD	PD	1	c		
2019	1677	Eclair vanille	Pastry	H+	+	H+	+	<i>L.monocytogenes</i>	+			25.45	+	29.24	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PA	PA	1	c		
2019	1678	Paris-Brest	Pastry	-	-	-	-	/	-			20.6	+	25.16	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PD	PD	1	c		
2019	1679	Religieuse café	Pastry	-	st	-	st	/	-			-	-	-	-	st	st	-	-	st	/	-	-	NA	NA	1	c		
2019	1680	Tortilla espagnole	Tortilla	H+	+	H+	+	<i>L.monocytogenes</i>	+			22.13	+	26.57	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PA	PA	1	c		
2019	1681	Tortilla fraiche	Tortilla	H+	+	H+	+	<i>L.monocytogenes</i>	+			-	-	-	-	st	st	-	-	st	/	-	-	ND	ND	1	c		
2019	5333	Tarte croustillant	Pastry	H-	+	H-	-	<i>L.innocua</i>	+			-	-	-	-	st	st	-	st	st	/	-	-	ND	ND	1	c		
2019	5334	Entremets à la part	Pastry	H-	+	H+d/- /H-	+	<i>L.innocua</i>	+			-/ 30.89*	i/ +*	- /33.34*	i/ +*	H- d/H+d	1+	/	+	+	<i>L.monocytogenes</i> <i>L.seeligeri</i>	+	+	PA	PA	1	c		
2019	5437	Tutti frutti	Pastry	-	-	-	-	/	-			-	-	-	-	-	-	-	-	st	/	-	-	NA	NA	1	c		
2019	5438	Eclair chocolat	Pastry	-	-	-	-	/	-			39.15/- 37.21	+/-/+	40.31/ 39.00/ 38.72	+/-/+	-	-	-	-	+ (NC on TSYEA)	- (5Fraser/ AL/Palcam)	-	-	PD _{FP(alt)}	PD _{FP(alt)}	1	c		
2019	5439	Paris Brest	Pastry	H-d	-	H-d	-	(Gram -)	-			-	-	-	-	H-d (Gram-)	-	H-d (Gram-)	-	st	/	-	-	NA	NA	1	c		
2019	5735	Eclair vanille	Pastry	-	-	-	-	/	-					39.52/- /38.89	+/-/+	-	-	-	-	st	/	/	-	/	PD _{FP(alt)}	1	c		
2019	5736	Tartelette fraises	Pastry	-	-	-	-	/	-					-	-	-	-	-	-	st	/	/	-	/	NA	1	c		

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				Fraser 1/2		Fraser		Identifications	Result	Standard II lysis LSB 22h 30°C (2006)		Standard II lysis LSB for 22h at 30°C (2008 & 2019) APF Classic		Easy II lysis LSB for 24h at 30°C (2006 & 2019) APF Classic								Standard II lysis APF Classic	Easy II lysis APF Classic	Standard II lysis APF Classic	Easy II lysis APF Classic				
										Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	AL	Pal	Subculture in Fraser if necessary	RLM	RLSP	Identifications								
2006	A8	Emincé de porc	Minced pork	Ø	Ø	Ø	Ø	/	-	N/A	-			N/A	-				/	/	/	-	-	NA	NA	2	a		
2006	AA1	Viande de bœuf (poire)	Beef trim	Ø	Ø	Ø	Ø	/	-	N/A	-			N/A	-				/	/	/	-	-	NA	NA	2	a		
2006	AA5	Filet mignon de porc	Pork meat	Ø	Ø	Ø	Ø	/	-	31.02	+	25.20	+	31.99	+				+LA	+LA	<i>L.monocytogenes</i>	+	+	PD	PD	2	a		
2006	AA6	Cotes de porc	Pork meat	+LA(2)	+LA(1)	+HA	+MA	<i>L.welshimeri</i>	+	22.28	+			27.80	+				+MA	+MA	<i>L.welshimeri</i>	+	+	PA	PA	2	a		
2006	AA7	Filet de dinde	Turkey meat	Ø	Ø	Ø	Ø	/	-	N/A	-			N/A	-				/	/	/	-	-	NA	NA	2	a		
2006	B6	Sauté de porc	Pork meat	-LE	-LE	+MB	-MA	<i>L.innocua</i>	+	23.22	+	33.23	+	27.83	+				+MB	+MB	<i>L.monocytogenes L.innocua</i>	+	+	PA	PA	2	a		
2006	C5	Viande hachée	Ground meat	Ø	Ø	+HB	+HB	<i>L.monocytogenes L.innocua</i>	+	30.45	+	40.92	+	31.24	+				+LA	+LB	<i>L.monocytogenes L.innocua</i>	+	+	PA	PA	2	a		
2006	CC10	Steack haché cru	Ground beef	+MB	+LB	+MB	+MB	<i>L.monocytogenes L.welshimeri</i>	+	21.99	+	17.48	+	23.82	+				+MB	+MB	<i>L.monocytogenes L.welshimeri</i>	+	+	PA	PA	2	a		
2006	CC11	Gîte de noix	Beef trim	+LA	+LA	+MB	+MB	<i>L.monocytogenes L.innocua</i>	+	22.91	+	20.70	+	31.87	+				+MB	+MB	<i>L.monocytogenes L.innocua</i>	+	+	PA	PA	2	a		
2006	CC12	Faux filet	Beef trim	-LE	-LE	Ø	Ø	/	-	34.60	+	30.22	+	36.36	+				+LA	+LA	<i>L.monocytogenes</i>	+	+	PD	PD	2	a		
2006	CC13	Entrecôte de bœuf	Beef trim	Ø	Ø	Ø	Ø	/	-	22.00	+	21.47	+	29.81	+				+MA	+MA	<i>L.monocytogenes</i>	+	+	PD	PD	2	a		
2006	DD1	Rôti de porc	Pork meat	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	2	a		
2006	DD4	Escalope de dinde	Turkey meat	Ø	Ø	Ø	Ø	/	-	N/A	-			N/A	-				/	/	/	-	-	NA	NA	2	a		
2006	E4	Viande de bœuf hachée	Ground beef	-LE	-ME	-LE	-LE	/	-	N/A	-			N/A	-				-ME	-ME	Ø	-	-	NA	NA	2	a		
2006	K5	Haché de bœuf	Ground beef	Ø	-LE	Ø	Ø	/	-	32.02	+			34.85	+				+LA	+LA	<i>L.welshimeri</i>	+	+	PD	PD	2	a		
2006	K8	Magret de canard	Duck breast	Ø	Ø	+MB	+MB	<i>L.innocua</i>	+	26.22	+			28.40	+				+MA	+MA	<i>L.innocua</i>	+	+	PA	PA	2	a		
2006	L1	Entrecôte de bœuf	Beef trim	+LA	+LA(5)	+HA	+MA	<i>L.monocytogenes L.innocua</i>	+	29.28	+			34.11	+				+LB	+LB	<i>L.monocytogenes L.innocua</i>	+	+	PA	PA	2	a		
2006	L3	Escalope de volaille	Poultry meat	+LB	+LB	+MB	+MB	<i>L.monocytogenes L.welshimeri</i>	+	18.96	+			/	/				+MB	+MB	<i>L.monocytogenes L.welshimeri</i>	+	/	PA		2	a		
2006	M10	Haché tartare de bœuf	Seasoned ground beef	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	2	a		
2006	M11	Joue de bœuf	Beef trim	+LB	+LB	+LB	+MB	<i>L.monocytogenes L.innocua</i>	+	20.21	+			24.26	+				+LB	+LB	<i>L.monocytogenes L.innocua</i>	+	+	PA	PA	2	a		
2006	M12	Foie de porc	Pork liver	Ø	-LE	+LA	-LA	<i>L.welshimeri</i>	+	30.81	+	29.68	+	37.45	+				-LA	+LA	<i>L.welshimeri</i>	+	+	PA	PA	2	a		
2006	M23	Sauté de porc	Pork meat	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	2	a		
2006	M6	Viande de boeuf	Beef trim	+LB	+LB	+MB	+LB	<i>L.monocytogenes L.innocua</i>	+	22.70	+	23.24	+	27.22	+				+MB	+MB	<i>L.monocytogenes L.innocua</i>	+	+	PA	PA	2	a		
2006	M9	Viande de cheval	Horse meat	Ø	-LE	+LB	-LB	<i>L.innocua</i>	+	N/A	-	N/A	-	N/A	-				/	/	/	-	-	ND	ND	2	a		
2006	N22	Viande hachée	Ground meat	+LB	+LB	+LB	+MA	<i>L.monocytogenes</i>	+	18.44	+	15.14	+	21.23	+				+HB	+HB	<i>L.monocytogenes L.innocua</i>	+	+	PA	PA	2	a		
2006	N3	Steak surgelé	Frozen meat	+MA	+LB	+MB	+MC	<i>L.monocytogenes L.innocua</i>	+	23.55	+			28.24	+				-MA	+MA	<i>L.innocua</i>	+	+	PA	PA	2	a		
2006	O11	Manchons de canard	Duck meat	+LB	+LB	+MB	+MB	<i>L.monocytogenes L.welshimeri</i>	+	24.11	+	21.67	+	24.49	+				+MB	+MB	<i>L.monocytogenes L.welshimeri</i>	+	+	PA	PA	2	a		
2006	O12	Escalope de volaille	Poultry meat	+LA	-LA	+HA	-MA	<i>L.welshimeri</i>	+	24.82	+	21.64	+	29.01	+				+MB	+MB	<i>L.monocytogenes L.welshimeri</i>	+	+	PA	PA	2	a		
2006	O13	Cuisse de poulet	Chicken meat	+MB	+MB	+MB	+MC	<i>L.monocytogenes L.innocua</i>	+	18.52	+	16.7	+	20.83	+				+MB	+HA	<i>L.monocytogenes L.innocua</i>	+	+	PA	PA	2	a		

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										Standard II lysis				Easy II lysis		Confirmation (LSB for 24h in 2006 and 2008; LSB for 22h in 2019)						Final result		Agreement					
				Fraser 1/2		Fraser		Identifications	Result	Standard II lysis LSB 22h 30°C (2006)		Standard II lysis LSB for 22h at 30°C (2008 & 2019) APF Classic		Easy II lysis LSB for 24h at 30°C (2006 & 2019) APF Classic								Standard II lysis APF Classic	Easy II lysis APF Classic	Standard II lysis APF Classic	Easy II lysis APF Classic				
										Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	AL	Pal	Subculture in Fraser if necessary	RLM	RLSP	Identifications								
2006	O14	Cuisse de dinde	Turkey meat	-LE	+LB	-ME	-ME	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	20.65	+			23.22	+				+HB	+HB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	+	PA	PA	2	a		
2006	O7	Viande hachée de bœuf	Ground beef	+LB	+LB	+HB	+MB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	35.14	+			31.64	+				+LB	+LB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	+	PA	PA	2	a		
2006	Q14	Viande hachée	Ground meat	+LA	+LA	+MA	+MA	<i>L.monocytogenes</i>	+	23.40	+	20.76	+	27.53	+				+LA	+MA	<i>L.monocytogenes</i>	+	+	PA	PA	2	a		
2006	W1	Filet de tournedos	Beef trim	-LE	Ø	+MA	+MA	<i>L.welshimeri</i>	+	29.82	+	28.81	+	34.40	+				+LA	+LA	<i>L.welshimeri</i>	+	+	PA	PA	2	a		
2006	W10	Filet de dinde halal	Turkey meat	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	2	a		
2006	W2	Cote d'agneau	Lamb meat	-LE	-LE	-ME	-LE	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	2	a		
2006	Z11	Steack haché de poulet	Ground chicken	+LA	+LA	+MB	+LA	<i>L.welshimeri</i>	+	30.67	+	27.06	+	30.15	+				+MA	+MA	<i>L.welshimeri</i>	+	+	PA	PA	2	a		
2006	Z4	Côtes de porc	Pork meat	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	2	a		
2008	A1	Steak haché Halal	Ground beef	+LA	Ø	+MB	+MB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	28.05	+	25.64	+						+MA	+MB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	/	PA	/	2	a		
2008	G3	Steak	Steak	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-						Ø	Ø	/	-	/	NA	/	2	a		
2008	G4	Rôti de porc	Pork roast	-LE	Ø	Ø	Ø	/	-	N/A	-	N/A	-						-ME	Ø	/	-	/	NA	/	2	a		
2008	G6	Escalope de jambon	Cutlet ham	Ø	Ø	Ø	Ø	/	-	35.69	+	36.52	+						+LA	+LA	<i>L.welshimeri</i>	+	/	PD	/	2	a		
2008	G8	Langue de bœuf	Beef tongue	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-						-ME	Ø	/	-	/	NA	/	2	a		
2008	H2	Jambon	Ham	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-						Ø	Ø	/	-	/	NA	/	2	a		
2008	H5	Rôti de porc	Pork roast	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-						Ø	Ø	/	-	/	NA	/	2	a		
2006	AA11	Brat's	Sausages	+MB	+MB	+HA	+MA	<i>L.innocua</i>	+	24.63	+	12.90	+	24.34	+				+HA	+HA	<i>L.innocua</i>	+	+	PA	PA	2	b		
2006	AA16	Mini boulettes de bœuf	Mini beef balls	+MA	+MA	+MA	+MA	<i>L.monocytogenes</i>	+	18.70	+	N/A/ 14.48*	i/+*	19.88	+				+HA	+HA	<i>L.monocytogenes</i>	+	+	PA	PA	2	b		
2006	BB3	Farce fraiche à la tomate	Seasoned ground pork	+LA	+LA	+MB	+MB	<i>L.welshimeri</i>	+	24.20	+	21.13	+	25.60	+				+MB	+MB	<i>L.welshimeri</i>	+	+	PA	PA	2	b		
2006	BB4	Paupiettes de veau	Seasoned veal meat	+LB	+LB	+MB	+MB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	30.51	+	23.47	+	26.71	+				+MB	+MB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	+	PA	PA	2	b		
2006	CC8	Rôti de bœuf en sauce	Roast beef with sauce	-LE	-LE	-LE	-ME	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	2	b		
2006	CC9	Steack haché cuit	Cooked ground beef	Ø	Ø	Ø	Ø	/	-	38.04	+			45.53	+				-ME	-ME	Ø	-	-	PD FP(alt)	PD FP(alt)	2	b		
2006	DD2	Jambon sauce Madère	Cooked ham	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	2	b		
2006	DD3	Poulet rôti	Roast chicken	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	2	b		
2006	N2	Rôti de veau Orloff	Cooking veal meat	+LA	+LA	+HA	+MA	<i>L.monocytogenes</i>	+	31.33	+			37.97	+				+LA	+MA	<i>L.monocytogenes</i>	+	+	PA	PA	2	b		
2006	N24	Rôti de veau	Roast veal	Ø	Ø	+LA	-MA	<i>L.welshimeri</i>	+	21.30	+			40.20	+				+LA	+LA	<i>L.monocytogenes</i>	+	+	PA	PA	2	b		
2006	O17	Aîles de poulet marinées au curry	Spices chicken meat	+MA	-LA	+HA	-MA	<i>L.innocua</i>	+	19.10	+			22.46	+				+MB	+HB	<i>L.monocytogenes</i> <i>L.innocua</i>	+	+	PA	PA	2	b		
2006	P8	Hamburger à cuire	Seasoned ground beef	+MB	+MB	+HC	+LB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	20.64	+			18.10	+				+HB	+HB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	+	PA	PA	2	b		
2006	R16	Crêpinettes au vin blanc	Cooked pork meat	+LA	-LA	+LB	-LB	<i>L.welshimeri</i>	+	22.58	+	21.16	+	24.19	+				+MB	+MA	<i>L.welshimeri</i> <i>L.monocytogenes</i>	+	+	PA	PA	2	b		
2006	S10	Tomates farcies prêtes à cuire	Stuffed tomatoes	Ø	-LE	+HA	-MB	<i>L.innocua</i>	+	20.07	+			23.80	+				+MB	+MB	<i>L.monocytogenes</i> <i>L.innocua</i>	+	+	PA	PA	2	b		
2006	T4	Côte de porc cuisinée	Cooked pork meat	Ø	Ø	Ø	Ø	/	-	N/A	-			N/A	-				/	/	/	-	-	NA	NA	2	b		

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										Standard II lysis				Easy II lysis		Confirmation (LSB for 24h in 2006 and 2008; LSB for 22h in 2019)						Final result		Agreement					
				Fraser 1/2		Fraser		Identifications	Result	Standard II lysis LSB 22h 30°C (2006)		Standard II lysis LSB for 22h at 30°C (2008 & 2019) APF Classic		Easy II lysis LSB for 24h at 30°C (2006 & 2019) APF Classic								Standard II lysis APF Classic	Easy II lysis APF Classic	Standard II lysis APF Classic	Easy II lysis APF Classic				
										Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	AL	Pal	Subculture in Fraser if necessary	RLM	RLSP	Identifications								
2006	T6	Boulettes bœuf et porc à cuire	Beef and pork balls	+LB	+MC	+HA	+MA	<i>L.monocytogenes</i>	+	N/A	-	N/A	-	N/A	-				Ø	Ø	Ø	-	-	ND	ND	2	b		
2006	W5	Roti de bœuf au jus	Cooked roast beef	-LE	-LE	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	2	b		
2006	X13	Cordons bleu de dinde	Cooked turkey	-LE	-LE	-LE	-LE	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	2	b		
2008	A7	Hachis parmentier	Sheperd's pie	+LB	+LB	+MB	+MB	<i>L.monocytogenes</i> <i>L.innocua</i>	+	25.77	+	24.01	+						+MB	+MB	<i>L.monocytogenes</i> <i>L.innocua</i>	+	/	PA	/	2	b		
2008	A10	Pot'je vleesh	Pot'je vleesh	+MA	-MA	+MA	-MA	<i>L.innocua</i>	+	21.23	+	19.84	+						+MA	+MA	<i>L.innocua</i>	+	/	PA	/	2	b		
2008	A11	Hachis parmentier	Sheperd's pie	Ø	Ø	+MA	-MA	<i>L.innocua</i>	+	27.63	+	25.81	+						+LA	+LA	<i>L.innocua</i>	+	/	PA	/	2	b		
2008	B3	Paupiettes de porc	Pork rolls	+LA	+LB	+MB	+MB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	27.49	+	25.98	+						+MB	+MB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	/	PA	/	2	b		
2008	B10	Paupiettes de porc	Pork rolls	+LA	+LB	+MB	+MB	<i>L.welshimeri</i>	+	32.30	+	30.95	+						+LB	+LB	<i>L.welshimeri</i>	+	/	PA	/	2	b		
2008	D5	Emincé de porc cru sauce toscane	Minced pork	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-						Ø	Ø	/	-	/	NA	/	2	b		
2008	D8	Emincé de biche sauce 3 poivres	Minced deer	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-						Ø	Ø	/	-	/	NA	/	2	b		
2006	AA10	Merguez hallal	Merguez	-ME	-ME	+MA	+MA	<i>L.welshimeri</i>	+	29.11	+	19.13	+	32.28	+				+LA	+LA	<i>L.welshimeri</i>	+	+	PA	PA	2	c		
2006	AA2	Merguez	Merguez	Ø	+LA	+MB	+MA	<i>L.monocytogenes</i>	+	N/A	-	N/A	-	N/A	-				-LE	-LE	/	-	-	ND	ND	2	c		
2006	AA3	Chipolatas	Sausages	+LA	+LA	+HB	+MB	<i>L.welshimeri</i>	+	24.73	+	33.35	+	28.44	+				+MA	+MA	<i>L.welshimeri</i>	+	+	PA	PA	2	c		
2006	AA4	Saucisse biologique	Sausages	+LA	+LA	+MA	+MA	<i>L.welshimeri</i>	+	29.26	+	18.50	+	29.15	+				+MA	+MA	<i>L.welshimeri</i>	+	+	PA	PA	2	c		
2006	AA8	Chipolatas	Sausages	-LE	-LE	-ME	Ø	/	-	29.81	+	22.02	+	29.04	+				+MA	+MA	<i>L.welshimeri</i>	+	+	PD	PD	2	c		
2006	AA9	Saucisse de Toulouse	Sausages	+MB	+MB	+HA	+MB	<i>L.monocytogenes</i>	+	23.23	+	21.03	+	25.92	+				+MA	+MA	<i>L.monocytogenes</i>	+	+	PA	PA	2	c		
2006	BB11	Saucisse au poivre	Seasoned sausage	-LE	-LE	+MB	+MB	<i>L.welshimeri</i>	+	34.22	+	27.13	+	32.63	+				+LB	+LB	<i>L.welshimeri</i>	+	+	PA	PA	2	c		
2006	BB12	Chipolatas aux herbes	Seasoned sausage	+LB	+LB	+MB	+HB	<i>L.monocytogenes</i>	+	N/A	-			N/A	-				Ø	Ø	Ø	-	-	ND	ND	2	c		
2006	BB15	Boudin noir cuit	Cooking pork meat	Ø	Ø	Ø	Ø	/	-	42.20	+			N/A	-				Ø	Ø	Ø	-	-	PD _{FP(alt)}	NA	2	c		
2006	BB18	Andouillette de Troyes	Delicatessen	Ø	Ø	Ø	Ø	/	-	N/A/ N/A*	-			N/A	-				/	/	/	-	-	NA	NA	2	c		
2006	BB5	Saucisses fraîches aux oignons	Seasoned sausage	Ø	Ø	-LE	-HE	/	-	N/A/ N/A*	i/-*	N/A	-	N/A	-				/	/	/	-	-	NA	NA	2	c		
2006	BB6	Saucisses au roquefort	Cheese sausage	Ø	+LA(1)	+MA	+HA	<i>L.welshimeri</i>	+	37.44	+			47.40	+				+LA	+LA	<i>L.welshimeri</i>	+	+	PA	PA	2	c		
2006	BB7	Chipolatas	Sausages	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	2	c		
2006	DD5	Saucisse de Strasbourg	Sausages	Ø	Ø	-LE	-HE	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	2	c		
2006	L2	Rosette de porc	Delicatessen	Ø	+LA(1)	+HB	+HB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	35.84	+			38.16	+				+LA(1)	+HB(3)	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	+	PA	PA	2	c		
2006	L4	Noix de jambon aux herbes	Seasoned ham	Ø	+LB	-LE	-ME	<i>Bacillus</i>	-	N/A	-			N/A	-				+LB	+LB	<i>Bacillus</i>	-	-	NA	NA	2	c		
2006	L5	Lardons	Bacon	+LB	+LA	+HB	+HA	<i>L.welshimeri</i>	+	28.91	+			30.01	+				+LA	+LA	<i>L.welshimeri</i>	+	+	PA	PA	2	c		
2006	L6	Pâté à l'échalote	Shallot pâté	Ø	Ø	Ø	-LE	/	-	N/A	-	N/A	-	N/A	-				Ø	Ø	Ø	-	-	NA	NA	2	c		
2006	L7	Potjevlesh	RTRH meat	-LE	-LE	-LE	-ME	/	-	N/A	-	N/A	-	N/A	-				Ø	Ø	Ø	-	-	NA	NA	2	c		
2006	M13	Chorizo	Chorizo	-LE	-LE	+HA	-LA	<i>L.innocua</i>	+	30.20	+			32.18	+				+LB	+LB	<i>L.monocytogenes</i>	+	+	PA	PA	2	c		
2006	M7	Jambon fumé	Smoked ham	Ø	Ø	Ø	Ø	/	-	25.77	+	23.18	+	29.48	+				+LB	+LB	<i>L.monocytogenes</i>	+	+	PD	PD	2	c		

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				Fraser 1/2		Fraser		Identifications	Result	Standard II lysis LSB 22h 30°C (2006)		Standard II lysis LSB for 22h at 30°C (2008 & 2019) APF Classic		Easy II lysis LSB for 24h at 30°C (2006 & 2019) APF Classic															
										Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	AL	Pal	Subculture in Fraser if necessary	RLM	RLSP	Identifications	Standard II lysis APF Classic	Easy II lysis APF Classic	Standard II lysis APF Classic	Easy II lysis APF Classic				
2006	M8	Merguez	Merguez	+LB	+LB	+LB	+MB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	20.73	+	19.30	+	24.06	+				+MB	+MB	<i>L.monocytogenes</i>	+	+	PA	PA	2	c		
2006	N1	Chipolatas	Sausages	Ø	Ø	Ø	Ø	/	-	35.87	+			39.27	+				+LA	+LA	<i>L.monocytogenes</i>	+	+	PD	PD	2	c		
2006	N23	Chipolatas	Sausages	+LA(2)	+LA(1)	+HA	+MA	<i>L.monocytogenes</i>	+	28.85	+			30.19	+				+MB	+MB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	+	PA	PA	2	c		
2006	O10	Poitrine fumée	Smoked ham	+LA	-LA	+MB	+MB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	25.28	+	23.57	+	29.84	+				+MB	+MB	<i>L.monocytogenes</i>	+	+	PA	PA	2	c		
2006	O15	Saucisses de veau	Veal sausage	+LB	-LB	+HB	-MA	<i>L.welshimeri</i>	+	27.61	+	25.76	+	30.87	+				+LB	+MB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	+	PA	PA	2	c		
2006	O4	Merguez	Merguez	Ø	-LE	Ø	-LE	/	-	25.55	+	31.7	+	33.79	+				+LB	+LA	<i>L.monocytogenes</i>	+	+	PD	PD	2	c		
2006	O5	Pâté de campagne	Pâté	+LA	+LB ^(a)	+MB	+MA	<i>L.ivanovii</i> <i>L.innocua</i>	+	38.53	+			N/A	-				Ø	Ø	Ø	-	-	PA ^{FP(alt)}	ND	2	c		
2006	O6	Jambon fumé	Smoked ham	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	2	c		
2006	O8	Bacon	Bacon	Ø	Ø	-ME	-LE	/	-	33.16	+			38.23	+				-LA	+LA	<i>L.welshimeri</i>	+	+	PD	PD	2	c		
2006	O9	Lardons	Bacon	+LA(2)	Ø	+HB	-MA	<i>L.welshimeri</i>	+	36.52	+			38.57	+				-LB	+LA	<i>L.welshimeri</i>	+	+	PA	PA	2	c		
2006	P6	Chipolatas aux herbes	Seasoned sausage	Ø	Ø	+LA	+MA	<i>L.monocytogenes</i>	+	27.51	+	25.32	+	30.46	+				+MB	+MA	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	+	PA	PA	2	c		
2006	P7	Merguez	Merguez	+LB	+LB	+HB ^(a)	+MB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	26.02	+	28.94	+	25.06	+				+MB	+MB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	+	PA	PA	2	c		
2006	R15	Merguez	Merguez	+MA	+MA	+MB ^(a)	+MB* *	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	22.18	+	19.15	+	21.40	+				+MB	+MA	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	+	PA	PA	2	c		
2006	R17	Tripes au calvados	Cooked tripes	Ø	Ø	Ø	Ø	/	-	N/A	-			N/A	-				/	/	/	-	-	NA	NA	2	c		
2006	S8	Tripes à la provençale	Cooked tripes	Ø	Ø	Ø	-LE	/	-	N/A	-			N/A	-				/	/	/	-	-	NA	NA	2	c		
2006	S9	Chipolatas	Sausages	+LB	+LB	+MB	+MB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	31.27	+			36.05	+				+LA	+LB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	+	PA	PA	2	c		
2006	T5	Saucisse fumée à cuire	Smoked sausage	+MB	+MB	+HB	+HB	<i>L.monocytogenes</i> <i>L.innocua</i>	+	15.48	+	12.37	+	19.70	+				+HB	+HB	<i>L.monocytogenes</i> <i>L.innocua</i>	+	+	PA	PA	2	c		
2006	X11	Chorizo	Chorizo	-LE	-LE	+MB	+MB	<i>L.welshimeri</i>	+	36.24	+			38.64	+				+LA	+LA	<i>L.welshimeri</i>	+	+	PA	PA	2	c		
2006	X14	Véritables merguez	Merguez	-LE	-LE	-LE	-ME	/	-	36.53	+			38.40	+				-LE	-LE	/	-	-	PD ^{FP(alt)}	PD ^{FP(alt)}	2	c		
2006	Z3	Merguez	Merguez	+LB	+LB	+HB	+MB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	24.59	+	21.53	+	25.31	+				+MA	+MA	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	+	PA	PA	2	c		
2008	A9	Jambon cru	Raw ham	Ø	Ø	-ME	-ME	/	-	N/A	-	N/A	-						Ø	Ø	/	-	/	NA	/	2	c		
2008	A13	Pâté de tête	Pie of head	+LA	+LA	+MA	+MA	<i>L.monocytogenes</i>	+	27.16	+	25.79	+						+MA	+MA	<i>L.monocytogenes</i>	+	/	PA	/	2	c		
2008	D1	Andouillette	Andouillette	-LE	-LE	Ø	-LE	/	-	N/A	-	N/A	-						-ME	-ME	/	-	/	NA	/	2	c		

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				Fraser 1/2		Fraser		Identifications	Result	Standard II lysis LSB 22h 30°C (2006)		Standard II lysis LSB for 22h at 30°C (2008 & 2019) APF Classic		Easy II lysis LSB for 24h at 30°C (2006 & 2019) APF Classic								Standard II lysis APF Classic	Easy II lysis APF Classic	Standard II lysis APF Classic	Easy II lysis APF Classic				
										Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	AL	Pal	Subculture in Fraser if necessary	RLM	RLSP	Identifications								
2006	P3	Maroilles au lait cru	Raw milk cheese	+LB	+LB	+MB	+MA	<i>L.monocytogenes</i>	+	37.09	+			36.61	+				+LB	+LB	<i>L.monocytogenes</i>	+	+	PA	PA	3	a		
2006	P4	Maroilles au lait cru	Raw milk cheese	Ø	-LE	+MA	+LA	<i>L.monocytogenes</i>	+	29.18	+			33.33	+				+LA	+LA	<i>L.monocytogenes</i>	+	+	PA	PA	3	a		
2006	Q15	Brie de Meaux	Cheese	Ø	-LE	+MA	+MA	<i>L.monocytogenes</i>	+	23.03	+			26.29	+				+LA	+LA	<i>L.monocytogenes</i>	+	+	PA	PA	3	a		
2006	Q24	Rocamadour au lait cru	Raw milk cheese	Ø	Ø	+LA	+LA	<i>L.monocytogenes</i>	+	32.85	+			39.73	+				+LA	+LA	<i>L.monocytogenes</i>	+	+	PA	PA	3	a		
2006	P5	Maroilles au lait cru	Raw milk cheese	-LE	-LE	-ME	-LE	/	-	N/A	-	N/A	-	N/A	-				/	/	Ø	-	-	NA	NA	3	a		
2006	R4	Selles sur Cher	Cheese	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	3	a		
2006	AA13	Lait fromage non affiné	Cheese	Ø	Ø	-ME	-ME	/	-	N/A	-			N/A	-				/	/	/	-	-	NA	NA	3	a		
2006	Z5	Lait fromage non affiné	Cheese	Ø	Ø	-HE	-HE	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	3	a		
2008	A2	Tomme de chèvre fermière	Cheese	+LA	+LA	+MA	+MA	<i>L.monocytogenes</i>	+	30.27	+	28.76	+						+LA	+LA	<i>L.monocytogenes</i>	+	/	PA	/	3	a		
2008	B2	Roquefort	Cheese	Ø	-ME	Ø	-LE	/	-	33.17	+	31.36	+						+MA	+MA	<i>L.ivanovii</i>	+	/	PD	/	3	a		
2008	E3	Cantal entre-deux au lait cru	Raw milk cheese	+LB	+LB	+MA	+MB	<i>L.monocytogenes</i>	+	22.55	+	21.76	+						+MB	+MB	<i>L.monocytogenes</i>	+	/	PA	/	3	a		
2008	E4	Saint Nectaire au lait cru	Raw milk cheese	+LB	+LB	+MA	+HB	<i>L.monocytogenes</i>	+	22.92	+	21.51	+						+HB	+HB	<i>L.monocytogenes</i>	+	/	PA	/	3	a		
2019	3468	Rocamadour au lait cru	Raw milk cheese	H+	+	H+	+	<i>L.monocytogenes</i>	+			28.2	+	34.19	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PA	PA	3	a		
2019	3469	Tomme Savoie au lait cru	Raw milk cheese	H+d	-	H+	+(2)	<i>L.monocytogenes</i>	+			28.47	+	34.1	+	H+/H-d	+	/	+/yellow	+	<i>L.monocytogenes/ L.welshimeri</i>	+	+	PA	PA	3	a		
2019	3470	Abondance au lait cru	Raw milk cheese	H-d	+d	st	-	(Gram -)	-			33.49	+	37.91	+	H-	+d(1)	/	-	+	<i>L.welshimeri</i>	+	+	PD	PD	3	a		
2019	3471	Selles-sur-Cher au lait cru	Raw milk cheese	st	-	st	-	/	-			35.89	+	-/-	-/-	H-(3)	-	+(H-/+)	+(yellow)	+(1)	<i>L.welshimeri</i>	+	-	PD	NA _{FN(alt)}	3	a		
2019	3472	Roquefort au lait cru	Raw milk cheese	-	-	-	st	/	-			-	-	-	-	-	-	-	-	-	/	-	-	NA	NA	3	a		
2019	3473	Roquefort au lait cru	Raw milk cheese	-	-	-	-	/	-			27.02	+	31.53	+	H+/H-	+	/	+	+	<i>L.monocytogenes L.innocua</i>	+	+	PD	PD	3	a		
2019	3474	Neufchâtel au lait cru	Raw milk cheese	H-	+	H-	+	<i>L.innocua</i>	+			-/-	-/-	-/-	-/-	-	-	+(H-/+)	-	-	<i>L.innocua</i>	-	-	ND _{FN(alt)}	ND _{FN(alt)}	3	a		
2019	3475	Neufchâtel au lait cru	Raw milk cheese	-	-	st	-	/	-			31.09	+	37.23	+	H+	+	/	+	+	<i>L.monocytogenes</i>	+	+	PD	PD	3	a		
2019	4428	Petit camembert au lait cru	Raw milk cheese	st	-	st	-	/	-			-	-	-	-	-	-	-	st	st	/	-	-	NA	NA	3	a		
2019	4429	Emmental au lait cru	Raw milk cheese	st	-	st	-	/	-			-	-	43.77/-	+/-	-	-	-	-	-	- (5Fraser/ AL/Palcam)	-	-	NA	PD _{FP(alt)}	3	a		
2019	4430	Appenzeller au lait cru	Raw milk cheese	st	-	st	st	/	-			-	-	-	-	-	-	-	-	st	/	-	-	NA	NA	3	a		
2019	4431	Emmental au lait cru	Raw milk cheese	-	-	H-d	-	NC on TSYEA	-			-	-	-	-	H-d (NC)	-	-	-	st	/	-	-	NA	NA	3	a		
2019	4432	Paletou au lait cru	Raw milk cheese	-	-	st	-	/	-			-	-	39.39/-	+/-	st	-	-	st	st	- (5Fraser/ AL/Palcam)	-	-	NA	PD _{FP(alt)}	3	a		
2019	4462	Brie de Meaux au lait cru	Raw milk cheese	-	-	st	-	/	-			-	-	40.23/ 42.24/-	+/-	-	-	-	-	-	- (5Fraser/ AL/Palcam)	-	-	NA	PD _{FP(alt)}	3	a		
2019	4463	Camembert au lait cru	Raw milk cheese	st	st	st	st	/	-			-	-	-	-	-	-	-	-	-	/	-	-	NA	NA	3	a		

DAIRY PRODUCTS																												
Date of analysis	Ref	Product (French name)	Product	Reference method NF EN ISO 11290-1						Alternative method: iQ-Check <i>Listeria spp</i>															Category	Type		
										After incubation time																		
										Standard II lysis				Easy II lysis		Confirmation (LSB for 24h in 2006 and 2008; LSB for 22h in 2019)						Final result		Agreement				
				Fraser 1/2		Fraser		Identifications	Result	Standard II lysis LSB 22h 30°C (2006)		Standard II lysis LSB for 22h at 30°C (2008 & 2019) APF Classic		Easy II lysis LSB for 24h at 30°C (2006 & 2019) APF Classic														
										Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	AL	Pal	Subculture in Fraser if necessary	RLM	RLSP	Identifications	Standard II lysis APF Classic	Easy II lysis APF Classic	Standard II lysis APF Classic	Easy II lysis APF Classic			
2006	O18	Neufchâtel fermier	Cheese	Ø	-LE	Ø	-LE	/	-	N/A/N/A*	i/-*			N/A	-				Ø	Ø	Ø	-	-	NA	NA	3	c	
2006	C4	Maroilles	Cheese	+LB(2)	Ø	+LB	+MA	<i>L.monocytogenes</i>	+	23.22	+	36.09	+	26.74	+				+MA	+MA	<i>L.monocytogenes</i>	+	+	PA	PA	3	c	
2006	E6	Ossau Iraty	Cheese	+LA	+LA	+HB	+MB	<i>L.monocytogenes</i> <i>L.innocua</i>	+	17.15	+	16.91	+	19.81	+				+HB	+HA	<i>L.monocytogenes</i> <i>L.innocua</i>	+	+	PA	PA	3	c	
2006	E8	Fromage de chèvre	Cheese	+MB	+MB	+MB	+MB	<i>L.monocytogenes</i>	+	14.94	+	13.01	+	17.70	+				+HB	+HB	<i>L.monocytogenes</i>	+	+	PA	PA	3	c	
2006	M24	Pont l'Evêque	Cheese	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	3	c	
2006	M25	Livarot	Cheese	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	3	c	
2006	N11	Maroilles fermier	Cheese	+LA	+LB	+MB	+LB	<i>L.monocytogenes</i>	+	22.46	+	38.03	+	30.70	+				+MA	+MA	<i>L.monocytogenes</i>	+	+	PA	PA	3	c	
2006	A1	Fromage de chèvre Ste Maure	Cheese	Ø	Ø	Ø	Ø	/	-	N/A	-			N/A	-				/	/	/	-	-	NA	NA	3	c	
2006	N12	Maroilles fermier	Cheese	+LA	+MA	+MA	+MA	<i>L.monocytogenes</i>	+	19.33	+	38.71	+	32.00	+				+MA	+MA	<i>L.monocytogenes</i>	+	+	PA	PA	3	c	
2006	N18	Cœur de Neufchâtel	Cheese	-LE	-LE	-LE	-LE	/	-	22.72	+	11.72	+	25.24	+				+MA	+HA	<i>L.monocytogenes</i>	+	+	PD	PD	3	c	
2006	O23	Bûche de chèvre	Cheese	+LA	+MC	+HA	+MA	<i>L.monocytogenes</i>	+	23.91	+			26.27	+				+MB	+MB	<i>L.monocytogenes</i>	+	+	PA	PA	3	c	
2006	Q9	Bûche de chèvre	Cheese	+LB	+LB	+MC	+MB	<i>L.monocytogenes</i>	+	22.63	+			25.67	+				+LB	+LA	<i>L.monocytogenes</i>	+	+	PA	PA	3	c	
2006	O3	Rond du vinage	Cheese	Ø	Ø	Ø	-LE	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	3	c	
2006	P20	Saint Paulin	Cheese	+LA	+LA	+MA	+MA	<i>L.monocytogenes</i>	+	21.62	+	35.07	+	24.73	+				+HA	+HA	<i>L.monocytogenes</i>	+	+	PA	PA	3	c	
2006	P21	Fromage de chèvre	Cheese	+LB	+MD	+HB	+MA	<i>L.monocytogenes</i>	+	22.01	+	19.3	+	21.25	+				+MB	+MA	<i>L.monocytogenes</i>	+	+	PA	PA	3	c	
2006	Q13	Glace chocolat	Chocolate ice-cream	+LC	+LC	+HB	+MB	<i>L.monocytogenes</i>	+	23.65	+	N/A/ 24.21*	i/+*	32.47	+				+MA	+MA	<i>L.monocytogenes</i>	+	+	PA	PA	3	c	
2006	Q27	St Paulin	Cheese	Ø	Ø	Ø	Ø	/	-	N/A	-	24.21	+	N/A	-				/	/	/	-	-	NA	NA	3	c	
2006	Q28	Munster pasteurisé	Pasteurized cheese	Ø	-LE	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	3	c	
2006	Q29	Brie pasteurisé	Pasteurized cheese	Ø	-LE	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	3	c	
2006	Q30	Fromage à raclette pasteurisé	Pasteurized cheese	Ø	-LE	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	3	c	
2006	R3	Valençay (fromage de chèvre)	Cheese	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	3	c	
2006	R5	Pigouille (fromage de chèvre)	Cheese	-LE	-LE	Ø	-LE	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	3	c	
2006	R6	Selles sur Cher	Cheese	Ø	Ø	-LE	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	3	c	
2006	AA12	Lait	Milk	Ø	Ø	Ø	Ø	/	-	N/A	-			N/A	-				/	/	/	-	-	NA	NA	3	c	
2006	AA14	lait	Milk	Ø	Ø	Ø	Ø	/	-	N/A	-			N/A	-				/	/	/	-	-	NA	NA	3	c	
2006	AA19	Glace vanille chocolat	Ice-cream	-ME	-ME	-ME	-ME	/	-	41.61	+			41.50	+				-ME	-ME	Ø	-	-	PD _{FP(alt)}	PD _{FP(alt)}	3	c	
2006	R7	Pigouille (fromage de chèvre)	Cheese	Ø	Ø	-LE	Ø	/	-	N/A	-	N/A	-	N/A	-				/	/	/	-	-	NA	NA	3	c	
2008	B5	Ricotta de brebis	Cheese	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-						Ø	Ø	/	-	/	NA	/	3	c	
2008	B6	Chèvre	Cheese	-LE	-LE	-LE	-LE	/	-	N/A	-	N/A	-						-ME	-ME	/	-	/	NA	/	3	c	
2008	B11	Brie	Cheese	Ø	Ø	Ø	Ø	/	-	N/A	-	N/A	-						-LE	-LE	/	-	/	NA	/	3	c	
2008	B12	Mont d'or	Cheese	-LE	-LE	Ø	Ø	/	-	N/A	-	N/A	-						Ø	Ø	/	-	/	NA	/	3	c	
2008	C2	Epoisses	Cheese	-LE	-LE	-LE	-LE	/	-	N/A	-	N/A	-						Ø	Ø	/	-	/	NA	/	3	c	
2008	E1	Reblochon fermier	Cheese	+LB	+LC	+MA	+HB	<i>L.monocytogenes</i>	+	27.68	+	27.15	+						+LB	+LB	<i>L.monocytogenes</i>	+	/	PA	/	3	c	
2008	E2	Fromage au bleu	Cheese	+LA	+LB	+MA	+HB	<i>L.monocytogenes</i>	+	28.19	+	27.58	+						+LB	+LB	<i>L.monocytogenes</i>	+	/	PA	/	3	c	

DAIRY PRODUCTS																											
Date of analysis	Ref	Product (French name)	Product	Reference method NF EN ISO 11290-1						Alternative method: iQ-Check <i>Listeria</i> spp																Category	Type
										After incubation time																	
										Standard II lysis				Easy II lysis		Confirmation (LSB for 24h in 2006 and 2008; LSB for 22h in 2019)						Final result		Agreement			
				Fraser 1/2		Fraser		Identifications	Result	Standard II lysis LSB 22h 30°C (2006)		Standard II lysis LSB for 22h at 30°C (2008 & 2019) APF Classic		Easy II lysis LSB for 24h at 30°C (2006 & 2019) APF Classic								Standard II lysis APF Classic	Easy II lysis APF Classic	Standard II lysis APF Classic	Easy II lysis APF Classic		
				AL	Pal	AL	Pal			Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	AL	Pal	Subculture in Fraser if necessary	RLM	RLSP	Identifications						
2008	E6	Fromage de brebis	Cheese	+LA	+MB	+MB	+HB	<i>L.monocytogenes</i>	+	19.76	+	19.54	+						+MA	+MA	<i>L.monocytogenes</i>	+	/	PA	/	3	c
2008	E7	Cantal fruité	Cheese	+MA	+MB	+MB	+HB	<i>L.monocytogenes</i>	+	18.25	+	18.05	+						+MA	+MA	<i>L.monocytogenes</i>	+	/	PA	/	3	c
2019	5342	Camembert au lait pasteurisé	Pasteurised cheese	H-	+	H-	+	<i>L.innocua</i>	+			21.13	+	23.71	+	H-	-	/	-	+	<i>L.innocua</i>	+	+	PA	PA	3	c
2019	5343	Cantal au lait pasteurisé	Pasteurised cheese	H-	+	H-	+	<i>L.welshimeri</i>	+			30.8	+	32.83	+	H-	+	/	-	+	<i>L.welshimeri</i>	+	+	PA	PA	3	c

ENVIRONMENTAL SAMPLES																											
Date of analysis	Ref	Product (French name)	Product	Reference method NF EN ISO 11290-1					Alternative method: iQ-Check <i>Listeria spp</i>															Category	Type		
									After incubation time																		
									Standard II lysis				Easy II lysis		Confirmation (LSB for 24h in 2006 and 2008; LSB for 22h in 2019)						Final result		Agreement				
				Fraser 1/2		Fraser		Identifications	Result	Standard II lysis LSB 22h 30°C (2006)	Standard II lysis LSB for 22h at 30°C (2008 & 2019) APF Classic		Easy II lysis LSB for 24h at 30°C (2006 & 2019) APF Classic								Standard II lysis APF Classic	Easy II lysis APF Classic	Standard II lysis APF Classic			Easy II lysis APF Classic	
				AL	Pal	AL	Pal			Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	AL	Pal	Subculture in Fraser if necessary	RLM	RLSP							Identifications
2019	5590	Poussière aspirateur (environnement laitier)	Dust (dairy environment)	st	-	st	-	/	-					-	-	st	st	-	st	st	/	/	-	/	NA	6	c
2019	5672	Déchets végétaux 4è gamme	Residues (vegetable environment)	H-d	-	H-d	-	(Gram NC)	-					-	-	H-d	-	-	-	st	Gram NC	/	-	/	NA	6	c
2019	5673	Déchets (environnement laitier)	Residues (dairy environment)	-	-	-	-	/	-					40.48/-	+/-/-	-	-	-	-	st	- (5Fraser/AL/Palcam)	/	-	/	PD FP(alt)	6	c
2019	5674	Poussière aspirateur (environnement laitier)	Dust (dairy environment)	-	-	-	-	/	-					-	-	-	-	-	-	st	/	/	-	/	NA	6	c
2019	5675	Poussière aspirateur (environnement laitier)	Dust (dairy environment)	-	-	-	-	/	-					-	-	-	-	-	-	st	/	/	-	/	NA	6	c

DAIRY PRODUCTS																							
Date of analysis	Ref	Product (French name)	Product	Reference method NF EN ISO 11290-1						Alternative method: iQ-Check <i>Listeria</i> spp												Category	Type
										After enrichment broth storage for 72h at 5°C ± 3°C													
				Standard II lysis				Easy II lysis				Final result		Agreement									
				Fraser 1/2		Fraser		Identifications	Result	Standard II lysis PCR result (2006, 2019)	Standard II lysis LSB for 22h at 30°C + 72h at 5°C (2019) APF Classic	Result	Easy II lysis PCR result (2006, 2019)	Easy II lysis LSB for 24h at 30°C + 72h at 5°C ± 3°C (2019) APF Classic	Result	Identifications	Standard II lysis 72h APF Classic	Easy II lysis 72h APF Classic	Standard II lysis 72h APF Classic	Easy II lysis 72h APF Classic			
				AL	Pal	AL	Pal														Ct FAM		
2006	N12	Maroilles fermier	Cheese	+LA	+MA	+MA	+MA	<i>L.monocytogenes</i>	+	+			+		<i>L.monocytogenes</i>	+	+	PA	PA	3	c		
2006	N18	Cœur de Neufchâtel	Cheese	-LE	-LE	-LE	-LE	/	-	+			+		<i>L.monocytogenes</i>	+	+	PD	PD	3	c		
2006	O23	Bûche de chèvre	Cheese	+LA	+MC	+HA	+MA	<i>L.monocytogenes</i>	+	+			+		<i>L.monocytogenes</i>	+	+	PA	PA	3	c		
2006	Q9	Bûche de chèvre	Cheese	+LB	+LB	+MC	+MB	<i>L.monocytogenes</i>	+	+			+		<i>L.monocytogenes</i>	+	+	PA	PA	3	c		
2006	P20	Saint Paulin	Cheese	+LA	+LA	+MA	+MA	<i>L.monocytogenes</i>	+	+			+		<i>L.monocytogenes</i>	+	+	PA	PA	3	c		
2006	P21	Fromage de chèvre	Cheese	+LB	+MD	+HB	+MA	<i>L.monocytogenes</i>	+	+			+		<i>L.monocytogenes</i>	+	+	PA	PA	3	c		
2006	Q13	Glace chocolat	Chocolate ice-cream	+LC	+LC	+HB	+MB	<i>L.monocytogenes</i>	+	+			+		<i>L.monocytogenes</i>	+	+	PA	PA	3	c		
2006	AA19	Glace vanille chocolat	Ice-cream	-ME	-ME	-ME	-ME	/	-	+			+		Ø	-	-	PD FP(alt)	PD FP(alt)	3	c		
2019	5342	Camembert au lait pasteurisé	Pasteurised cheese	H-	+	H-	+	<i>L.innocua</i>	+		17.58	+		23.62	+	<i>L.innocua</i>	+	+	PA	PA	3	c	
2019	5343	Cantal au lait pasteurisé	Pasteurised cheese	H-	+	H-	+	<i>L.welshimeri</i>	+		24.85	+		31.94	+	<i>L.welshimeri</i>	+	+	PA	PA	3	c	

VEGETABLES																							
Date of analysis	Ref	Product (French name)	Product	Reference method NF EN ISO 11290-1						Alternative method: iQ-Check <i>Listeria</i> spp												Category	Type
										After enrichment broth storage for 72h at 5°C ± 3°C													
										Standard II lysis				Easy II lysis				Final result		Agreement			
				Fraser 1/2		Fraser		Identifications	Result	Standard II lysis PCR result (2006, 2019)	Standard II lysis LSB for 22h at 30°C + 72h at 5°C (2019) APF Classic	Result	Easy II lysis PCR result (2006, 2019)	Easy II lysis LSB for 24h at 30°C + 72h at 5°C ± 3°C (2019) APF Classic	Result	Identifications	Standard II lysis 72h APF Classic	Easy II lysis 72h APF Classic	Standard II lysis 72h APF Classic	Easy II lysis 72h APF Classic			
																					AL		
2019	4434	Salade de guacamole	RTE salad	H-d	-	H-d	-	NC on TSYEA	-		39.59/ 38.90/47.01	+ / + / +		40.71/3 8.98/37.28	+ / + / +	- (5Fraser/ AL/Palcam)	-	-	PD _{FP(alt)}	PD _{FP(alt)}	5	c	
2019	4435	Macédoine aux 5 légumes	RTE salad (macedoine)	H-d	-	H-d	-	NC on TSYEA	-		-	-		-	-	/	-	-	NA	NA	5	c	
2019	4437	Carottes râpées ciboulette	RTE salad (grated carrots)	-	-	H-d	-	NC on TSYEA	-		-	-		-	-	/	-	-	NA	NA	5	c	
2019	5442	Betteraves en cubes	Beetroot	H-d	-	H-d	-	(Gram -)	-		41.63/-/-	+ / - / -		39.72/-/-	+ / - / -	- (5Fraser/ AL/Palcam)	-	-	PD _{FP(alt)}	PD _{FP(alt)}	5	c	
2019	5443	Macédoine de légumes	RTE (Macédoine)	-	-	-	-	/	-		-	-		-	-	-	-	-	NA	NA	5	c	

ENVIRONMENTAL SAMPLES																								
Date of analysis	Ref	Product (French name)	Product	Reference method NF EN ISO 11290-1						Alternative method: iQ-Check <i>Listeria</i> spp												Category	Type	
										After enrichment broth storage for 72h at 5°C ± 3°C														
										Standard II lysis				Easy lysis				Final result		Agreement				
				Fraser 1/2		Fraser		Identifications	Result	Standard II lysis PCR result (2006, 2019)	Standard II lysis LSB for 22h at 30°C + 72h at 5°C (2019) APF Classic		Result	Easy II lysis PCR result (2006, 2019)	Easy II lysis LSB for 24h at 30°C + 72h at 5°C ± 3°C (2019) APF Classic		Result	Identifications	Standard II lysis 72h APF Classic	Easy II lysis 72h APF Classic	Standard II lysis 72h APF Classic			Easy II lysis 72h APF Classic
											AL	Pal			AL	Pal								
2006	I3	Tapis tunnel 3	Surface sample	+MA	+MA	+MA	+MA	<i>L.monocytogenes</i>	+	+			+			<i>L.monocytogenes</i>	+	+	PA	PA	6	b		
2006	I18	Ventilo refroidisseur 4	Surface sample	+LB	-LD(1)	+MB	-LB	<i>L.innocua</i>	+	+			+			<i>L.innocua</i>	+	+	PA	PA	6	b		
2006	I9	Pelle zone mélange	Surface sample	+MA	+MA	+MA	+MA	<i>L.monocytogenes</i>	+	+			+			<i>L.monocytogenes</i>	+	+	PA	PA	6	b		
2006	E13	Résidus bac échaudoir	Residues	-LE	-LE	-LE	-LE	/	-	-			-			/	-	-	NA	NA	6	c		
2006	F4	Résidus gras de porc	Residues (pork industry)	+MB	+MA	+HB	+MB	<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	+			+			<i>L.monocytogenes</i> <i>L.welshimeri</i>	+	+	PA	PA	6	c		
2006	I8	Résidus trémie zone mélange	Residues	+LB*	+LB	+MB	+MB	<i>L.monocytogenes</i> <i>L.innocua</i>	+	+			+			<i>L.monocytogenes</i> <i>L.innocua</i>	+	+	PA	PA	6	c		
2006	C11	Résidus table inox	Residues	-ME	+MB	+HB	+MB	<i>L.ivanovii</i>	+	+			+			<i>L.ivanovii</i>	+	+	PA	PA	6	c		
2006	E10	Résidus poisson bac sale	Residues (seafood industry)	+LB(1)	+LA	+HA	+MB	<i>L.monocytogenes</i>	+	+			+			<i>L.monocytogenes</i>	+	+	PA	PA	6	c		
2006	F1	Résidus pour fabrication pâté	Residues (pâté industry)	+MA	+MB	+HB	+HB	<i>L.monocytogenes</i>	+	+			+			<i>L.monocytogenes</i> <i>L.innocua</i>	+	+	PA	PA	6	c		
2006	F2	Résidus foie et cœur de porc	Residues (pork industry)	+MB	+MB	+HB	+HB	<i>L.monocytogenes</i> <i>L.innocua</i> <i>L.welshimeri</i>	+	+			+			<i>L.monocytogenes</i> <i>L.innocua</i> <i>L.welshimeri</i>	+	+	PA	PA	6	c		
2006	F3	Résidus pour fabrication pâté	Residues (pâté industry)	+LB	+LB	+MB	+MB	<i>L.monocytogenes</i> <i>L.innocua</i>	+	+			+			<i>L.monocytogenes</i> <i>L.innocua</i>	+	+	PA	PA	6	c		
2006	F5	Résidus crépinette	Residues	+LA	+LA	+HA	+MA	<i>L.monocytogenes</i>	+	+			+			<i>L.monocytogenes</i>	+	+	PA	PA	6	c		
2006	I6	Résidus caniveau zone mélange	Residues	+MA	+MA	+MB	+MB	<i>L.monocytogenes</i> <i>L.innocua</i>	+	+			+			<i>L.monocytogenes</i>	+	+	PA	PA	6	c		
2006	I17	Résidus bac déchets entrée Gyro	Residues	+MB	+LB	+MB	+MB	<i>L.monocytogenes</i> <i>L.innocua</i>	+	+			+			<i>L.monocytogenes</i> <i>L.innocua</i>	+	+	PA	PA	6	c		

ENVIRONMENTAL SAMPLES (Extension study, 2019 – ADRIA Développement)																											
Date of analysis	Ref	Product (French name)	Product	Reference method NF EN ISO 11290-1*						Alternative method: iQ-Check <i>Listeria</i> spp																	Type
										18h at 30°C ± 1°C +72h at 5°C ± 3°C																	
				Fraser 1/2		Fraser		Identifications	Result	Easy II lysis LSB for 18h at 30°C + 72h 5°C ± 3°C				FDRS Easy II lysis LSB 18h 30°C + 72h 5°C ± 3°C				Confirmation	Final result Easy II lysis 72h		Final result FDRS Easy II lysis 72h		Agreement Easy II lysis 72h		Agreement FDRS Easy II lysis 72h		
										APF Classic		APF Fast		APF Classic		APF Fast											
AL	Pal	AL	Pal	Ct FAM	Result	Ct FAM	Result			Ct FAM	Res ult	Ct FAM	Result	Identifications	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	AP Fast					
2019	4060	Eau process (bœuf)	Process water (beef environment)	-	-	-	-	/	-	-	-	40.67/ 38.47/ 38.49	+ / + / +	-	-	-	-	- (5Fraser/ AL/Palcam)	-	-	-	-	NA	PD FP(alt)	NA	NA	a
2019	4062	Eau de rinçage végétaux	Rinsing water (vegetable environment)	st	st	-	st	/	-	-	-	40.22/ 39.94/ 38.68	+ / + / +	-	-	-	-	- (5Fraser/ AL/Palcam)	-	-	-	-	NA	PD FP(alt)	NA	NA	a
2019	4681	Eau process (bœuf)	Process water (beef environment)	H+	+	H+	+	<i>L.monocytogenes</i>	+	22.77	+	23.34	+	22.79	+	23.57	+	<i>L.monocytogenes</i>	+	+	+	+	PA	PA	PA	PA	a
2019	4682	Eau de rinçage (jambon végétal)	Rinsing water (vegetable environment)	H+	+	H+	+	<i>L.monocytogenes</i>	+	23.52	+	23.82	+	22.89	+	23.92	+	<i>L.monocytogenes</i> / <i>L.innocua</i>	+	+	+	+	PA	PA	PA	PA	a
2019	4683	Eau rinçage (thon)	Rinsing water (seafood environment)	H+	+	H+	+	<i>L.monocytogenes</i>	+	25.07	+	25.5	+	24.60	+	25.37	+	<i>L.monocytogenes</i>	+	+	+	+	PA	PA	PA	PA	a
2019	4684	Eau rinçage (saumon)	Rinsing water (seafood environment)	st	st	st	st	/	-	25.01	+	25.43	+	24.43	+	25.07	+	<i>L.monocytogenes</i> / <i>L.innocua</i>	+	+	+	+	PD	PD	PD	PD	a
2019	4685	Eau rinçage (saumon)	Rinsing water (seafood environment)	H+	+	H+	+	<i>L.monocytogenes</i>	+	24.27	+	24.68	+	24.32	+	24.58	+	<i>L.monocytogenes</i>	+	+	+	+	PA	PA	PA	PA	a
2019	4686	Eau rinçage (thon)	Rinsing water (seafood environment)	H+	+	H+	+	<i>L.monocytogenes</i>	+	-	-	-	-	-	-	-	-	/	-	-	-	-	ND	ND	ND	ND	a
2019	4687	Eau rinçage (thon)	Rinsing water (seafood environment)	H+/H-	+	H+/H-	+	<i>L.monocytogenes</i> / <i>L.innocua</i>	+	25.79	+	26.22	+	25.81	+	26.36	+	<i>L.monocytogenes</i> / <i>L.innocua</i>	+	+	+	+	PA	PA	PA	PA	a
2019	4688	Eau rinçage (environnement mer)	Rinsing water (seafood environment)	H+	+	H+	+	<i>L.monocytogenes</i>	+	27.99	+	28.1	+	28.01	+	28.08	+	<i>L.monocytogenes</i>	+	+	+	+	PA	PA	PA	PA	a
2019	5081	Eau rinçage bol (environnement laitier)	Rinsing water (dairy environment)	H-	+	H-	+	<i>L.innocua</i>	+	26.76	+	27.34	+	27.14	+	27.44	+	<i>L.monocytogenes</i> / <i>L.innocua</i>	+	+	+	+	PA	PA	PA	PA	a
2019	5086	Eau rinçage (environnement végétaux)	Rinsing water (vegetable environment)	H+	+	H+	3+	<i>L.monocytogenes</i>	+	30.82	+	30.93	+	31.27	+	31.8	+	<i>L.monocytogenes</i>	+	+	+	+	PA	PA	PA	PA	a
2019	5091	Eau rinçage (environnement volaille)	Rinsing water (poultry environment)	H+/H-	+	H+/H-	+	<i>L.monocytogenes</i> / <i>L.innocua</i>	+	25.78	+	26.47	+	27.70	+	27.8	+	<i>L.monocytogenes</i> / <i>L.innocua</i>	+	+	+	+	PA	PA	PA	PA	a
2019	5591	Eau de rinçage bol (environnement carné)	Rinsing water (meat environment)	st	st	st	st	/	-	-	-	-	-	-	-	-	-	/	-	-	-	-	NA	NA	NA	NA	a
2019	5592	Eau de rinçage bol (environnement laitier)	Rinsing water (dairy environment)	st	st	-	-	/	-	29.19	+	28.32	+	29.18	+	29.01	+	<i>L.innocua</i>	+	+	+	+	PD	PD	PD	PD	a
2019	5077	Eponge lame cutter (environnement laitier)	Sponge (dairy environment)	st	-	st	-	/	-	26.26	+	27.16	+	26.78	+	27.32	+	<i>L.monocytogenes</i> / <i>L.innocua</i>	+	+	+	+	PD	PD	PD	PD	b
2019	5078	Eponge pailleasse découpe fromage	Sponge (dairy environment)	H+ / + / H-	+	H+ / + / H-	+	<i>L.monocytogenes</i> / <i>L.innocua</i>	+	28.20	+	29.12	+	30.17	+	29.46	+	<i>L.innocua</i>	+	+	+	+	PA	PA	PA	PA	b
2019	5079	Chiffonnette cutter (environnement laitier)	Wipe (dairy environment)	H-	+	H-	+	<i>L.innocua</i>	+	29.93	+	30.02	+	29.21	+	29.52	+	<i>L.innocua</i>	+	+	+	+	PA	PA	PA	PA	b
2019	5082	Eponge cutter (environnement végétaux)	Sponge (vegetable environment)	H+	+	H+	+	<i>L.monocytogenes</i>	+	29.02	+	29.08	+	29.09	+	29.23	+	<i>L.monocytogenes</i>	+	+	+	+	PA	PA	PA	PA	b
2019	5083	Eponge balance (environnement végétaux)	Sponge (vegetable environment)	H+	+	H+	+	<i>L.monocytogenes</i>	+	28.41	+	28.53	+	28.30	+	28.63	+	<i>L.monocytogenes</i>	+	+	+	+	PA	PA	PA	PA	b

♦ Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

ENVIRONMENTAL SAMPLES (Extension study, 2019 – ADRIA Développement)																												
Date of analysis	Ref	Product (French name)	Product	Reference method NF EN ISO 11290-1♦						Alternative method: iQ-Check <i>Listeria</i> spp 18h at 30°C ± 1°C +72h at 5°C ± 3°C																		Type
				Fraser 1/2		Fraser		Identifications	Result	Easy II lysis LSB for 18h at 30°C + 72h 5°C ± 3°C				FDRS Easy II lysis LSB 18h 30°C + 72h 5°C ± 3°C				Confirmation	Final result Easy II lysis 72h		Final result FDRS Easy II lysis 72h		Agreement Easy II lysis 72h		Agreement FDRS Easy II lysis 72h			
										APF Classic		APF Fast		APF Classic		APF Fast												
				AL	Pal	AL	Pal			Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Identifications	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	AP Fast		
2019	5084	Chiffonnette outils découpe végétaux	Wipe (vegetable environment)	H+	+	H+	+	<i>L.monocytogenes</i>	+	37.78	+	36.28	+	34.70	+	34.99	+	<i>L.monocytogenes</i>	+	+	+	+	PA	PA	PA	PA	b	
2019	5087	Eponge cutter (environnement volaille)	Sponge (poultry environment)	H+/-/H-	+	H+/-/H-	+	<i>L.innocua</i>	+	28.26	+	28.54	+	28.90	+	29.02	+	<i>L.monocytogenes</i>	+	+	+	+	PA	PA	PA	PA	b	
2019	5088	Eponge paillasse découpe volaille	Sponge (poultry environment)	H+/-/H-	+	H-	+	<i>L.monocytogenes/ L.innocua</i>	+	23.82	+	23.96	+	25.16	+	25.13	+	<i>L.monocytogenes/ L.innocua</i>	+	+	+	+	PA	PA	PA	PA	b	
2019	5089	Chiffonnette balance (environnement carné)	Wipe (meat environment)	H+/-/H-	+	H+/-/H-	+	<i>L.monocytogenes/ L.innocua</i>	+	24.99	+	25.08	+	25.73	+	25.89	+	<i>L.monocytogenes</i>	+	+	+	+	PA	PA	PA	PA	b	
2019	5578	Chiffonnette paillasse découpe végétaux	Wipe after cleaning process(vegetable environment)	H+	+	H+	+	<i>L.monocytogenes</i>	+	27.80	+	27.07	+	27.67	+	28.09	+	<i>L.monocytogenes</i>	+	+	+	+	PA	PA	PA	PA	b	
2019	5579	Chiffonnette après nettoyage plan de travail (environnement laitier)	Wipe (dairy environment)	H+	+	H+	+	<i>L.monocytogenes</i>	+	25.80	+	25.95	+	26.12	+	25.55	+	<i>L.monocytogenes</i>	+	+	+	+	PA	PA	PA	PA	b	
2019	5580	Chiffonnette cutter (environnement végétaux)	Wipe (vegetable environment)	st	st	st	st	/	-	-	-	-	-	-	-	-	-	/	-	-	-	-	NA	NA	NA	NA	b	
2019	5581	Chiffonnette après nettoyage balance (environnement carné)	Wipe after cleaning process(meat environment)	-	-	st	-	/	-	-	-	-	-	-	-	-	-	/	-	-	-	-	NA	NA	NA	NA	b	
2019	5584	Chiffonnette après nettoyage plan de travail (environnement végétaux)	Wipe after cleaning process(vegetable environment)	-	-	-	-	/	-	-	-	-	-	-	-	-	-	/	-	-	-	-	NA	NA	NA	NA	b	
2019	5588	Eponge cutter (environnement végétaux)	Sponge (vegetable environment)	-	-	-	-	/	-	-	-	-	-	-	-	-	-	(GRAM NC)	-	-	-	-	NA	NA	NA	NA	b	
2019	4046	Déchets saumon	Residues (seafood environment)	H-	+	H-	+	<i>L.innocua</i>	+	33.70	+	32.36	+	33.48	+	32.24	+	<i>L.monocytogenes</i>	+	+	+	+	PA	PA	PA	PA	c	
2019	4047	Déchets poissons	Residues (seafood environment)	H+	+	H+	+	<i>L.monocytogenes</i>	+	34.86	+	33.9	+	41.58	+	-/40.16/ 41.12	-/+ / +	<i>L.innocua</i>	+	+	+	-	PA	PA	PA	ND FN(alt)	c	
2019	4048	Déchets pareuse	Residues (seafood environment)	H+	+	H+	+	<i>L.monocytogenes</i>	+	30.38	+	29.19	+	30.32	+	28.69	+	<i>L.monocytogenes/ L.innocua</i>	+	+	+	+	PA	PA	PA	PA	c	
2019	4049	Déchets thon	Residues (seafood environment)	H-	+	H-	+	<i>L.innocua</i>	+	28.25	+	27	+	28.19	+	26.53	+	<i>L.innocua</i>	+	+	+	+	PA	PA	PA	PA	c	
2019	4050	Déchets chantilly	Residues (dairy environment)	st	st	st	st	/	-	27.46	+	26.06	+	28.08	+	26.16	+	<i>L.monocytogenes</i>	+	+	+	+	PD	PD	PD	PD	c	
2019	4051	Déchets chantilly	Residues (dairy environment)	H-	+	H-	+	<i>L.innocua</i>	+	29.27	+	28.15	+	28.71	+	27.09	+	<i>L.monocytogenes/ L.innocua</i>	+	+	+	+	PA	PA	PA	PA	c	
2019	4052	Déchets fromage	Residues (dairy environment)	H-	+	H-	+	<i>L.innocua</i>	+	30.03	+	30.95	+	29.89	+	28.68	+	<i>L.innocua</i>	+	+	+	+	PA	PA	PA	PA	c	
2019	4053	Déchets fromage	Residues (dairy environment)	H-	+	H-	+	<i>L.innocua</i>	+	28.41	+	26.94	+	28.38	+	26.81	+	<i>L.innocua</i>	+	+	+	+	PA	PA	PA	PA	c	
2019	4056	Déchets poissons	Residues (seafood environment)	H-d	d	H-d	d	(GRAM NC)	-	-	-	-	-	-	-	-	-	/	-	-	-	-	NA	NA	NA	NA	c	
2019	4059	Déchets brocoli	Residues (vegetable environment)	st	-	-	-	/	-	25.55	+	25.96	+	25.33	+	24.18	+	<i>L.innocua</i>	+	+	+	+	PD	PD	PD	PD	c	
2019	4689	Déchets saumon	Residues (seafood environment)	H+	+	H+	+	<i>L.monocytogenes</i>	+	-	-	-	-	-	-	-	-	/	-	-	-	-	ND	ND	ND	ND	c	

ENVIRONMENTAL SAMPLES (Extension study, 2019 – ADRIA Développement)																												
Date of analysis	Réf	Product (French name)	Product	Reference method NF EN ISO 11290-1*						Alternative method: iQ-Check <i>Listeria</i> spp																		Type
				18h at 30°C ± 1°C +72h at 5°C ± 3°C																								
				Fraser 1/2		Fraser		Identifications	Result	Easy II lysis LSB for 18h at 30°C + 72h 5°C ± 3°C				FDRS Easy II lysis LSB 18h 30°C + 72h 5°C ± 3°C				Confirmation	Final result Easy II lysis 72h		Final result FDRS Easy II lysis 72h		Agreement Easy II lysis 72h		Agreement FDRS Easy II lysis 72h			
										APF Classic		APF Fast		APF Classic		APF Fast			Easy II lysis 72h		Easy II lysis 72h		Easy II lysis 72h		Easy II lysis 72h			
				AL	Pal	AL	Pal			Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Identifications	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	AP Fast		
2019	4690	Déchets saumon herbes	Residues (seafood environment)	H+/H-	+	H+/H-	+			<i>L.monocytogenes/ L.innocua</i>	+	-	-	-	-	-	-	-	/	-	-	-	-	ND	ND	ND	ND	c
2019	5080	Déchets fromage	Residues (dairy environment)	H-	+	H-	+	<i>L.innocua</i>	+	29.98	+	30.11	+	30.63	+	30.93	+	<i>L.innocua</i>	+	+	+	+	PA	PA	PA	PA	c	
2019	5085	Déchets végétaux 4è gamme	Residues (vegetable environment)	H+	+	H+	+	<i>L.monocytogenes</i>	+	-	-	-	-	-	-	-	/	-	-	-	-	ND	ND	ND	ND	c		
2019	5090	Déchets viande veau	Residues (veal environment)	H+	+	H+	+	<i>L.monocytogenes</i>	+	28.35	+	27.57	+	29.23	+	29.61	+	<i>L.monocytogenes/ L.innocua</i>	+	+	+	+	PA	PA	PA	PA	c	
2019	5589	Poussière aspirateur (environnement laitier)	Dust (dairy environment)	H-	+	-	-	<i>L. seeligeri</i>	+	-	-	-	-	37.37/-/-	+/-/-	-	-	- (5Fraser/ AL/Palcam)	-	-	-	-	ND	ND	PA _{FP(alt)}	ND	c	
2019	5672	Déchets végétaux 4è gamme	Residues (vegetable environment)	H-d	-	H-d	-	(GRAM NC)	-	41.40/ 38.75/ 41.04	+/-/+	-	-	-	-	-	-	- (5Fraser/ AL/Palcam)	-	-	-	-	PD _{FP(alt)}	NA	NA	NA	c	
2019	5673	Déchets (environnement laitier)	Residues (dairy environment)	-	-	-	-	/	-	-	-	-	-	-	-	-	/	-	-	-	-	NA	NA	NA	NA	c		

Rillettes**inoculated with *Listeria welshimeri* L90**

6 000 CFU/g et *2400 CFU/g

Contamination level	Inoculation level (b/25g)	Reference method						Alternative method : iQ Lspp (LSB) Easy II lysis (24h)								Alternative method : iQ Lspp (LSB) Standard II lysis (22h)							
		Fraser 1/2 (10µl)		Fraser		Result	Conclusion	PCR		Test result	RLM	RLspp	Result	Conclusion	PCR		Test result	RLM	RLspp	Result	Conclusion		
		P1	AL1	P2	AL2			Ct int	Ct FAM						Ct int	Ct FAM							
1	0,00	Ø	Ø	Ø	Ø	-	0/6	30.42	N/A	-	/	/	-	0/6	30.39	N/A	-	/	/	-	- (FP)	0/6	
		Ø	Ø	Ø	Ø	-		30.65	N/A	-	/	/	-		30.36	N/A	-	/	/	-			
		Ø	Ø	Ø	Ø	-		30.77	N/A	-	/	/	-		30.59	38.76	+	/	/	-			
		Ø	Ø	Ø	Ø	-		30.64	N/A	-	/	/	-		30.44	N/A	-	/	/	-			
		Ø	Ø	Ø	Ø	-		30.47	N/A	-	/	/	-		30.56	N/A	-	/	/	-			
		Ø	Ø	Ø	Ø	-		30.51	N/A	-	/	/	-		30.23	N/A	-	/	/	-			
		Ø	Ø	Ø	Ø	-																	
		Ø	Ø	Ø	Ø	-																	
2	0,25	Ø	Ø	Ø	Ø	-	3/6	31.07	N/A	-	-HE	-HE	-	4/6	30.41	N/A	-	-HE	-HE	-	+	4/6	
		+LA(1)	+LA(3)	+HA	+MA	+		N/A	22.28	+	+HA	+HA	+		N/A	19.79	+	+HA	+HA	+			
		+LA	+LA	+HA	+HA	+		N/A	27.21	+	+MA	+HA	+		N/A	23.89	+	+MA	+HA	+			
		Ø	Ø	Ø	Ø	-		N/A	24.55	+	+MA	+MA	+		N/A	21.76	+	+MA	+MA	+			
		Ø	-LE	-LE	Ø	-		31.01	N/A	-	-LE	-LE	-		30.37	N/A	-	-LE	-LE	-			
		+LA(1)	Ø	+HA	+MA	+		N/A	24.95	+	+HA	+HA	+		N/A	22.21	+	+HA	+HA	+			
		Ø	Ø	Ø	Ø	-																	
		Ø	Ø	Ø	Ø	-																	
3	0,50	Ø	Ø	Ø	Ø	-	4/6	29.76	N/A	-	-ME	-ME	-	3/6	29.39	N/A	-	-ME	-ME	-	+	3/6	
		Ø	Ø	Ø	Ø	-		N/A	24.53	+	+HA	+HA	+		N/A	21.96	+	+HA	+HA	+			
		+LA	+LA	+HA	+HA	+		30.16	N/A	-	-LE	-LE	-		30.17	N/A	-	-LE	-LE	-			
		+LA	+LA	+HA	+MA	+		N/A	24.60	+	+HA	+MA	+		N/A	21.41	+	+HA	+MA	+			
		+LA	+LA	+HA	+HA	+		29.83	N/A	-	-ME	-ME	-		29.21	N/A	-	-ME	-ME	-			
		+LA	+LA	+HA	+MA	+		29.61	28.02	+	+MA	+MA	+		N/A	25.09	-	+MA	+MA	+			
		Ø	Ø	Ø	Ø	-																	
		Ø	Ø	Ø	Ø	-																	
4	1,00	+MA	+LA	+HA	+MA	+	4/6	N/A	24.58	+	+HA	+HA	+	6/6	N/A	22.32	+	+HA	+HA	+	+	6/6	
		+LA	+LA	+HA	+HA	+		N/A	24.33	+	+HA	+HA	+		N/A	21.02	+	+HA	+HA	+			
		+LA(2)	+LA(2)	+HA	+HA	+		N/A	24.81	+	+HA	+HA	+		N/A	20.27	+	+HA	+HA	+			
		+LA	+LA	+HA	+HA	+		N/A	25.00	+	+HA	+HA	+		N/A	20.97	+	+HA	+HA	+			
		Ø	Ø	Ø	Ø	-		N/A	25.05	+	+MA	+MA	+		N/A	22.38	+	+MA	+MA	+			
		Ø	Ø	Ø	Ø	-		N/A	23.96	+	+MA	+MA	+		N/A	20.14	+	+MA	+MA	+			
		Ø	Ø	Ø	Ø	-																	
		Ø	Ø	Ø	Ø	-																	
5	1,50	+LA	+LA	+HA	+HA	+	6/6	N/A	26.64	+	+HA	+HA	+	6/6	N/A	26.64	+	+HA	+HA	+	+	6/6	
		+MA	+MA	+HA	+HA	+		N/A	23.49	+	+MA	+MA	+		N/A	23.49	+	+MA	+MA	+			
		+LA	+LA	+HA	+HA	+		N/A	25.82	+	+MA	+HA	+		N/A	25.82	+	+MA	+HA	+			
		+LA	+LA	+HA	+HA	+		N/A	24.80	+	+HA	+MA	+		N/A	24.80	+	+HA	+MA	+			
		+LA	+LA	+HA	+HA	+		N/A	23.22	+	+MA	+MA	+		N/A	23.22	+	+MA	+MA	+			
		+LA	+LA	+HA	+HA	+		N/A	23.83	+	+MA	+MA	+		N/A	23.83	+	+MA	+MA	+			
		Ø	Ø	Ø	Ø	-																	
		Ø	Ø	Ø	Ø	-																	

Raw milk
 Inoculated with *Listeria monocytogenes* 1/2b L37
 5 700 000 CFU/ml

Contamination level	Inoculation level (b/25g)	Reference method						Alternative method : iQ Lspp (LSB) Easy II lysis (24h)								Alternative method : iQ Lspp (LSB) Standard II lysis (22h)							
		Fraser 1/2 (10µl)		Fraser		Result	Conclusion	PCR		Test result	RLM	RLspp	Result	Conclusion	PCR		Test result	RLM	RLspp	Result	Conclusion		
		P1	AL1	P2	AL2			Ct Atto	Ct FAM						Ct Atto	Ct FAM							
1	0	-LE	-LE	-LE	-ME	-	0/6	32.38	N/A	-	/	/	-	0/6	31.98	N/A	-	/	/	-	0/6		
		Ø	-LE	Ø	-ME	-		32.01	N/A	-	/	/	-		32.45	N/A	-	/	/	-			
		-LE	Ø	-LE	-ME	-		32.07	N/A	-	/	/	-		32.14	N/A	-	/	/	-			
		-LE	-LE	-LE	-ME	-		32.43	N/A	-	/	/	-		32.08	N/A	-	/	/	-			
		-LE	-LE	-LE	-ME	-		32.39	N/A	-	/	/	-		32.05	N/A	-	/	/	-			
		Ø	-LE	Ø	-LE	-		32.46	N/A	-	/	/	-		32.29	N/A	-	/	/	-			
		2	0,72	+LB	+LB	+MA		+MA	+	2/6	31.26	N/A	-		Ø	Ø	-	1/6	33.34	N/A		-	Ø
+LB	+LB			+MA	+MA	+	31.51	N/A	-		-LE	-LE	-	33.05	N/A	-	-LE		-LE	-			
Ø	-LE			-LE	-LE	-	36.25	26.45	+		+MA	+MA	+	36.94	28.93	+	+MA		+MA	+			
-LE	-LE			Ø	-LE	-	31.04	N/A	-		-LE	-LE	-	32.91	N/A	-	-LE		-LE	-			
-LE	-LE			-LE	-LE	-	31.24	N/A	-		-LE	-LE	-	32.86	N/A	-	-LE		-LE	-			
-LE	-LE			Ø	Ø	-	31.24	N/A	-		-LE	-LE	-	32.96	N/A	-	-LE		-LE	-			
3	1,44			+LB	+LB	+MB	+MA	+	5/6		31.28	N/A	-	-LE	-LE	-	5/6		32.98	N/A	-	-LE	-LE
		+LB	+LB	+MB	+MA	+	41.88	21.59		+	+MA	+MA	+	39.38	24.31	+		+MA	+MA	+			
		+LB	+MB	+MB	+MA	+	33.58	25.48		+	+MA	+LA	+	33.76	35.06	+		+MA	+LA	+			
		+LB	+LB	+MA	+MA	+	31.16	31.31		+	+MA	+MA	+	35.80	26.52	+		+MA	+MA	+			
		-LE	Ø	-LE	-ME	-	31.25	31.11		+	+LA	+LA	+	33.46	33.67	+		+LA	+LA	+			
		+LB	+LB	+MB	+MA	+	37.98	24.20		+	+MA	+MA	+	34.22	26.00	+		+MA	+MA	+			
		4	2,16	+LB	-LE	+MA	+MA	+		6/6	41.03	22.23	+	+MA	+MA	+		6/6	36.74	26.19	+	+MA	+MA
+LB	+LB			+HA	+MA	+	33.55	25.44	+		+MA	+MA	+	36.74	27.42	+	+MA		+MA	+			
+LB	+LB			+LB	+MA	+	31.27	32.25	+		+LB	+LB	+	34.44	36.23	+	+LB		+LB	+			
+LB	+LB			+LB	+MA	+	38.39	23.59	+		+MA	+MA	+	39.07	26.00	+	+MA		+MA	+			
+LB	+LB			+MB	+MA	+	40.50	23.97	+		+MA	+MA	+	38.38	24.90	+	+MA		+MA	+			
+LB	+LB			+LB	0	+	39.10	23.59	+		+MA	+MA	+	36.78	25.21	+	+MA		+MA	+			

Raw vegetable mix
inoculated with *Listeria seeligeri* L140
12 000 000 CFU/g

Contamination level	Inoculation level (b/25g)	Reference method						Alternative method : iQ Lspp (LSB) Easy II lysis (24h)							Alternative method : iQ Lspp (LSB) Standard II lysis (22h)						
		Fraser 1/2 (10µl)		Fraser		Result	Conclusion	PCR		Test result	RLM	RLspp	Result	Conclusion	PCR		Test result	RLM	RLspp	Result	Conclusion
		P1	AL1	P2	AL2			Ct Atto	Ct FAM						Ct Atto	Ct FAM					
1	0	Ø	Ø	Ø	-ME	-	0/6	29.21	N/A	-	/	/	-	0/6	29.40	N/A	-	/	/	-	0/6
		Ø	Ø	Ø	Ø	-		28.12	N/A	-	/	/	-		26.81	N/A	-	/	/	-	
		Ø	Ø	Ø	Ø	-		26.74	N/A	-	/	/	-		26.97	N/A	-	/	/	-	
		Ø	Ø	Ø	Ø	-		31.81	N/A	-	/	/	-		26.79	N/A	-	/	/	-	
		Ø	Ø	Ø	Ø	-		28.21	N/A	-	/	/	-		28.81	N/A	-	/	/	-	
		Ø	Ø	Ø	Ø	-		27.65	N/A	-	/	/	-		27.22	N/A	-	/	/	-	
		Ø	Ø	Ø	Ø	-															
2	0,29	Ø	+LA(1)	Ø	+MC	+	1/6	36.52	N/A	-	Ø	Ø	-	2/6	35.97	N/A	-	Ø	Ø	-	2/6
		Ø	Ø	Ø	-ME	-		N/A	25.05	+	+LA	+MA	+		N/A	23.30	+	+LA	+MA	+	
		Ø	Ø	Ø	-LE	-		35.04	N/A	-	/	/	-		37.13	N/A	-	/	/	-	
		Ø	-LE	Ø	Ø	-		36.06	N/A	-	/	/	-		34.22	N/A	-	/	/	-	
		Ø	-LE	Ø	Ø	-		36.08	N/A	-	-LE	Ø	-		34.36	N/A	-	-LE	Ø	-	
		Ø	Ø	Ø	Ø	-		N/A	27.54	+	+LA	+LA	+		N/A	25.05	+	+LA	+LA	+	
		Ø	Ø	Ø	Ø	-															
4	1,16	Ø	+LA(1)	Ø	+LA	+	5/6	N/A	20.21	+	+MA	+MA	+	3/6	N/A	20.49	+	+MA	+MA	+	3/6
		Ø	+LA	Ø	+MA	+		35.13	N/A	-	Ø	Ø	-		37.04	N/A	-	Ø	Ø	-	
		Ø	Ø	Ø	Ø	-		N/A	24.32	+	+LA	+LA	+		N/A	22.10	+	+LA	+LA	+	
		Ø	+LA	Ø	+MA	+		N/A	24.62	+	+LA	+MA	+		N/A	21.34	+	+LA	+MA	+	
		Ø	+LA	+LA	+MA	+		35.19	N/A	-	-LE	Ø	-		34.05	N/A	-	-LE	Ø	-	
		Ø	+LA	+LA	+LA	+		35.77	38.91	+	Ø	-LE	- (FP)		34.42	N/A	-	Ø	-LE	-	
		Ø	Ø	Ø	Ø	-															
5	1,74	Ø	+LA	Ø	+LA	+	6/6	35.38	N/A	-	-LE	Ø	-	5/6	36.88	N/A	-	-LE	Ø	-	5/6
		Ø	+LA	+LA	+MC	+		N/A	24.95	+	+LA	+MA	+		N/A	21.68	+	+LA	+MA	+	
		Ø	+LA	Ø	+LB	+		N/A	26.22	+	+LA	+MA	+		N/A	23.45	+	+LA	+MA	+	
		Ø	+LA	Ø	+MA	+		N/A	26.37	+	+LA	+MA	+		N/A	23.75	+	+LA	+MA	+	
		Ø	+MA	+LA	+LA	+		N/A	23.45	+	+LA	+MA	+		N/A	22.31	+	+LA	+MA	+	
		Ø	+LB	Ø	+LB	+		N/A	22.69	+	+LA	+MA	+		N/A	20.12	+	+LA	+MA	+	
		Ø	Ø	Ø	Ø	-															
6	4,26	Ø	+LA	+LA	+MA	+	6/6	N/A	25.23	+	+LA	+MA	+	6/6	N/A	22.72	+	+LA	+LA	+	6/6
		+LA	+LA	+LA	+MA	+		N/A	25.86	+	+LA	+MA	+		N/A	23.02	+	+LA	+LA	+	
		Ø	+LA	+LA	+MA	+		N/A	24.89	+	+LA	+MA	+		N/A	22.30	+	+LA	+LA	+	
		Ø	+LA	+LA	+MA	+		N/A	26.19	+	+LA	+MA	+		N/A	23.50	+	+LA	+LA	+	
		+LA	+LA	+LA	+MA	+		N/A	26.02	+	+LA	+MA	+		N/A	22.93	+	+LA	+LA	+	
		+LA	+LA	+LA	+MA	+		N/A	26.21	+	+LA	+MA	+		N/A	22.76	+	+LA	+LA	+	
		Ø	Ø	Ø	Ø	-															

Process water
inoculated with *Listeria innocua* 1/2c L144
<10 CFU/mL

Contamination level	Inoculation level (b/25g)	Reference method						Alternative method : iQ Lspp (LSB) Easy II lysis (24h)							Alternative method : iQ Lspp (LSB) Standard II lysis (22h)						
		Fraser 1/2 (10µl)		Fraser		Result	Conclusion	PCR		Test result	RLM	RLspp	Result	Conclusion	PCR		Test result	RLM	RLspp	Result	Conclusion
		P1	AL1	P2	AL2			Ct Atto	Ct FAM						Ct Atto	Ct FAM					
1	0	Ø	Ø	Ø	Ø	-	0/6	33.56	N/A	-	/	/	-	0/6	33.52	N/A	-	/	/	-	0/6
		Ø	Ø	Ø	Ø	-		33.47	N/A	-	/	/	-		33.73	N/A	-	/	/	-	
		Ø	Ø	Ø	Ø	-		33.34	N/A	-	/	/	-		33.64	N/A	-	/	/	-	
		Ø	Ø	Ø	Ø	-		33.57	N/A	-	/	/	-		33.91	N/A	-	/	/	-	
		Ø	Ø	Ø	Ø	-		33.68	N/A	-	/	/	-		33.60	N/A	-	/	/	-	
		Ø	Ø	Ø	Ø	-		33.92	N/A	-	/	/	-		33.97	N/A	-	/	/	-	
		Ø	Ø	Ø	Ø	-															
2	0,3	Ø	Ø	Ø	Ø	-	1/6	33.00	N/A	-	/	/	-	2/6	33.17	N/A	-	/	/	-	2/6
		Ø	Ø	Ø	Ø	-		N/A	19.00	+	+MA	+MA	+		N/A	19.14	+	+MA	+MA	+	
		Ø	Ø	Ø	Ø	-		33.09	N/A	-	/	/	-		33.25	N/A	-	/	/	-	
		+LA	+LA	+MA	+MA	+		33.45	N/A	-	/	/	-		33.18	N/A	-	/	/	-	
		Ø	Ø	Ø	Ø	-		N/A	19.77	+	+MA	+MA	+		N/A	19.92	+	+MA	+MA	+	
		Ø	Ø	Ø	Ø	-		33.42	N/A	-	/	/	-		33.41	N/A	-	/	/	-	
		Ø	Ø	Ø	Ø	-															
3	0,8	Ø	Ø	Ø	Ø	-	3/6	N/A	21.25	+	+MA	+MA	+	3/6	N/A	19.89	+	+MA	+MA	+	3/6
		+LA	+LA	+MA	+MA	+		N/A	20.32	+	+MA	+MA	+		N/A	20.00	+	+MA	+MA	+	
		Ø	Ø	Ø	Ø	-		33.74	N/A	-	/	/	-		34.04	N/A	-	/	/	-	
		+LA	+LA	+MA	+MA	+		N/A	18.93	+	+MA	+MA	+		N/A	18.68	+	+MA	+MA	+	
		Ø	Ø	Ø	Ø	-		33.55	N/A	-	/	/	-		33.73	N/A	-	/	/	-	
		+LA	+LA	+MA	+MA	+		33.83	N/A	-	/	/	-		34.31	N/A	-	/	/	-	
		Ø	Ø	Ø	Ø	-															
4	1,6	+LA	+LA	+MA	+MA	+	6/6	N/A	19.98	+	+MA	+MA	+	5/6	N/A	19.93	+	+MA	+MA	+	5/6
		+LA	+LA	+MA	+MA	+		33.77	N/A	-	/	/	-		33.91	N/A	-	/	/	-	
		+LA	+LA	+MA	+MA	+		N/A	18.54	+	+MA	+MA	+		N/A	18.16	+	+MA	+MA	+	
		+LA	+LA	+MA	+MA	+		N/A	18.70	+	+MA	+MA	+		N/A	18.97	+	+MA	+MA	+	
		+LA	+LA	+MA	+MA	+		N/A	18.70	+	+MA	+MA	+		N/A	19.17	+	+MA	+MA	+	
		+LA	+LA	+MA	+MA	+		N/A	18.68	+	+MA	+MA	+		N/A	17.09	+	+MA	+MA	+	
		Ø	Ø	Ø	Ø	-															
5	2,7	+LA	+LA	+MA	+HA	+	6/6	N/A	18.24	+	+MA	+MA	+	6/6	N/A	18.06	+	+MA	+MA	+	6/6
		+MA	+MA	+MA	+MA	+		N/A	19.49	+	+MA	+MA	+		N/A	19.55	+	+MA	+MA	+	
		+MA	+MA	+MA	+HA	+		N/A	18.28	+	+MA	+MA	+		N/A	18.39	+	+MA	+MA	+	
		+LA	+LA	+MA	+MA	+		N/A	18.18	+	+MA	+MA	+		N/A	17.90	+	+MA	+MA	+	
		+MA	+MA	+MA	+MA	+		N/A	18.53	+	+MA	+MA	+		N/A	17.62	+	+MA	+MA	+	
		+MA	+MA	+MA	+MA	+		N/A	19.06	+	+MA	+MA	+		N/A	17.90	+	+MA	+MA	+	
		Ø	Ø	Ø	Ø	-															

Appendix 6 - Inclusivity / exclusivity: raw data
(initial validation and extension study)

INCLUSIVITY (initial validation study, IPL)							
N°	Ref.	Strain	Origin	Inoculation level CFU/225ml LSB broth	Easy II lysis protocol		
					Ct C.int	Ct FAM	Result
1.	L5	<i>Listeria monocytogenes</i> 1/2a	Smoked salmon bacon	13	N/A	21.67	+
2.	L6	<i>Listeria monocytogenes</i> 1/2a	Pizza	12	N/A	21.71	+
3.	L7	<i>Listeria monocytogenes</i> 1/2a	Munster crust	11	31.76	26.35	+
4.	L9	<i>Listeria monocytogenes</i> 1/2a	Munster crust	6	N/A	25.17	+
5.	L10	<i>Listeria monocytogenes</i> 1/2a	Rillettes	6	N/A	24.29	+
6.	L11	<i>Listeria monocytogenes</i> 1/2a	Munster crust	12	N/A	21.82	+
7.	L12	<i>Listeria monocytogenes</i> 1/2a	Smoked salmon	11	32.73	25.48	+
8.	L13	<i>Listeria monocytogenes</i> 1/2b	Pork ear	7	30.80	32.80	+
9.	L14	<i>Listeria monocytogenes</i> 1/2c	Ground beef	5	N/A	17.49	+
10.	L15	<i>Listeria monocytogenes</i> 1/2c	Beed MP	9	N/A	20.17	+
11.	L16	<i>Listeria monocytogenes</i> 1/2c	Ground beef	7	N/A	16.88	+
12.	L17	<i>Listeria monocytogenes</i> 1/2c	Breast	6	N/A	18.73	+
13.	L18	<i>Listeria monocytogenes</i> 1/2c	Munster crust	7	N/A	19.41	+
14.	L20	<i>Listeria monocytogenes</i> 1/2	Broken smoked salmon	5	N/A	22.16	+
15.	L25	<i>Listeria monocytogenes</i> 1/2	Poultry	10	N/A	21.19	+
16.	L28	<i>Listeria monocytogenes</i> 1/2c	Surface sponge	6	N/A	20.25	+
17.	L32	<i>Listeria monocytogenes</i> 4b	Munster	6	N/A	20.60	+
18.	L37	<i>Listeria monocytogenes</i> 1/2b	Maroilles (raw milk cheese)	8	N/A	16.79	+
19.	L39	<i>Listeria monocytogenes</i>	Dry sausage ham	6	N/A	17.49	+
20.	L40	<i>Listeria monocytogenes</i> 1/2a	Munster farmer	8	N/A	18.61	+
21.	L42	<i>Listeria monocytogenes</i> 1/2a	Chicken escalope	6	N/A	21.91	+
22.	L43	<i>Listeria monocytogenes</i> 1/2a	Ground	11	N/A	22.90	+
23.	L44	<i>Listeria monocytogenes</i> 1/2a	Sausage	5	N/A	23.41	+
24.	L45	<i>Listeria monocytogenes</i> 1/2a	Rabbit terrine	8	N/A	24.06	+
25.	L47	<i>Listeria monocytogenes</i> 1/2a	Fried potatoes	6	N/A	23.89	+
26.	L48	<i>Listeria monocytogenes</i> 1/2b	Pork tongue	11	N/A	22.14	+

INCLUSIVITY (initial validation study, IPL)							
N°	Ref.	Strain	Origin	Inoculation level CFU/225ml LSB broth	Easy II lysis protocol		
					Ct C.int	Ct FAM	Result
27.	L49	<i>Listeria monocytogenes</i> 1/2b	Poultry liver cream	8	N/A	22.78	+
28.	L51	<i>Listeria monocytogenes</i> 1/2b	Germain (cheese)	6	N/A	23.39	+
29.	L53	<i>Listeria monocytogenes</i> 1/2c	Ground beef	7	N/A	21.65	+
30.	L54	<i>Listeria monocytogenes</i> 1/2c	Bœuf bourguignon	6	N/A	25.44	+
31.	L55	<i>Listeria monocytogenes</i> 3b	SLCC 2540	6	30.81	28.29	+
32.	L56	<i>Listeria monocytogenes</i> 3c	SLCC 2479	6	31.77	25.79	+
33.	L58	<i>Listeria monocytogenes</i> 4b	Salad	8	N/A	22.07	+
34.	L62	<i>Listeria monocytogenes</i> 4e	Reblochon (cheese)	7	N/A	21.62	+
35.	L63	<i>Listeria monocytogenes</i> 4e	Munster (cheese)	6	N/A	19.36	+
36.	L116	<i>Listeria monocytogenes</i> 1/2a	Fish	4	N/A	19.12	+
37.	L117	<i>Listeria monocytogenes</i> 1/2c	Montbéliard sausage	5	N/A	19.89	+
38.	L119	<i>Listeria monocytogenes</i>	Spinach	6	N/A	19.08	+
39.	L121	<i>Listeria monocytogenes</i>	Neufchâtel (cheese)	6	N/A	19.00	+
40.	L123	<i>Listeria monocytogenes</i>	Mozzarella (cheese)	5	N/A	20.09	+
41.	L124	<i>Listeria monocytogenes</i>	Perc fillet	5	N/A	19.36	+
42.	L128	<i>Listeria monocytogenes</i> 1/2a	Soya cake	4	N/A	18.93	+
43.	L129	<i>Listeria monocytogenes</i> 1/2a	Fried potatoes	7	N/A	19.71	+
44.	L130	<i>Listeria monocytogenes</i>	Ground fish	6	N/A	19.82	+
45.	L137	<i>Listeria monocytogenes</i>	Coulommier (raw milk cheese)	6	N/A	19.57	+
46.	L141	<i>Listeria monocytogenes</i>	Environment	6	N/A	22.79	+
47.	L149	<i>Listeria monocytogenes</i>	Environment	5	N/A	20.37	+
48.	L152	<i>Listeria monocytogenes</i>	Environment	7	N/A	19.81	+
49.	L156	<i>Listeria monocytogenes</i>	Fried potatoes	6,	N/A	19.20	+
50.	L176	<i>Listeria monocytogenes</i>	Beef rib steak	5	N/A	20.39	+
51.	L1	<i>Listeria grayi</i>	Frozen French fries	10	N/A	18.31	+
52.	L140	<i>Listeria grayi</i>	ATCC 19120	10	N/A	18.13	+
53.	L188	<i>Listeria grayi</i>	Environment	11	N/A	22.88	+
54.	L190	<i>Listeria grayi</i>	Frozen French fries	9	30.48	31.66	+
55.	L142	<i>Listeria innocua</i>	Gorgonzola	10	N/A	17.95	+
56.	L146	<i>Listeria innocua</i>	Smoked fish (Fletan)	10	N/A	18.25	+

INCLUSIVITY (initial validation study, IPL)							
N°	Ref.	Strain	Origin	Inoculation level CFU/225ml LSB broth	Easy II lysis protocol		
					Ct C.int	Ct FAM	Result
57.	L147	<i>Listeria innocua</i>	Epoisses (cheese)	3	N/A	18.19	+
58.	L154	<i>Listeria innocua</i>	Epoisses (cheese)	5	N/A	20.23	+
59.	L155	<i>Listeria innocua</i>	Spinach	4	N/A	18.46	+
60.	L157	<i>Listeria innocua</i>	Boulettes d'Avesnes (cheese)	4	N/A	20.19	+
61.	L158	<i>Listeria innocua</i>	Cockerel	4	N/A	20.38	+
62.	L175	<i>Listeria innocua</i>	Environment water	8	N/A	21.52	+
63.	L88	<i>Listeria innocua</i>	Sausage	6	N/A	21.44	+
64.	L159	<i>Listeria innocua</i> 6a	Toulouse sausage	4	N/A	23.49	+
65.	L175	<i>Listeria innocua</i> 6a	ATCC 33090	15	N/A	18.01	+
66.	L173	<i>Listeria innocua</i> 6b	Ground beef	5	N/A	19.39	+
67.	L180	<i>Listeria ivanovii</i>	Ground beef	5	N/A	21.64	+
68.	L182	<i>Listeria ivanovii</i>	Environment	12	N/A	19.51	+
69.	L3	<i>Listeria ivanovii</i>	Collection	4	N/A	16.83	+
70.	L82	<i>Listeria ivanovii</i>	Bird net	15	33.03	26.74	+
71.	L151	<i>Listeria ivanovii</i>	Ground beef	8	N/A	24.91	+
72.	L153	<i>Listeria ivanovii</i>	Environment	4	31.59	28.45	+
73.	L154	<i>Listeria ivanovii</i>	Sausage with herbs	6	N/A	24.82	+
74.	L85	<i>Listeria seeligeri</i>	Sewage water	10	N/A	18.28	+
75.	L86	<i>Listeria seeligeri</i>	Ground beef	14	N/A	17.17	+
76.	L189	<i>Listeria seeligeri</i>	Frozen French fries	6	N/A	21.96	+
77.	L87	<i>Listeria seeligeri</i> 1/2b	Tongue	3	N/A	18.27	+
78.	L90	<i>Listeria welshimeri</i>	Spread paste	10	N/A	19.09	+
79.	L91	<i>Listeria welshimeri</i>	Ham	10	N/A	17.78	+
80.	L155	<i>Listeria welshimeri</i>	Salmon fillet	5	N/A	23.48	+
81.	L174	<i>Listeria welshimeri</i>	Spinach	7	N/A	21.26	+
82.	L91	<i>Listeria welshimeri</i>	Aoste sausage	5	N/A	22.40	+
83.	L89	<i>Listeria welshimeri</i> 6a	Ground beef	2	30.83	28.10	+
84.	L90	<i>Listeria welshimeri</i> 6b	Ground beef	7	N/A	22.72	+

INCLUSIVITY (Extension study, IPL 2009)									
N° ADN extract	Strain	Reference	Origin	Inoculation level CFU/225 ml LSB broth	Streaking on RAPID [®] <i>Listeria</i> spp	iQ-check <i>Listeria</i> spp			
						Manual analysis			Result automatic analysis
						Ct Target	Ct CI	Result	
L2	<i>Listeria monocytogenes</i> 1/2a	L5	Smoked salmon	3.0	+MA	23.88	N/A	+	+
L8	<i>Listeria monocytogenes</i> 1/2a	L12	Smoked salmon	12.0	+MA	23.1	N/A	+	+
L24	<i>Listeria monocytogenes</i> 1/2a	L43	Ground meat	8.0	+MA	21.4	N/A	+	+
L25	<i>Listeria monocytogenes</i> 1/2a	L44	Sausage	7.0	+MA	20.32	N/A	+	+
L27	<i>Listeria monocytogenes</i> 1/2a	L47	Roasted potatoes	15.0	+MA	23.07	N/A	+	+
L45	<i>Listeria monocytogenes</i> 1/2a	L116	RTE fish	10.0	+MA	18.13	N/A	+	+
L53	<i>Listeria monocytogenes</i> 1/2a	L129	Roasted potatoes	7.0	+MA	22.08	N/A	+	+
L20	<i>Listeria monocytogenes</i> 1/2b	L37	Raw milk cheese	8.0	+MA	22.84	N/A	+	+
L30	<i>Listeria monocytogenes</i> 1/2b	L51	Cheese	15.0	+MA	20.07	N/A	+	+
L10	<i>Listeria monocytogenes</i> 1/2c	L14	Ground meat	8.0	+MA	25.84	N/A	+	+
L13	<i>Listeria monocytogenes</i> 1/2c	L17	Pork meat	7.0	+MA	27.21	N/A	+	+
L14	<i>Listeria monocytogenes</i> 1/2c	L18	Cheese	7.0	+MA	23.72	N/A	+	+
L46	<i>Listeria monocytogenes</i> 1/2c	L117	Sausage	8.0	+MA	19.41	N/A	+	+
L36	<i>Listeria monocytogenes</i> 4a	ATCC 19114	/	3.0	+MA	26.47	N/A	+	+
L37	<i>Listeria monocytogenes</i> 4b	L58	Salad	10.0	+MA	21.78	N/A	+	+
L39	<i>Listeria monocytogenes</i> 4e	ATCC 19118	/	4.0	+MA	27.13	N/A	+	+
L40	<i>Listeria monocytogenes</i> 4e	L62	Cheese	3.0	+MA	21.29	N/A	+	+
L47	<i>Listeria monocytogenes</i>	L119	Spinaches	10.0	+MA	19.22	N/A	+	+
L49	<i>Listeria monocytogenes</i>	L123	Cheese	12.0	+MA	20.32	N/A	+	+
L50	<i>Listeria monocytogenes</i>	L124	Fish fillet	7.0	+MA	20.82	N/A	+	+
L51	<i>Listeria monocytogenes</i>	L125	Cooked vegetables	6.0	+MA	19.29	N/A	+	+
L56	<i>Listeria monocytogenes</i>	L141	Environmental sample	8.0	+MA	21	N/A	+	+
L17	<i>Listeria monocytogenes</i> 1/2c	L28	Surface	12.0	+MA	21.76	N/A	+	+
L45	<i>Listeria monocytogenes</i> 1/2a	L116	RTE fish	10.0	+MA	18.13	N/A	+	+
L44	<i>Listeria monocytogenes</i>	L70	Smoked salmon	8.0	+MA	19.41	N/A	+	+
L59	<i>Listeria innocua</i>	L3	Cow liver	15.0	+MA	25.29	N/A	+	+
L57	<i>Listeria innocua</i>	ATCC 33090	/	6.0	+MA	20.06	N/A	+	+

INCLUSIVITY (Extension study, IPL 2009)									
N° ADN extract	Strain	Reference	Origin	Inoculation level CFU/225 ml LSB broth	Streaking on RAPID [®] <i>Listeria</i> spp	iQ-check <i>Listeria</i> spp			
						Manual analysis			Result automatic analysis
						Ct Target	Ct CI	Result	
L58	<i>Listeria innocua</i>	L2	Ground beef	6.0	+MA	20.79	N/A	+	+
L60	<i>Listeria innocua</i>	L64	Cheese	12.0	+MA	17.81	N/A	+	+
L61	<i>Listeria innocua</i>	L66	Spinaches	8.0	+MA	18.08	N/A	+	+
L62	<i>Listeria innocua</i>	L72	Cheese	14.0	+MA	19.62	N/A	+	+
L63	<i>Listeria innocua</i> 6b	L76	Ground beef	3.0	+MA	24.67	N/A	+	+
L68	<i>Listeria innocua</i> 6a	L77	Sausage	6.0	+MA	23.14	N/A	+	+
L65	<i>Listeria innocua</i>	L78	Cockerel	8.0	+MA	21.63	N/A	+	+
L67	<i>Listeria innocua</i>	L108	Cheese	8.0	+MA	24.36	N/A	+	+
L68	<i>Listeria innocua</i>	L113	Smoked fish	15.0	+MA	23.14	N/A	+	+
L66	<i>Listeria ivanovii</i>	L80	/	2.0	+MA	25.44	N/A	+	+
L69	<i>Listeria ivanovii</i>	L184	Environment	2.0	+MA	24.13	N/A	+	+
L70	<i>Listeria ivanovii</i>	L151	Ground beef	4.0	+MA	20.03	N/A	+	+
L71	<i>Listeria ivanovii</i>	L153	Environment	6.0	+MA	17.92	N/A	+	+
L72	<i>Listeria welshimeri</i> 6b	ATCC 35897	/	4.0	+MA	17.54	N/A	+	+
L73	<i>Listeria welshimeri</i>	L87	Ground beef	8.0	+MA	21.81	N/A	+	+
L74	<i>Listeria welshimeri</i> 6a	L89	Ground beef	2.0	+MA	24.88	N/A	+	+
L75	<i>Listeria welshimeri</i>	L91	Low moisture sausage	2.0	+MA	17.1	N/A	+	+
L76	<i>Listeria welshimeri</i>	L100	Pâté à tartiner	6.0	+MA	21.42	N/A	+	+
L77	<i>Listeria welshimeri</i>	L101	Ham	4.0	+MA	17.43	N/A	+	+
L78	<i>Listeria seeligeri</i> 1/2b	L83	Cooked pork tongue	3.0	+MA	18.03	N/A	+	+
L79	<i>Listeria seeligeri</i>	L84	Ground beef	2.0	+MA	18.58	N/A	+	+
L80	<i>Listeria seeligeri</i>	L115	Dirty water	1.0	+MA	17.36	N/A	+	+
L81'	<i>Listeria grayi</i>	CIP 103213	/	3.0	+MA	13.84	N/A	+	+
L82	<i>Listeria grayi</i>	CIP 103213	/	1 x 10 ⁵	+MA	19.57	N/A	+	+

INCLUSIVITY (Extension study, ADRIA Développement – 2019)												
N°	Strain	Species	Reference	Origin	LSB for 18 h at 30°C - FDRS Easy II Protocol							
					Inoculation level in 225ml LSB broth	CT FAM	CT IC	Result	10µl AL	10 µl Palcam	0,1ml RLM	0,1ml RLSP
1	<i>Listeria</i>	<i>monocytogenes</i>	1011/1410	Frozen broccoli	31	24.02	33.36	+	H+	+	+	+
2	<i>Listeria</i>	<i>monocytogenes</i>	153	Soft cheese (Munster)	35	24.38	32.95	+	H+	+	+	+
3	<i>Listeria</i>	<i>monocytogenes</i>	1973/2400	Egg and ham pastry (Quiche Lorraine)	16	24.64	32.05	+	H+	+	+	+
4	<i>Listeria</i>	<i>monocytogenes</i>	38/181	Toulouse sausages	22	24.14	31.89	+	H+	+	+	+
5	<i>Listeria</i>	<i>monocytogenes</i>	7111/7516	Pâté (Rillettes)	36	21.50	34.16	+	H+	+	+	+
6	<i>Listeria</i>	<i>monocytogenes</i>	913/1048	Black pudding	9	26.21	32.11	+	H+	+	+	+
7	<i>Listeria</i>	<i>monocytogenes</i>	A00C036	Poultry (guinea)	13	23.82	32.64	+	H+	+	+	+
8	<i>Listeria</i>	<i>monocytogenes</i>	A00C041	Sausage	15	24.04	33.23	+	H+	+	+	+
9	<i>Listeria</i>	<i>monocytogenes</i>	A00C044	Poultry (Duck)	26	22.90	32.27	+	H+	+	+	+
10	<i>Listeria</i>	<i>monocytogenes</i>	A00L097	Milk	40	31.50	32.50	+	H+	+	+	+
11	<i>Listeria</i>	<i>monocytogenes</i>	A00M009	Smoked salmon	23	31.70	32.30	+	H+	+	+	+
12	<i>Listeria</i>	<i>monocytogenes</i>	Ad 253	Semi-hard cheese	42	32.68	32.47	+	H+	+	+	st (24h) + (48h)
13	<i>Listeria</i>	<i>monocytogenes</i>	Ad 266	Poultry	36	29.93	32.00	+	H+	+	+	+
14	<i>Listeria</i>	<i>monocytogenes</i>	Ad 270	Fermented sausage	37	29.10	32.05	+	H+	+	+	+
15	<i>Listeria</i>	<i>monocytogenes</i>	Ad 273	Cured delicatessen	21	29.10	31.52	+	H+	+	+	+
16	<i>Listeria</i>	<i>monocytogenes</i>	Ad 274	Ready-to-eat food (Asiatic meal)	22	27.59	31.52	+	H+	+	white colonies	+
17	<i>Listeria</i>	<i>monocytogenes</i>	Ad 534	Fruits	21	27.59	31.57	+	H+	+	+	+
18	<i>Listeria</i>	<i>monocytogenes</i>	Ad 548	Environment (Seafood)	25	29.01	32.35	+	H+	+	+	+
19	<i>Listeria</i>	<i>monocytogenes</i>	Ad 623	Bread crumbs	20	27.21	31.84	+	H+	+	+	+
20	<i>Listeria</i>	<i>monocytogenes</i>	Ad 665	Raw milk	32	27.46	32.13	+	H+	+	+	+
21	<i>Listeria</i>	<i>grayi</i>	Ad 1198	Smoked salmon	15	36.08	32.96	+	st	st	white (2)	st
22	<i>Listeria</i>	<i>grayi</i>	Ad 1443	Pork meat sausages	36	36.09	32.84	+	H-	st	-	st
23	<i>Listeria</i>	<i>innocua</i>	1	Smoked salmon	21	32.37	32.21	+	H-	+	white	+
24	<i>Listeria</i>	<i>innocua</i>	Ad 658	Gorgonzola	30	31.20	32.35	+	H-	+	white	+
25	<i>Listeria</i>	<i>innocua</i>	Ad 655	Brine	16	33.12	32.52	+	H-	+	white	+
26	<i>Listeria</i>	<i>innocua</i>	Ad 660	Bread crumbs	34	31.64	32.11	+	H-	+	white	+

INCLUSIVITY (Extension study, ADRIA Développement – 2019)												
N°	Strain	Species	Reference	Origin	LSB for 18 h at 30°C - FDRS Easy II Protocol							
					Inoculation level in 225ml LSB broth	CT FAM	CT IC	Result	10µl AL	10 µl Palcam	0,1ml RLM	0,1ml RLSP
27	<i>Listeria</i>	<i>innocua</i>	Ad 663	Environment (dairy industry)	23	31.14	32.22	+	H-	+	white	+
28	<i>Listeria</i>	<i>innocua</i>	Ad 671	Smoked bacon	30	34.41	32.69	+	H-	+	white	+
29	<i>Listeria</i>	<i>innocua</i>	Ad 661	Soft cheese (Pont L'Evêque)	30	32.31	32.40	+	H-	+	white	+
30	<i>Listeria</i>	<i>innocua</i>	Ad 659	Environment (dairy industry)	48	31.35	32.16	+	H-	+	white	+
31	<i>Listeria</i>	<i>ivanovii</i>	Ad 466	Raw veal meat	27	39.95	32.69	+	H+	+	blue with yellow halo	+
32	<i>Listeria</i>	<i>ivanovii</i>	Ad 662	Environment (dairy industry)	22	36.13	32.64	+	H+	+	blue with yellow halo	st
33	<i>Listeria</i>	<i>ivanovii</i>	BR11	Environment (fish)	21	38.82	33.02	+	H+	+	blue with yellow halo	st
34	<i>Listeria</i>	<i>ivanovii</i>	Ad 1289	Raw milk cheese	13	41.24	32.55	+	H+	st	blue with yellow halo	+
35	<i>Listeria</i>	<i>ivanovii</i>	Ad 1290	Milk powder	23	36.37	32.83	+	H+	+	+	+
36	<i>Listeria</i>	<i>ivanovii</i>	Ad 1291	Poultry	12	34.83 / 35.66*	32.43 / 33.10*	i/ +*	H+	+	blue with yellow halo	+
37	<i>Listeria</i>	<i>ivanovii</i>	Ad 1288	Sheep milk	9	43.91	32.67	+	+	+	blue with yellow halo	+
38	<i>Listeria</i>	<i>ivanovii londoniensis</i>	CIP103466	/	18	35.39	32.42	+	H+	+	blue with yellow halo	+
39	<i>Listeria</i>	<i>seeligeri</i>	Ad 649	Cheese	18	31.79	32.75	+	H-	+	yellow	st
40	<i>Listeria</i>	<i>seeligeri</i>	Ad 651	Environment	42	-/ 36.06*	33.03 / 32.37*	i/ +*	weak halo	+	yellow (µ)	+
41	<i>Listeria</i>	<i>seeligeri</i>	Ad 652	Environment (dairy industry)	10	37.38	32.93	+	st	+	white with yellow halo	+
42	<i>Listeria</i>	<i>seeligeri</i>	Ad 674	Soft cheese (Munster)	13	36.68	32.78	+	st	+	white (µ)	st
43	<i>Listeria</i>	<i>seeligeri</i>	BR1	Trout	20	33.93	32.38	+	blue (µ)	+ after Fraser	Yellow after Fraser	+ after Fraser
44	<i>Listeria</i>	<i>seeligeri</i>	BR18	Environment (fish)	25	33.18	32.59	+	H-	+	white (µ)	st

INCLUSIVITY (Extension study, ADRIA Développement – 2019)												
N°	Strain	Species	Reference	Origin	LSB for 18 h at 30°C - FDRS Easy II Protocol							
					Inoculation level in 225ml LSB broth	CT FAM	CT IC	Result	10µl AL	10 µl Palcam	0,1ml RLM	0,1ml RLSP
45	<i>Listeria</i>	<i>seeligeri</i>	CIP100100	/	3	34.59	32.89	+	H- Fraser (plate 72 h)	+ Fraser (plate 72 h)	Yellow after Fraser (plate 72 h)	+ Fraser (plate 72 h)
46	<i>Listeria</i>	<i>welshimeri</i>	Ad1276	Environment (Slaughterhouse)	24	34.02	32.58	+	H-	+	white with yellow halo	+
47	<i>Listeria</i>	<i>welshimeri</i>	Ad1235	Beef meat	14	34.15	32.64	+	H-	+	white with yellow halo	+
48	<i>Listeria</i>	<i>welshimeri</i>	191424	Poultry	26	34.01	32.34	+	H-	+	white with yellow halo	+
49	<i>Listeria</i>	<i>welshimeri</i>	Ad 1175	Ready-to-eat-food	28	33.01	32.39	+	H-	+	white with yellow halo	+
50	<i>Listeria</i>	<i>welshimeri</i>	Ad 650	Poultry	27	34.40	32.37	+	H-	+	white with yellow halo	+

EXCLUSIVITY (initial validation study, IPL)							
N°	Ref.	Strain	Origin	Inoculation level (CFU/mL nutrient broth)	Easy II lysis protocol		
					Ct C.int	Ct FAM	Result
1.	BA2	<i>Bacillus cereus</i>	Beetroots	3.0E+05	33.96	N/A	-
2.	BA 1	<i>Bacillus cereus</i>	Whole egg	5.0E+05	32.04	N/A	-
3.	BA 15	<i>Bacillus cereus</i>	Crème anglaise	3.0E+05	32.56	N/A	-
4.	BA 19	<i>Bacillus cereus</i>	Environment	3.0E+05	32.68	N/A	-
5.	BA 3	<i>Bacillus cereus</i>	Collection	3.6E+05	32.89	N/A	-
6.	BA7	<i>Bacillus coagulans</i>	Collection	5.0E+05	34.42	N/A	-
7.	BA22	<i>Bacillus pumilus</i>	Poultry tabbouleh	6.0E+05	33.94	N/A	-
8.	15	<i>Brochotrix thermosphacta</i>	Ground beef	4.0E+05	33.87	N/A	-
9.	38	<i>Corynebacterium variabilis</i>	ATCC 15753	4.9E+05	34.00	N/A	-
10.	E10	<i>Enterococcus durans</i>	Meat product	6.0E+05	32.38	N/A	-
11.	E8	<i>Enterococcus durans</i>	Collection	6.0E+05	32.71	N/A	-
12.	E1	<i>Enterococcus faecalis</i>	Egg product	3.0E+05	34.49	N/A	-
13.	E6	<i>Enterococcus faecalis</i>	Collection ATCC 19433	4.0E+05	34.20	N/A	-
14.	E2	<i>Enterococcus faecium</i>	Collection ATCC 3286	3.0E+05	34.04	N/A	-
15.	E7	<i>Enterococcus faecium</i>	Collection CIP 5433	6.7E+05	36.75	N/A	-
16.	E9	<i>Enterococcus faecium</i>	Tarama	3.0E+05	32.47	N/A	-
17.	L139	<i>Jonesia denitrificans</i>	Collection	1.6E+05	31.07	N/A	-
18.	33	<i>Lactobacillus casei</i>	Dairy product	2.3E+05	34.21	N/A	-
19.	B1	<i>Lactobacillus casei</i>	Collection ATCC 9595	2.3E+05	31.79	N/A	-
20.	34	<i>Lactobacillus plantarum</i>	Collection	3.0E+05	33.98	N/A	-
21.	B2	<i>Lactobacillus spp</i>	Collection ATCC 11506	5.0E+05	31.05	N/A	-
22.	Le1	<i>Rhodotorula rubra</i>	Pastry	2.0E+05	34.47	N/A	-
23.	ST17	<i>Staphylococcus aureus</i>	Frozen yoghurt	2.3E+05	34.08	N/A	-
24.	B3	<i>Streptococcus anginosus</i>	Collection 1068	6.7E+05	32.82	N/A	-
25.	B4	<i>Streptococcus anginosus</i>	Collection 611	5.0E+05	31.34	N/A	-
26.	E3	<i>Streptococcus bovis</i>	Collection	2.3E+05	34.96	N/A	-
27.	B5	<i>Streptococcus bovis</i>	Collection	2.8E+05	33.62	N/A	-
28.	B6	<i>Streptococcus bovis</i>	Meat product	7.7E+05	30.85	N/A	-
29.	B7	<i>Streptococcus equinus</i>	Collection 1074	3.0E+05	32.19	N/A	-
30.	B8	<i>Streptococcus intermedius</i>	Collection 1201	3.0E+05	31.04	N/A	-
31.	B9	<i>Streptococcus salivarius</i>	Collection 1115	6.7E+05	30.83	N/A	-
32.	B10	<i>Streptococcus salivarius</i>	Collection 1075	2.3E+05	32.95	N/A	-

EXCLUSIVITY (Extension study, IPL 209)								
N° ADN extract	Strain	Reference	Origin (in French)	Inoculation level (CFU/225 ml LSB)	iQ-check <i>Listeria</i> spp			
					Manual analysis			Result automatic analysis
					Ct cible	Ct CI	Result	
A1	<i>Bacillus sphaericus</i>	BA5	Produit carné	4.00E+05	N/A	33.2	-	-
A2	<i>Bacillus cereus</i>	BA2	Betteraves	2.00E+05	N/A	32.6	-	-
A3	<i>Bacillus stearothermophilus</i>	BA4	Produit laitier	2.00E+05	N/A	33.21	-	-
A4	<i>Bacillus cereus</i>	BA 9	Flocon de pomme de terre	4.00E+05	N/A	33.27	-	-
A5	<i>Bacillus cereus</i>	BA 14	Œuf	6.00E+05	N/A	33.43	-	-
A6	<i>Bacillus cereus</i>	BA 15	Crème anglaise	2.00E+05	N/A	33.28	-	-
A7	<i>Bacillus cereus</i>	BA 19	Environnement	3.00E+05	N/A	33.09	-	-
A8	<i>Bacillus cereus</i>	BA 21	Taboulé volaille	4.00E+05	N/A	32.93	-	-
A9	<i>Brochotrix thermosphacta</i>	15	Viande hachée	2.00E+05	N/A	33.3	-	-
A10	<i>Rhodotorula rubra</i>	Le1	Pâtisserie	4.00E+04	N/A	33.38	-	-
A11	<i>Enterococcus faecalis</i>	E1	Ovoproduit	3.00E+05	N/A	33.7	-	-
A47	<i>Enterococcus faecium</i>	E2	Collection ATCC 3286	2.00E+05	N/A	33.73	-	-
A13	<i>Jonesia denitrificans</i>	L139	Collection	5.00E+05	N/A	34.67	-	-
A14	<i>Lactobacillus reuteri</i>	5		5.00E+05	N/A	32.92	-	-
A15	<i>Lactobacillus casei</i>	52	ATCC9595	1.00E+05	N/A	33.59	-	-
A16	<i>Lactobacillus fermentum</i>	41	ATCC 9338	2.00E+04	N/A	33.22	-	-
A17	<i>Micrococcus</i> spp.	M1	Environnement	4.00E+04	N/A	33.38	-	-
A18	<i>Rhodococcus equi</i>	32	Produit carné	3.00E+05	N/A	33.69	-	-
A19	<i>Streptococcus bovis</i>	E3	Collection	2.00E+05	N/A	33.75	-	-
A20	<i>Streptococcus bovis</i>	E12	Wild	3.00E+05	N/A	33.92	-	-
A21	<i>Staphylococcus epidermidis</i>	ST3	Yaourt	4.00E+05	N/A	33.48	-	-
A22	<i>Staphylococcus intermedius</i>	ST26	Collection	3.00E+05	N/A	33.04	-	-
A23	<i>Staphylococcus aureus</i>	ST17	Yaourt glacé	4.00E+05	N/A	34.34	-	-
A24	<i>Enterococcus durans</i>	E8	Produit carné	2.00E+05	N/A	32.89	-	-
A25	<i>Enterococcus faecium</i>	E9	Tarama	3.00E+05	N/A	32.57	-	-
A26	<i>Streptococcus anginosus</i>	E14	Collection	3.00E+05	N/A	33.74	-	-
A27	<i>Streptococcus equinus</i>	E17	Collection	4.00E+05	N/A	33.49	-	-
A28	<i>Corynebacterium variabilis</i>	38	CIP102 112T ATCC 15753	3.00E+04	N/A	34.08	-	-
A29	<i>Lactobacillus plantarum</i>	34	Produit laitier	3.00E+05	N/A	34.03	-	-
A30	<i>Lactobacillus paracasei</i>	35	Produit laitier	1.00E+05	N/A	34.39	-	-

Appendix 7 - Artificial contamination of samples - Enrichment in LSB II broth (Extension studies, 2023 and 2024)

Date of analysis	N° Sample	Product (French name)	Product	Artificial contaminations					Global result <i>Listeria</i> spp.					Category	Type
				Strain	Origin	Injury protocol	Inoculation level CFU/test portion		Without FDRS		With FDRS		L.spp Global		
							Enumeration	Mean	CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW			
2022	3803	Salade Manhattan pâte, crudités, œuf, poulet rôti, carottes et fromage	RTE (Salad with chicken, eggs, paste...)	<i>Listeria monocytogenes</i> Ad494 <i>Listeria welshimeri</i> Ad1175	Piemontese / Cantonese rice	Seeding storage 72h at 3°C	3-0-2-2-2 1-2-2-1-1	1.8 1.4	+	+	+	+	+	1	a
2022	3804	Piemontaise au jambon	RTE (Salad with potatoes, ham...)	<i>Listeria monocytogenes</i> Ad494 <i>Listeria welshimeri</i> Ad1175	Piemontese / Cantonese rice	Seeding storage 72h at 3°C	3-0-2-2-2 1-2-2-1-1	1.8 1.4	+	+	+	+	+	1	a
2022	3805	Taboulé à l'orientale	Oriental tabbouleh	<i>Listeria monocytogenes</i> Ad1492 <i>Listeria innocua</i> Ad1676	seafood salad / Goat cheese and spinach puff pastry	Seeding storage 72h at 3°C	3-2-0-2-2 1-2-3-1-0	1.8 1.4	+	+	+	+	+	1	a
2022	3806	Demi involtini à la ricotta	Half-involtini with ricotta cheese	<i>Listeria monocytogenes</i> Ad1492 <i>Listeria innocua</i> Ad1676	seafood salad / Goat cheese and spinach puff pastry	Seeding storage 72h at 3°C	3-2-0-2-2 1-2-3-1-0	1.8 1.4	+	+	+	+	+	1	a
2022	3807	Tortilla	Tortilla	<i>Listeria monocytogenes</i> Ad1193 <i>Listeria innocua</i> Ad644	Omelette / Raw baguette	Seeding storage 72h at 3°C	2-2-4-2-3 2-2-1-1-2	2.6 1.6	+	+	+	+	+	1	c
2022	3808	Tortilla à l'oignon	Onion tortilla	<i>Listeria monocytogenes</i> Ad1757 <i>Listeria seeligeri</i> Ad1780	Eggs slices / Raw milk	Seeding storage 72h at 3°C	1-2-0-1-0 1-0-1-2-4	0.8 1.6	+	+	+	+	+	1	c
2022	3809	Choux chantilly	Pastry	<i>Listeria monocytogenes</i> Ad1193 <i>Listeria innocua</i> Ad644	Omelette / Raw baguette	Seeding storage 72h at 3°C	2-2-4-2-3 2-2-1-1-2	2.6 1.6	+	+	+	+	+	1	c
2022	3810	Charlotte framboise	Pastry	<i>Listeria monocytogenes</i> Ad551 <i>Listeria innocua</i> Ad644	Pastry environment / Raw baguette	Seeding storage 72h at 3°C	2-0-0-1-2 2-2-1-1-2	1.0 1.6	+	+	+	+	+	1	c
2022	3811	Ile flottante	Custard based dessert	<i>Listeria monocytogenes</i> Ad1757 <i>Listeria seeligeri</i> Ad1780	Eggs slices / Raw milk	Seeding storage 72h at 3°C	1-2-0-1-01-0- 1-2-4	0.8 1.6	+	+	+	+	+	1	c
2022	3812	Mousse au chocolat	Confectionary (chocolate)	<i>Listeria monocytogenes</i> Ad551 <i>Listeria innocua</i> Ad644	Pastry environment / Raw baguette	Seeding storage 72h at 3°C	2-0-0-1-2 2-2-1-1-2	1.0 1.6	+	+	+	+	+	1	c
2022	3760	Chiffonnette hall techno production pâté fini (porc) après nettoyage	Wipe after cleaning process	<i>Listeria monocytogenes</i> Ad1255	Environment (pork/bovine)	Seeding storage 72h at 3°C	3-0-1-3-3	2	+	+	+	+	+	2	a
2022	3761	Chiffonnette grille siphon VHS 19 après nettoyage	Wipe after cleaning process	<i>Listeria innocua</i> Ad1251	Environment (pork/bovine)	Seeding storage 72h at 3°C	5-2-1-3-4	3	+	+	+	+	+	2	a
2022	3762	Chiffonnette VHS2 table transfert environnement carné, après nettoyage	Wipe after cleaning process	<i>Listeria monocytogenes</i> Ad1255	Environment (pork/bovine)	Seeding storage 72h at 3°C	3-0-1-3-3	2	+	+	+	+	+	2	a
2022	3763	Chiffonnette pompe production crème glacée avant nettoyage	Wipe before cleaning process	<i>Listeria monocytogenes</i> Ad615	Dairy environment	Seeding storage 72h at 3°C	2-3-4-1-0	2	+	+	+	+	+	2	a
2022	3764	Chiffonnette pompe production crème glacée après nettoyage	Wipe after cleaning process	<i>Listeria monocytogenes</i> Ad615	Dairy environment	Seeding storage 72h at 3°C	2-3-4-1-0	2	-	-	-	-	-	2	a
2022	3765	Chiffonnette environnement laitier avant nettoyage	Wipe before cleaning process	<i>Listeria monocytogenes</i> Ad615	Dairy environment	Seeding storage 72h at 3°C	2-3-4-1-0	2	+	+	+	+	+	2	a
2023	723	Chiffonnette de surface réception UPM, après nettoyage	Wipe after cleaning process	<i>Listeria monocytogenes</i> Ad1255	Environment (pork/bovine)	Seeding storage 48h at 3°C	5-6-6-3-8	5.6	+	+	+	+	+	2	a
2023	724	Chiffonnette de surface table de façonnage brioche après désinfection	Wipe after cleaning process	<i>Listeria monocytogenes</i> Ad615	Dairy environment	Seeding storage 48h at 3°C	4-5-6-5-8	5.6	-	-	-	-	-	2	a
2023	822	Chiffonnette environnement végétal avant nettoyage	Wipe before cleaning process	<i>Listeria monocytogenes</i> Ad2503 <i>Listeria seeligeri</i> Ad651	Environment (vegetable) Environment	Seeding storage 48h at 3°C	2-1-0-1-2 3-0-2-1-1	1.2 1.4	+	+	+	+	+	2	a
2023	823	Chiffonnette environnement laitier (production glace) avant nettoyage	Wipe before cleaning process	<i>Listeria monocytogenes</i> Ad550 <i>Listeria seeligeri</i> Ad652	Dairy environment Dairy environment	Seeding storage 48h at 3°C	0-2-3-4-0 1-1-3-2-4	1.8 2.2	+	+	+	+	+	2	a

Date of analysis	N° Sample	Product (French name)	Product	Artificial contaminations					Global result <i>Listeria</i> spp.					Category	Type
				Strain	Origin	Injury protocol	Inoculation level CFU/test portion		Without FDRS		With FDRS		L.spp Global		
							Enumeration	Mean	CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW			
2023	824	Chiffonnette environnement porc (production pâté)	Wipe before cleaning process	<i>Listeria monocytogenes</i> Ad2503 <i>Listeria seeligeri</i> Ad651	Environment (vegetable) Environment	Seeding storage 48h at 3°C	2-1-0-1-2 3-0-2-1-1	1.2 1.4	+	+	+	+	+	2	a
2023	725	Déchets viande bovine	Wastes (Meat)	<i>Listeria monocytogenes</i> Ad1255	Environment (pork/bovine)	Seeding storage 48h at 3°C	5-6-6-3-8	5.6	+	+	+	+	+	2	b
2023	726	Déchets viande bovine	Wastes (Meat)	<i>Listeria monocytogenes</i> Ad1263	Environment (pork/bovine)	Seeding storage 48h at 3°C	3-3-5-1-3	3.0	+	+	+	+	+	2	b
2023	727	Déchets de production biscuit	Wastes	<i>Listeria monocytogenes</i> Ad1263	Environment (pork/bovine)	Seeding storage 48h at 3°C	3-3-5-1-3	3.0	+	+	+	+	+	2	b
2023	728	Déchets saumon	Wastes (Salmon)	<i>Listeria monocytogenes</i> Ad1679	Environment (seafood)	Seeding storage 48h at 3°C	3-1-5-3-0	2.4	+	+	+	+	+	2	b
2023	729	Déchets poisson dessous épineux	Wastes (Fish)	<i>Listeria monocytogenes</i> Ad1679	Environment (seafood)	Seeding storage 48h at 3°C	3-1-5-3-0	2.4	+	+	+	+	+	2	b
2023	825	Déchets découpe viande	Wastes (Meat)	<i>Listeria monocytogenes</i> Ad1261 <i>Listeria welshimeri</i> Ad1262	Environment (pork/bovine) Environment (pork/bovine)	Seeding storage 48h at 3°C	1-0-1-0-0 1-2-2-4-1	0.4 2.0	+	+	+	+	+	2	b
2023	826	Déchets caséinate production pâté	Wastes (Meat)	<i>Listeria monocytogenes</i> Ad1261 <i>Listeria welshimeri</i> Ad1262	Environment (pork/bovine) Environment (pork/bovine)	Seeding storage 48h at 3°C	1-0-1-0-0 1-2-2-4-1	0.4 2.0	+	+	+	+	+	2	b
2023	827	Déchets sardines	Wastes (Sardine)	<i>Listeria monocytogenes</i> Ad1679 <i>Listeria innocua</i> Ad1677	Environment (seafood) Environment (seafood)	Seeding storage 48h at 3°C	0-3-3-4-2 2-0-2-1-2	2.4 1.4	-	-	-	-	-	2	b
2023	960	Déchets viande bovine	Wastes (Meat)	<i>Listeria monocytogenes</i> Ad243 <i>Listeria innocua</i> Ad1257	Environment (pork/bovine) Environment (pork/bovine)	Seeding storage 48h at 3°C	0-2-0-0-1 2-1-0-0-1	0.6 0.8	+	+	+	+	+	2	b
2023	961	Déchets saumon	Wastes (Salmon)	<i>Listeria monocytogenes</i> Ad549 <i>Listeria welshimeri</i> Ad1268	Environment (seafood) Environment (seafood)	Seeding storage 48h at 3°C	2-2-0-1-0 1-0-0-1-0	1.0 0.4	+	+	+	+	+	2	b
2022	3759	Eau de process fabrication pâté fini	Process water	<i>Listeria innocua</i> Ad1251	Environment (pork/bovine)	Seeding storage 72h at 3°C	5-2-1-3-4	3	+	+	+	+	+	2	c
2023	730	Eau de process sortie laveuse, environnement volaille	Process water	<i>Listeria monocytogenes</i> Ad1255	Environment (pork/bovine)	Seeding storage 48h at 3°C	5-6-6-3-8	5.6	+	+	+	+	+	2	c
2023	731	Eau de process environnement laitier	Process water	<i>Listeria monocytogenes</i> Ad615	Dairy environment	Seeding storage 48h at 3°C	4-5-6-5-8	5.6	+	+	+	+	+	2	c
2023	732	Eau de process environnement laitier	Process water	<i>Listeria monocytogenes</i> Ad615	Dairy environment	Seeding storage 48h at 3°C	4-5-6-5-8	5.6	+	+	+	+	+	2	c
2023	733	Eau de rinçage production galette végétale + algues	Rinsing water	<i>Listeria monocytogenes</i> Ad1679	Environment (seafood)	Seeding storage 48h at 3°C	3-1-5-3-0	2.4	+	+	+	+	+	2	c
2023	734	Eau de process production de steak végétal	Process water	<i>Listeria monocytogenes</i> Ad1263	Environment (pork/bovine)	Seeding storage 48h at 3°C	3-3-5-1-3	3.0	+	+	+	+	+	2	c
2023	828	Eau de process environnement laitier	Process water	<i>Listeria monocytogenes</i> Ad550 <i>Listeria seeligeri</i> Ad652	Dairy environment Dairy environment	Seeding storage 48h at 3°C	0-2-3-4-0 1-1-3-2-4	1.8 2.2	+	+	+	+	+	2	c
2023	829	Eau de process environnement végétal	Process water	<i>Listeria monocytogenes</i> Ad2503 <i>Listeria seeligeri</i> Ad651	Environment (vegetable) Environment	Seeding storage 48h at 3°C	2-1-0-1-2 3-0-2-1-1	1.2 1.4	+	+	+	+	+	2	c
2023	830	Eau de rinçage environnement carné	Rinsing water	<i>Listeria monocytogenes</i> Ad1261 <i>Listeria welshimeri</i> Ad1262	Environment (pork/bovine) Environment (pork/bovine)	Seeding storage 48h at 3°C	1-0-1-0-0 1-2-2-4-1	0.4 2.0	+	+	+	+	+	2	c
2023	964	Eau de process lait	Process water	<i>Listeria monocytogenes</i> Ad550	Dairy environment	Seeding storage 48h at 3°C	2-1-1-2-2	1.6	+	+	+	+	+	2	c
2023	965	Eau de process environnement carné	Process water	<i>Listeria monocytogenes</i> Ad550	Dairy environment	Seeding storage 48h at 3°C	2-1-1-2-2	1.6	-	-	-	-	-	2	c
2023	966	Eau de process batch 2 (environnement carné)	Process water	<i>Listeria monocytogenes</i> Ad243 <i>Listeria innocua</i> Ad1257	Environment (pork/bovine) Environment (pork/bovine)	Seeding storage 48h at 3°C	0-2-0-0-1 2-1-0-0-1	0.6 0.8	+	+	+	+	+	2	c

Year of analysis	N° Sample	Product (french name)	Product	Artificial contaminations						Global result					Category	Type
										L.spp. 18 h						
				Strain	Origin	Injury protocol	Injury evaluation	Inoculation level CFU/test portion		Without FDRS		With FDRS		L.spp Global		
Enumeration	Mean	CFX 96	CFX Opus					CFX 96	CFX Opus							
2023	1735	Fromage au lait cru de chèvre Picodon	Raw goat milk cheese	L. monocytogenes 909 L. welshimeri Ad1667	Raw milk cheese	Seeding storage 48h at 3°C		0-1-1-0-2 / 1-0-1-0-3	0.8 0.8	+	+	+	+	+	3	a
2023	3937	Fromage au lait cru de chèvre (Selles-sur-Cher AOP)	Goat milk cheese	L. ivanovii Ad1288	Raw ewe milk	Seeding storage 48h at 3°C	/	2-0-0-0-0	0.4	-	-	-	-	-	3	a
2023	3938	Fromage au lait cru de chèvre (Rocamadour AOP)	Goat milk cheese	L. ivanovii Ad1289	Raw milk cheese	Seeding storage 48h at 3°C	/	0-0-2-0-2	0.8	-	-	-	-	-	3	a
2023	3939	Fromage au lait cru de brebis (Roquefort)	Raw ewe milk cheese	L. ivanovii Ad675	Blue cheese	Seeding storage 48h at 3°C	/	0-0-2-0-1	0.6	+	+	+	+	+	3	a
2023	3940	Fromage au lait cru de brebis (Roquefort)	Raw ewe milk cheese	L. ivanovii Ad1737	Raw milk cheese	Seeding storage 48h at 3°C	/	1-0-0-1-0	0.4	+	+	+	-	+	3	a
2023	3941	Fromage au lait cru de brebis (Tomme Ossau Iraty)	Raw ewe milk cheese	L. ivanovii Ad1748	Raw goat milk	Seeding storage 48h at 3°C	/	1-0-0-1-1	0.4	-	-	-	-	-	3	a
2023	1720	Lait cru de vache	Raw cow milk	L. monocytogenes A00L097 L. seeligeri Ad1780	Milk / Raw milk	Seeding storage 48h at 3°C		1-5-2-3-4 / 2-1-3-1-2	3.0 / 1.8	+	+	+	+	+	3	b
2023	1721	Lait cru de vache	Raw cow milk	L. monocytogenes A00L098 L. seeligeri Ad1780	Milk / Raw milk	Seeding storage 48h at 3°C		1-4-3-2-1 / 2-1-3-1-2	2.2 / 1.8	+	+	+	+	+	3	b
2023	1722	Lait cru de vache	Raw cow milk	L. monocytogenes 17501	Milk	Seeding storage 48h at 3°C		3-0-1-1-1	1.2	+	+	+	+	+	3	b
2023	1726	Lait cru de chèvre	Raw goat milk	L. monocytogenes 909 L. innocua Ad1771	Milk / Ewe milk	Seeding storage 48h at 3°C		0-1-1-0-2 / 1-0-3-4-4	0.8 2.4	+	+	+	+	+	3	b
2023	1727	Lait cru de chèvre	Raw goat milk	L. monocytogenes 910	Milk	Seeding storage 48h at 3°C		1-3-2-0-0	1.2	+	+	+	+	+	3	b
2023	3701	Beurre de baratte non pasteurisé	Raw milk butter	L. monocytogenes Ad3119 L. innocua	Butter / milk	Seeding storage 48h at 3°C	/	0-0-0-1-1 0-0-0-1-2	0.4 0.6	+	+	+	+	+	3	b
2023	3705	Faisselle au lait cru	Raw fermented milk	L. monocytogenes Ad3119	Butter	Seeding storage 48h at 3°C	/	2-4-2-4-1	2.6	-	-	-	-	-	3	b
2023	2754	Crème glacée à la vanille "cookie"	Ice cream	L. seeligeri Ad1782 L. monocytogenes Ad637	Milk / Raw milk	Spiking 1 week at -20°C	0,5 4,6	0-0-0-0-0 1-2-0-0-0	0 0.6	-	-	-	-	-	3	c
2023	2755	Crème glacée à la vanille "caramel"	Ice cream	L. seeligeri Ad1782 L. monocytogenes Ad637	Milk / Raw milk	Spiking 1 week at -20°C	0,5 4,6	0-0-0-0-0 1-2-0-0-0	0 0.6	-	-	-	-	-	3	c
2023	2825	Lait de vache 1/2 écrémé pasteurisé	Pasteurized cow milk	L. monocytogenes AOOL099 L. innocua Ad1788	Milk / Raw milk	Seeding storage 48h at 3°C		1-1-1-1-0 1-0-0-0-0	0.8 0.2	+	+	+	+	+	3	c
2023	2826	Lait de vache 1/2 écrémé pasteurisé	Pasteurized cow milk	L. monocytogenes 17866 L. innocua Ad1787	Milk / Raw milk	Seeding storage 48h at 3°C		1-0-1-0-1 1-1-1-0-0	0.6 0.6	+	+	+	+	+	3	c
2023	2827	Lait de vache 1/2 écrémé pasteurisé aromatisé mangue / fruit de la passion	Pasteurized cow milk flavoured	L. monocytogenes AOOL099 L. seeligeri Ad1237	Milk / Raw milk	Seeding storage 48h at 3°C		1-1-1-1-0 0-0-0-0-1	0.8 0.2	+	+	+	+	+	3	c
2023	2829	Fromage au lait de brebis pasteurisé	Pasteurized ewe milk cheese	L. monocytogenes Ad630 L. innocua Ad661	Cheese / Cheese	Seeding storage 48h at 3°C		0-1-1-0-1 0-1-0-0-0	0.6 0.2	+	+	+	+	+	3	c
2023	2830	Fromage au lait de chèvre pasteurisé	Pasteurized goat milk cheese	L. monocytogenes Ad523 L. seeligeri Ad674	Cheese / Cheese	Seeding storage 48h at 3°C		2-2-1-1-0 1-2-0-0-1	1.2 0.8	-	-	-	-	-	3	c
2023	2831	Lait frais de chèvre pasteurisé	Pasteurized goat milk	L. monocytogenes 17866	Milk	Seeding storage 48h at 3°C		1-0-2-1-1	1.0	+	+	+	+	+	3	c
2023	2835	Lait de vache pasteurisé aromatisé cappuccino	Pasteurized flavoured cow milk	L. seeligeri Ad1237	Raw milk	Seeding storage 48h at 3°C		0-1-0-0-1	0.4	+	+	+	+	+	3	c
2023	3071	Poudre de lait demi-écrémé	Half-skimmed milk powder	L. monocytogenes Ad250	Milk	Seeding lyophilized strain storage 2 weeks at ambient temperature	/	/	0.6	+	+	+	+	+	3	c
2023	3072	Poudre de lait demi-écrémé	Half-skimmed milk powder	L. innocua 16969	Milk	Seeding lyophilized strain storage 2 weeks at ambient temperature	/	/	1	+	+	+	+	+	3	c

Year of analysis	N° Sample	Product (french name)	Product	Artificial contaminations						Global result					Category	Type
										L.spp. 18 h						
				Strain	Origin	Injury protocol	Injury evaluation	Inoculation level CFU/test portion		Without FDRS		With FDRS		L.spp Global		
Enumeration	Mean	CFX 96	CFX Opus					CFX 96	CFX Opus							
2023	3073	Poudre de lait entier	Milk powder	L. monocytogenes 18024	Milk	Seeding lyophilized strain storage 2 weeks at ambient temperature	/	/	0.9	-	-	-	-	-	3	c
2023	3074	Poudre de lait entier	Milk powder	L. innocua Ad 1786	Raw milk	Seeding lyophilized strain storage 2 weeks at ambient temperature	/	/	0	-	-	-	-	-	3	c
2023	3075	Poudre de lait écrémé	Skimmed milk powder	L. monocytogenes 18024	Milk	Seeding lyophilized strain storage 2 weeks at ambient temperature	/	/	0.9	-	-	-	-	-	3	c
2023	3076	Poudre de lait écrémé	Skimmed milk powder	L. innocua 16969	Milk	Seeding lyophilized strain storage 2 weeks at ambient temperature	/	/	1	-	-	-	-	-	3	c
2023	3260	Crème glacée vanille	Ice cream	L. seeligeri Ad1782	Raw milk	Seeding storage 2 weeks at - 20°C	/	3-1-1-4-3	2.4	+	+	+	+	+	3	c
2023	3261	Crème glacée vanille	Ice cream	L. monocytogenes Ad637	Milk	Seeding storage 2 weeks at - 20°C	/	1-2-1-1-2	1.4	-	-	-	-	-	3	c
2023	3263	Crème glacée à la vanille	Ice cream	L. monocytogenes Ad637	Milk	seeding storage 2 weeks at - 20°C	/	1-2-1-1-2	1.4	-	-	-	-	-	3	c
2023	3543	Brique pur brebis	Pasteurized ewe milk cheese	L. monocytogenes Ad630	Cheese	Spiking 10 min 60°C	0,5	4-2-4-9-6	5	+	+	+	+	+	3	c
2023	3544	Brique pur brebis	Pasteurized ewe milk cheese	L. innocua Ad661	Cheese	Spiking 10 min 60°C	1,1	4-4-4-5-2	3.8	+	+	+	+	+	3	c
2023	3545	Tomme des Pyrénées	Pasteurized cow milk cheese	L. monocytogenes Ad630	Cheese	Spiking 10 min 60°C	0,5	4-2-4-9-6	5	+	+	+	+	+	3	c
2023	3546	Tomme des Pyrénées	Pasteurized cow cheese	L. innocua Ad661	Cheese	Spiking 10 min 60°C	1,1	4-4-4-5-2	3.8	+	+	+	+	+	3	c

Year of analysis	N° Sample	Product (French name)	Product	Artificial contaminations						Global result	Category	Type
				Strain	Origin	Injury protocol	Injury evaluation	Inoculation level CFU/test portion				
								Enumeration	Mean			
2023	3951	Gigot d'agneau	Lamb leg	Listeria monocytogenes Ad272 Listeria innocua Ad1225	Dry sausage Sheep	Seeding 48h 3±2°C	/	1-1-0-1-1 0-0-1-0-1	0.8 0.4	+	4	a
2024	1699	Escalope de dinde	Turkey escalope	Listeria monocytogenes Ad266	Chicken	Seeding 48h 3±2°C	/	2-2-3-0-1	1.6	+	4	a
2024	1700	Steak haché 5%MG	Ground beef 5%fat	Listeria welshimeri Ad3204	Ground beef	Seeding 48h 3±2°C	/	3-4-6-0-1	2.8	+	4	a
2024	1701	Aiguillettes de poulet	Chicken	Listeria monocytogenes Ad266 Listeria ivanovii Ad2465	Chicken Poultry	Seeding 48h 3±2°C	/	(2-2-3-0-1)/2 (12-3-6-3-7)/2	0.8 3.1	+	4	a
2024	1704	Viande de hachis parmentier	Shepherd's pie meat	Listeria monocytogenes Ad1218 Listeria welshimeri Ad3204	Ground beef	Seeding 48h 3±2°C	/	(1-1-2-5-0)/2 (3-4-6-0-1)/2	0.9 1.4	+	4	b
2024	1705	Bœuf charolais au médoc	Wine beef	Listeria monocytogenes Ad1218 Listeria welshimeri Ad3204	Ground beef	Seeding 48h 3±2°C	/	(1-1-2-5-0)/2 (3-4-6-0-1)/2	0.9 1.4	+	4	b
2024	1706	Viande de couscous	Couscous meat	Listeria monocytogenes Ad266	Chicken	Seeding 48h 3±2°C	/	2-2-3-0-1	1.6	+	4	b
2024	2265	Viande de parmentier de canard	Duck parmentier meat	Listeria innocua Ad671	Smoked bacon	Seeding 72h 3±2°C	/	0-3-1-2-1	1.4	+	4	b
2024	2267	Bœuf bourguignon	Bourguignon	Listeria innocua Ad671	Smoked bacon	Seeding 72h 3±2°C	/	0-3-1-2-1	1.4	+	4	b
2024	2659	Canard confit	Duck confit	Listeria monocytogenes A00C052	Turkey osso bucco	Spiking 5min at 60°C	0,5	3-5-3-6-6	4.6	-	4	b
2024	2660	Emincés de bœuf sauce au poivre	Sliced beef with pepper sauce	Listeria monocytogenes A00C052	Turkey osso bucco	Spiking 5min at 60°C	0,5	3-5-3-6-6	4.6	+	4	b
2024	2661	Paupiette de veau	Veal paupiette	Listeria monocytogenes A00C052	Turkey osso bucco	Spiking 5min at 60°C	0,5	3-5-3-6-6	4.6	+	4	b
2024	2662	Blanquette de veau	Veal blanquette	Listeria monocytogenes A00C052	Turkey osso bucco	Spiking 5min at 60°C	0,5	3-5-3-6-6	4.6	-	4	b
2024	2663	Langue de bœuf sauce piquante	Beef tongue with spicy sauce	Listeria monocytogenes A00C052	Turkey osso bucco	Spiking 5min at 60°C	0,5	3-5-3-6-6	4.6	-	4	b
2024	2664	Rougail saucisses	Sausage rougail	Listeria monocytogenes A00C054	Beef heart	Spiking 5min at 60°C	0,5	4-2-4-3-1	2.8	-	4	b
2024	2665	Joue de porc sauce provençale	Pork cheek and Provencal sauce	Listeria monocytogenes A00C054	Beef heart	Spiking 5min at 60°C	0,5	4-2-4-3-1	2.8	-	4	b
2024	2666	Porc au caramel	Pork with caramel	Listeria monocytogenes A00C054	Beef heart	Spiking 5min at 60°C	0,5	4-2-4-3-1	2.8	-	4	b
2024	2667	Poulet tikka massala	Chicken tikka massala	Listeria monocytogenes A00C054	Beef heart	Spiking 5min at 60°C	0,5	4-2-4-3-1	2.8	-	4	b
2024	1707	Bacon	Bacon	Listeria seeligeri Ad1297	Merguez	Seeding 48h 3±2°C	/	3-2-4-0-2	2.2	+	4	c
2024	1708	Rillettes de porc	Pork rillettes	Listeria monocytogenes Ad267 Listeria seeligeri Ad1297	Dry sausage Merguez	Seeding 48h 3±2°C	/	(5-3-5-3-4)/2 (3-2-4-0-2)/2	2.0 1.1	+	4	c
2024	1709	Lardons nature	Bacon	Listeria grayi Ad3288	Smoked bacon	Seeding 48h 3±2°C	/	3-2-1-2-3	2.2	+	4	c
2024	1710	Pancetta	Pancetta	Listeria seeligeri Ad1297	Merguez	Seeding 48h 3±2°C	/	3-2-4-0-2	2.2	+	4	c

Year of analysis	N° Sample	Product (French name)	Product	Artificial contaminations						Global result	Category	Type
				Strain	Origin	Injury protocol	Injury evaluation	Inoculation level CFU/test portion		L. spp.		
								Enumeration	Mean	CFX Opus		
2024	2738	Dos de cabillaud	Raw cod	Listeria seeligeri Ad2638/ Listeria monocytogenes Ad2599	Trout Salmon	Seeding 48h at 3±2°C	/	3-3-5-4-3/1-1-3-3-3 (/2)	1.8/1.1 (2.9)	+	6	a
2024	2739	Filet de merlan	Raw whiting fillet	Listeria monocytogenes Ad2599	Salmon	Seeding 48h at 3±2°C	/	3-3-5-4-3	3.6	+	6	a
2024	2740	Filet de lieu noir	Raw fillet of saithe	Listeria seeligeri Ad2638	Trout	Seeding 48h at 3±2°C	/	1-1-3-3-3	2.2	+	6	a
2024	2741	Merlu petit	Small hake	Listeria monocytogenes Ad1182/ Listeria welshimeri Ad642	Tuna steak Sea bream	Seeding 48h at 3±2°C	/	0-3-1-1-3/2-0-1-2-1 (/2)	0.8/0.6 (1.4)	+	6	a
2024	2742	Pavé de truite	Trout	Listeria welshimeri Ad642	Sea bream	Seeding 48h at 3±2°C	/	0-3-1-1-3	1.6	+	6	a
2024	2743	Filet d'Eglefin	Haddock fillet	Listeria monocytogenes Ad1182	Tuna steak	Seeding 48h at 3±2°C	/	2-0-1-2-1	1.2	+	6	a
2024	2744	Saumon fumé	Smoked salmon	Listeria monocytogenes Ad128/ Listeria innocua Ad1674	Smoked salmon Smoked salmon	Seeding 48h at 3±2°C	/	1-1-5-4-2/1-3-5-3-0 (/2)	1.3/1.2 (2.5)	+	6	b
2024	2745	Truite fumée	Smoked trout	Listeria innocua Ad1674	Smoked salmon	Seeding 48h at 3±2°C	/	1-3-5-3-0	2.4	-	6	b
2024	2746	Filet de maquereaux fumés	Smoked mackerel fillet	Listeria innocua Ad1674	Smoked salmon	Seeding 48h at 3±2°C	/	1-3-5-3-0	2.4	+	6	b
2024	2747	Anchois marinés à l'ail	Marinated anchovies	Listeria monocytogenes Ad128	Smoked salmon	Seeding 48h at 3±2°C	/	1-1-5-4-2	2.6	-	6	b
2024	2748	Encornet au chorizo mariné	Squid with chorizo, marinated	Listeria monocytogenes Ad128	Smoked salmon	Seeding 48h at 3±2°C	/	1-1-5-4-2	2.6	+	6	b
2024	2749	Harengs marinés au vinaigre	Herring marinated with vinegar	Listeria monocytogenes Ad128/ Listeria innocua Ad1674	Smoked salmon Smoked salmon	Seeding 48h at 3±2°C	/	1-1-5-4-2/1-3-5-3-0 (/2)	1.3/1.2 (2.5)	-	6	b
2024	3189	Emincés de saumon fumé à l'aneth et aromatisé au citron	Sliced smoked salmon with dill and flavored with lemon	Listeria grayi Ad1198 Listeria monocytogenes Ad141	Smoked salmon	Seeding 48h at 3±2°C	/	2-0-0-2-0/1-1-1-4-2	0.8/1.8 (2.6)	+	6	b
2024	3190	Saumon mariné gravlax aneth citron	Gravlax marinated salmon with dill and lemon	Listeria grayi Ad1198 Listeria monocytogenes Ad141	Smoked salmon	Seeding 48h at 3±2°C	/	2-0-0-2-0/1-1-1-4-2	0.8/1.8 (2.6)	+	6	b
2024	3191	Carpaccio de saumon façon gravlax et sa marinade	Salmon carpaccio with marinade	Listeria grayi Ad1198 Listeria monocytogenes Ad141	Smoked salmon	Seeding 48h at 3±2°C	/	2-0-0-2-0/1-1-1-4-2	0.8/1.8 (2.6)	+	6	b
2024	3192	Harengs fumés doux	Sweet smoked herring	Listeria innocua Ad1674 Listeria monocytogenes Ad141	Smoked salmon	Seeding 48h at 3±2°C	/	1-1-1-4-2/1-3-1-2-1	1.8/1.6 (3.4)	+	6	b
2024	3193	Maquereaux fumés	Smoked mackerel fillet	Listeria innocua Ad1674 Listeria monocytogenes Ad141	Smoked salmon	Seeding 48h at 3±2°C	/	1-1-1-4-2/1-3-1-2-1	1.8/1.6 (3.4)	+	6	b
2024	3194	Emincés de truite fumée	Sliced smoked trout	Listeria innocua Ad1674 Listeria monocytogenes Ad141	Smoked salmon	Seeding 48h at 3±2°C	/	1-1-1-4-2/1-3-1-2-1	1.8/1.6 (3.4)	+	6	b
2024	2750	Dos de cabillaud amande et pistache	Ready to eat cod	Listeria monocytogenes Ad128/ Listeria innocua Ad1674	Smoked salmon Smoked salmon	Seeding 48h at 3±2°C	/	1-1-5-4-2/1-3-5-3-0 (/2)	1.3/1.2 (2.5)	+	6	c
2024	2751	Panés au poisson	Breaded fish	Listeria innocua Ad1233/ Listeria monocytogenes Ad1186	Breaded cod Breaded cod	Seeding 48h at 3±2°C	/	3-1-3-1-2/0-0-1-2-3 (/2)	1.0/0.6 (1.6)	+	6	c
2024	2753	Coquille St-Jacques	Ready to eat scallops	Listeria monocytogenes Ad1186	Breaded cod	Seeding 48h at 3±2°C	/	3-1-3-1-2	2.0	+	6	c

COMPOSITE FOODS																																								
Date of analysis	N°Sample	Product (French name)	Product	Reference method: ISO 11290-1♦				Alternative method: iQ-Check <i>Listeria</i> spp.																												Category	Type			
								1:10 with LSB II Broth -18h at 37°C																																
				PCR												Confirmation								Fra ser	Final result confirmation	Final result				Agreement Ref/Alt										
				1:10 with Half Fraser - 24h at 30°C						Easy II lysis protocol - Without FDRS APF Fast																Easy II lysis protocol - With FDRS APF Fast						w/o FDRS		w FDRS				w/o FDRS		w FDRS
				Half Fraser		Fraser		Identifi- cation	Result	CFX96 Deep Well			CFX Opus Deep Well			CFX96 Deep Well			CFX Opus Deep Well			RAPID [®] L [®] mono (100 µL)	RAPID [®] Listeria (100µL)	AL (100µL)		AL (10µL)	Palcam (10µL)	Identifi- cation	Result	CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW			CFX 96 DW	CFX Opus DW	
				O&A	PALCAM	O&A	PALCAM			FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	R es ult																			
2023	112	Tortilla au chorizo	Chorizo tortilla	st	-	st	st	/	-	N/A	32.90	-	N/A	33.51	-	N/A	33.14	-	N/A	33.12	-	-	-	-	-	-	/	-	-	-	-	-	-	-	NA	NA	NA	NA	1	c
2023	113	Tortilla à l'oignon	Onion tortilla	st	st	st	st	/	-	N/A	33.70	-	N/A	36.68	-	N/A	34.68	-	N/A	35.40	-	st	st	st	st	st	/	-	-	-	-	-	-	-	NA	NA	NA	NA	1	c
2023	114	Coupe profiterole	Pastry	-	-	H-d	-	-(NC)	-	36.50 36.71 36.35	33.16 32.87 32.74	+ + +	37.32 35.87 36.91	33.61 32.54 33.44	+ + +	37.97 42.80 43.46	32.72 32.37 33.62	+ + +	39.56	32.80	-	+ spp d	+d	H-d	H-d	-	-(NC on TSYEA , Gram - x5)	-	-	-	-	-	-	-	PD _{FP(alt)}	PD _{FP(alt)}	PD _{FP(alt)}	NA	1	c
2023	115	Crème anglaise	Custard	st	-	st	st	/	-	N/A	32.82	-	N/A	32.75	-	N/A	32.70	-	N/A	32.54	-	st	st	st	st	st	/	-	-	-	-	-	-	-	NA	NA	NA	NA	1	c
2023	116	Mousse citron	Lemon mousse	st	st	st	st	/	-	N/A	35.49	-	N/A	34.02	-	N/A	35.80	-	N/A	34.36	-	st	st	-	st	-	/	-	-	-	-	-	-	-	NA	NA	NA	NA	1	c
2023	117	Ile flottante	Custard based dessert	st	st	st	st	/	-	N/A	33.16	-	N/A	33.15	-	N/A	33.15	-	N/A	33.27	-	st	st	st	st	st	/	-	-	-	-	-	-	-	NA	NA	NA	NA	1	c
2023	118	Mousse chocolat noir	Chocolate mousse	st	st	st	st	/	-	40.16 35.84 36.46	N/A 34.28 N/A	+/-/+ +	N/A	32.87	-	N/A N/A	N/A 32.55	i/-* N/A*	N/A 32.42*	i/-* N/A*	st	st	st	st	st	/	-	-	-	-	-	-	-	PD _{FP(alt)}	NA	NA	NA	1	c	
2023	119	Gâteau tutti frutti	Pastry	st	st	st	st	/	-	N/A	32.88	-	N/A	33.24	-	N/A	32.82	-	N/A	32.68	-	st	st	st	st	st	/	-	-	-	-	-	-	-	NA	NA	NA	NA	1	c
2023	515	Choux chantilly	Pastry	st	-	-	-	/	-	N/A	32.73	-	N/A	32.65	-	N/A	33.03	-	N/A	32.52	-	st	st	st	st	-	/	-	-	-	-	-	-	-	NA	NA	NA	NA	1	c
2023	516	Tartelette citron	Lemon tartlet	st	st	st	st	/	-	N/A	33.18	-	N/A	33.43	-	N/A	33.28	-	N/A	33.01	-	-	st	st	st	st	/	-	-	-	-	-	-	-	NA	NA	NA	NA	1	c
2023	517	Mousse au chocolat à l'ancienne	Chocolate mousse	-	-	-	-	/	-	38.69	33.97	+	38.26	33.39	+	N/A	33.60	-	N/A	33.42	-	+ spp d	st	H-d	H-d	-	-(Gram- x5/plate)	-	-	-	-	-	-	-	PD _{FP(alt)}	PD _{FP(alt)}	NA	NA	1	c
2023	750	Pâte feuilletée	Raw dough	-	-	-	-	/	-	N/A	33.88	-	N/A	33.67	-	N/A	34.96	-	N/A	34.31	-	-	-	-	-	-	/	-	-	-	-	-	-	-	NA	NA	NA	NA	1	c

PRODUCTION ENVIRONMENTAL SAMPLES																																								
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						1:10 with LSB II Broth -18h at 37°C																																		
						PCR												Confirmation								Fraser	Final result confirmation	Final result				Agreement Ref/Alt								
				Easy II lysis protocol - Without FDRS APF Fast						Easy II lysis protocol - With FDRS APF Fast						w/o FDRS												w FDRS		w/o FDRS		w FDRS								
				Half Fraser		Fraser		Identifi- cation	Result	CFX96 Deep Well			CFX Opus Deep Well			CFX96 Deep Well			CFX Opus Deep Well			RAPID <i>L.mono</i> (100 µL)	RAPID <i>Listeria</i> (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)		Identifi- cation	Result											
				O&A	PALCAM	O&A	PALCAM			FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result									CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW			CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW	
2022	3760	Chiffonnette hall techno production pâté fini (porc) après nettoyage	Wipe after cleaning process	H+	+	H+	+	<i>L.mono</i>	+	35.24	32.73	+	36.15	32.87	+	35.15	32.83	+	38.30	32.91	+	+	+	H+	H+	+		<i>L.mono</i>		+	+	+	+	+	PA	PA	PA	PA	2	a
2022	3761	Chiffonnette grille siphon VHS 19 après nettoyage	Wipe after cleaning process	H-	+	H-	+	<i>L.inno</i>	+	29.15	32.20	+	29.10	31.78	+	29.29	31.68	+	29.23	31.30	+	+/- spp	+	H+/H-	H+/H-	+		<i>L.mono</i> <i>L.inno</i>		+	+	+	+	+	PA	PA	PA	PA	2	a
2022	3762	Chiffonnette VHS2 table transfert environnement carné, après nettoyage	Wipe after cleaning process	H+	+	H+	+	<i>L.mono</i>	+	25.94	31.34	+	25.53	31.08	+	26.04	30.33	+	25.73	30.78	+	+	+	H+	H+	+	<i>L.mono</i>		+	+	+	+	+	PA	PA	PA	PA	2	a	
2022	3763	Chiffonnette pompe production crème glacée avant nettoyage	Wipe before cleaning process	H+	+	H+	+	<i>L.mono</i>	+	33.34	33.02	+	32.81	32.75	+	33.32	32.46	+	33.66	32.66	+	+	+	H+	H+	+	<i>L.mono</i>		+	+	+	+	+	PA	PA	PA	PA	2	a	
2022	3764	Chiffonnette pompe production crème glacée après nettoyage	Wipe after cleaning process	st	st	st	st	/	-	N/A	32.97	-	N/A	32.86	-	N/A	32.94	-	N/A	33.13	-	st	st	st	st	st	/	-	-	-	-	-	NA	NA	NA	NA	2	a		
2022	3765	Chiffonnette environnement laitier avant nettoyage	Wipe before cleaning process	H+	+	H+	+	<i>L.mono</i>	+	27.44	31.51	+	27.51	31.68	+	27.59	31.07	+	27.46	30.86	+	+	+	H+	H+	+	<i>L.mono</i>		+	+	+	+	+	PA	PA	PA	PA	2	a	
2023	524	Chiffonnette surface tapis trancheur	Wipe before cleaning process	st	st	st	st	/	-	N/A	32.51	-	N/A	32.91	-	N/A	33.09	-	N/A	33.06	-	st	st	st	st	st	/	-	-	-	-	-	NA	NA	NA	NA	2	a		
2023	525	Chiffonnette Hall techno, pâté fine porc après désinfection	Wipe after cleaning process	st	st	st	st	/	-	N/A	33.10	-	N/A	32.57	-	N/A	32.68	-	N/A	32.70	-	st	st	st	st	st	/	-	-	-	-	-	NA	NA	NA	NA	2	a		

* Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

PRODUCTION ENVIRONMENTAL SAMPLES																																							
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						1:10 with LSB II Broth -18h at 37°C																																	
				1:10 with Half Fraser - 24h at 30°C								PCR						Confirmation								Fraser	Final result confirmation	Final result				Agreement Ref/Alt							
												Easy II lysis protocol - Without FDRS APF Fast																Easy II lysis protocol - With FDRS APF Fast								w/o FDRS		w FDRS	
				Half Fraser		Fraser		Identifi- cation	Result	CFX96 Deep Well			CFX Opus Deep Well			CFX96 Deep Well			CFX Opus Deep Well			RAPID <i>L.mono</i> (100 µL)	RAPID <i>Listeria</i> (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)		Identifi- cation	Result										
				O&A	PALCAM	O&A	PALCAM			FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result						CFX 96 DW			CFX Opus DW	CFX 96 DW	CFX Opus DW	CFX 96 DW			CFX Opus DW	CFX 96 DW	CFX Opus DW	
2023	723	Chiffonnette de surface réception UPM, après nettoyage	Wipe after cleaning process	H+	+	H+	+	<i>L.mono</i>	+	28.84	32.24	+	28.71	31.69	+	28.53	33.66	+	28.41	31.47	+	+	+	H+	H+	+	<i>L.mono</i>		+	+	+	+	+	PA	PA	PA	PA	2	a
2023	724	Chiffonnette de surface table de façonnage brioche après désinfection	Wipe after cleaning process	st	st	st	st	/	-	N/A	33.31	-	N/A	32.56	-	N/A	33.22	-	N/A	32.74	-	st	st	st	st	st	/	-	-	-	-	-	-	NA	NA	NA	NA	2	a
2023	757	Chiffonnette prélèvement de surface environnement bovin	Wipe before cleaning process	H-	+	H-	+	<i>L.welsh</i>	+	28.86	31.68	+	27.78	31.16	+	28.86	31.68	+	26.75	31.01	+	+	+	H+/H-	H+/H-	+	<i>L.mono L.welsh</i>		+	+	+	+	+	PA	PA	PA	PA	2	a
2023	758	Ecouvillon surface brioche	Swab	st	st	st	st	/	-	N/A	32.53	-	N/A	32.55	-	N/A	32.53	-	N/A	32.58	-	st	st	st	st	st	/	-	-	-	-	-	-	NA	NA	NA	NA	2	a
2023	822	Chiffonnette environnement végétal avant nettoyage	Wipe before cleaning process	H+	+	H+	+	<i>L.mono</i>	+	32.56	32.14	+	32.47	32.27	+	33.18	32.44	+	32.48	32.23	+	+(6)/+spp	+d (5)	H+ (7)/H-	H-	+	<i>L.mono L.seel</i>		+	+	+	+	+	PA	PA	PA	PA	2	a
2023	823	Chiffonnette environnement laitier (production glace) avant nettoyage	Wipe before cleaning process	H+	+	H+	+	<i>L.mono</i>	+	31.46	32.04	+	31.26	31.84	+	31.21	32.00	+	30.71	31.88	+	+/-sppd	+	H+	H+	+	<i>L.mono L.seel</i>		+	+	+	+	+	PA	PA	PA	PA	2	a
2023	824	Chiffonnette environnemnet porc (production pâté)	Wipe before cleaning process	H+ (4)	+	H+	+	<i>L.mono</i>	+	N/A	32.73	+	N/A	32.86	+	38.17	32.72	+	36.60	32.68	+	+spp	+	H-	H-	+	<i>L.seel</i>	+	+	+	+	+	+	PA	PA	PA	PA	2	a
2023	955	Chiffonnette pompe crème glacée avant nettoyage	Wipe before cleaning process	st	st	st	-	/	-	N/A	32.81	-	N/A	33.04	-	N/A	33.09	-	N/A	32.64	-	st	st	st	st	st	/	-	-	-	-	-	-	NA	NA	NA	NA	2	a
2023	956	Chiffonnette tablecrème glacée avant nettoyage	Wipe before cleaning process	st	st	st	st	/	-	N/A	33.07	-	N/A	33.03	-	N/A	33.04	-	N/A	32.85	-	st	st	st	st	st	/	-	-	-	-	-	-	NA	NA	NA	NA	2	a
2023	957	Chiffonnette environnement laitier après nettoyage	Wipe after cleaning process	st	st	st	st	/	-	N/A	32.68	-	N/A	33.00	-	N/A	33.03	-	N/A	32.73	-	st	st	st	st	st	/	-	-	-	-	-	-	NA	NA	NA	NA	2	a

PRODUCTION ENVIRONMENTAL SAMPLES																																							
Date of analysis	N°Sample	Product (french name)	Product	Reference method: ISO 11290-1*		Alternative method : iQ-Check <i>Listeria</i> spp.																												Category	Type				
						1:10 with LSB II Broth -18h at 37°C																																	
						PCR												Confirmation								Fraser	Final result confirmation	Final result				Agreement Ref/Alt							
				1:10 with Half Fraser - 24h at 30°C						Easy II lysis protocol - Without FDRS APF Fast						Easy II lysis protocol - With FDRS APF Fast												w/o FDRS		w FDRS		w/o FDRS				w FDRS			
				Half Fraser		Fraser		Identifi- cation	Result	CFX96 Deep Well			CFX Opus Deep Well			CFX96 Deep Well			CFX Opus Deep Well			RAPID <i>L.mono</i> (100 µL)	RAPID <i>Listeria</i> (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identifi- cation	Result	CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW	CFX 96 DW			CFX Opus DW	CFX 96 DW	CFX Opus DW	
				O&A	PALCAM	O&A	PALCAM			FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result																		
2023	733	Eau de rinçage production galette végétale + algues	Rinsing water	H+	+	H+	+	<i>L.mono</i>	+	29.33	32.25	+	29.24	31.69	+	N/A	33.49	-	N/A	32.71	-	st	st	st	st	st	/	-	-	-	-	-	PA FP(alt)	PA FP(alt)	ND	ND	2	c	
2023	734	Eau de process production de steak végétal	Process water	H+	+	H+	+	<i>L.mono</i>	+	26.88	32.73	+	26.75	31.20	+	27.25	33.67	+	27.11	31.13	+	+	+	H+	H+	+	<i>L.mono</i>		+	+	+	+	+	PA	PA	PA	PA	2	c
2023	756	Eau de process environnement laitier (fin de lavage lait)	Process water	st	st	-	st	/	-	N/A	32.79	-	N/A	32.65	-	N/A	32.79	-	N/A	32.57	-	st	st	st	st	st	/	-	-	-	-	-	NA	NA	NA	NA	2	c	
2023	828	Eau de process environnement laitier	Process water	H+	+	H+	+	<i>L.mono</i>	+	31.25	32.54	+	30.75	32.32	+	31.55	32.13	+	31.07	32.33	+	+/ spp d	+	H+	H+	+	<i>L.mono</i> <i>L.inno</i>		+	+	+	+	+	PA	PA	PA	PA	2	c
2023	829	Eau de process environnement végétal	Process water	H+	+	H+	+	<i>L.mono</i> <i>L.seel</i>	+	32.12	32.03	+	31.72	32.12	+	32.37	32.18	+	31.48	32.18	+	+spp	+	H-	H-	+	<i>L.seel</i>	+	+	+	+	+	+	PA	PA	PA	PA	2	c
2023	830	Eau de rinçage environnement carné	Rinsing water	H+/H-	+	H+/H-	+	<i>L.mono</i> <i>L.welsh</i>	+	33.21	32.14	+	32.57	32.23	+	34.64	32.80	+	34.30	32.62	+	+/ spp	+	H+/H-	H+/H-	+	<i>L.mono</i> <i>L.welsh</i>		+	+	+	+	+	PA	PA	PA	PA	2	c
2023	964	Eau de process lait	Process water	H+	+	H+	+	<i>L.mono</i>	+	31.81	34.39	+	31.83	33.44	+	31.16	32.72	+	31.22	32.69	+	+	+	H+	H+	+	<i>L.mono</i>		+	+	+	+	+	PA	PA	PA	PA	2	c
2023	965	Eau de process environnement carné	Process water	st	st	st	st	/	-	N/A	33.15	-	N/A	32.79	-	N/A	32.89	-	N/A	33.35	-	st	st	st	st	st	/	-	-	-	-	-	NA	NA	NA	NA	2	c	
2023	966	Eau de process batch 2 (environnement carné)	Process water	st	st	st	st	/	-	28.36	32.04	+	28.29	32.01	+	28.55	31.64	+	28.54	31.56	+	+	+	H+	H+	+	<i>L.mono</i>		+	+	+	+	+	PD	PD	PD	PD	2	c
2023	967	Eau de process laitier	Process water	st	-	st	-	/	-	N/A	33.21	-	N/A	32.91	-	N/A	33.19	-	N/A	32.71	-	st	st	st	st	st	/	-	-	-	-	-	NA	NA	NA	NA	2	c	
2023	968	Eau de process dinde surgelé	Process water	st	st	st	st	/	-	N/A	33.08	-	N/A	32.78	-	N/A	33.07	-	N/A	33.05	-	st	st	st	st	st	/	-	-	-	-	-	NA	NA	NA	NA	2	c	

DAIRY PRODUCTS																																									
Year of analysis	N°Sample	Product (French name)	Product	Reference method: ISO 11290-1♦		Alternative method : iQ-Check <i>Listeria</i> spp.																												Category	Type						
						1:10 with prewarmed LSBII Broth -18h at 37°C																																			
				1:10 with Half Fraser - 24h at 30°C						Easy II lysis protocol - Without FDRS APF Fast						Easy II lysis protocol - With FDRS APF Fast						Confirmation								Subculture in Fraser broth 24h at 37°C (Negative samples)	Final result confirmation <i>Listeria</i> spp.	Final result				Agreement Ref/Alt					
				Half Fraser		Fraser		Identi- fication	Result	CFX96 DW			CFX Opus DW			CFX96 DW			CFX Opus DW													w/o FDRS	w FDRS			w/o FDRS		w FDRS			
										O&A	PALCAM	O&A	PALCAM	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	RAPID <i>L.mono</i> (100µL)	RAPID <i>L.listeria</i> (100µL)	AL (100µL)	AL (10µL)	PALCAM (10µL)	Identi- fication	Result	CFX 96			CFX Opus	CFX 96	CFX Opus	CFX 96	CFX Opus	CFX 96
2023	1728	Fromage au lait cru de vache pâte cuite	Raw cow milk cheese	H+	+	H+	+	<i>L mono</i>	+	34.13	32.78	+	34.28	32.84	+	32.41	32.75	+	33	32.3	+	+	+	H+	H+	+	<i>L mono</i>	/	+	+	+	+	+	PA	PA	PA	PA	3	a		
2023	1729	Fromage au lait cru de vache Camembert	Raw cow milk cheese	H-	+	H-	+	<i>L inno</i>	+	38.03	32.37	+	37.49	34.16	+	N/A N/A 40.74	32.85 33.24 32.61	- / - / +	39.07	33.25	+	+	+	H-	H-	+	<i>L innocua</i>	/	+	+	+	-	+	PA	PA	ND FN(alt)	PA	3	a		
2023	1735	Fromage au lait cru de chèvre Picodon	Raw goat milk cheese	-	-	H-	+	<i>L welsh</i>	+	36.13	32.55	+	38.92	33.89	+	36.9	32.62	+	37.33	33.18	+	+	+	H+	H+	+	<i>L mono</i>	/	+	+	+	+	+	PA	PA	PA	PA	3	a		
2023	2741	Coulommiers au lait cru de vache	Raw cow milk cheese	-	-	st	-		-	N/A	38.02	-	N/A	42.06	-	N/A	37.89	-	N/A	37.93	-	-	-	-	-	-		-	-	-	-	-	NA	NA	NA	NA	3	a			
2023	2742	Maroilles au lait cru de vache	Raw cow milk cheese	st	st	st	-		-	29.78	33.8	+	29.93	32.66	+	29.82	36.28	+	29.71	36.22	+	+	+	H+	H+	+	<i>L mono</i>	/	+	+	+	+	+	PD	PD	PD	PD	3	a		
2023	2743	Brie de Meaux au lait cru de vache	Raw cow milk cheese	st	st	st	st		-	29.93	39.73	+	29.12	N/A	+	28.86	N/A	+	28.5	N/A	+	+	+	H-	H-	+	<i>L inno</i>	/	+	+	+	+	+	PD	PD	PD	PD	3	a		
2023	2744	Munster au lait cru de vache	Raw cow milk cheese	H-	+	H-	+	<i>L. inno</i>	+	20.62	N/A	+	20.68	N/A	+	19.43	N/A	+	19.49	N/A	+	+	+	H-	H-	+	<i>L inno</i>	/	+	+	+	+	+	PA	PA	PA	PA	3	a		
2023	2745	Reblochon au lait cru de vache	Raw cow milk cheese	st	st	st	st		-	N/A	33.93	-	N/A	33.63	-	N/A	33.82	-	N/A	33.46	-	-	-	-	-	-		-	-	-	-	-	NA	NA	NA	NA	3	a			
2023	2746	Le grand caprin au lait cru de chèvre	Raw goat milk cheese	st	st	st	st		-	N/A	33.18	-	N/A	32.98	-	N/A	33.32	-	N/A	32.94	-	-	-	-	-	-		-	-	-	-	-	NA	NA	NA	NA	3	a			
2023	2747	Rocamadour au lait cru de chèvre	Raw goat milk cheese	st	st	st	st		-	N/A N/A*	N/A 32.56*	i / - *	N/A N/A*	N/A 32.62 *	i / - *	N/A N/A*	N/A 32.55*	i / - *	N/A N/A*	N/A 32.41*	i / - *	-	-	-	-	-		-	-	-	-	-	NA	NA	NA	NA	3	a			
2023	2748	Majette au lait cru de vache	Raw cow milk cheese	st	st	st	st		-	N/A	34.92	-	N/A	34.94	-	N/A	35.25	-	N/A	35.37	-	-	-	-	-	-		-	-	-	-	-	NA	NA	NA	NA	3	a			
2023	2749	Roves des garrigues au lait cru de chèvre	Raw goat milk cheese	st	st	st	st		-	N/A	32.96	-	N/A	33.07	-	N/A	32.89	-	N/A	33.06	-	-	-	-	-	-		-	-	-	-	-	NA	NA	NA	NA	3	a			

♦ Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

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						1:10 with prewarmed LSBII Broth -18h at 37°C																																		
				1:10 with Half Fraser - 24h at 30°C				Easy II lysis protocol - Without FDRS APF Fast						Easy II lysis protocol - With FDRS APF Fast						Confirmation								Subculture in Fraser broth 24h at 37°C (Negative samples)	Final result confirmation <i>Listeria</i> spp.	Final result						Agreement Ref/Alt				
				Half Fraser		Fraser		Identi- fication		Result	CFX96 DW			CFX Opus DW			CFX96 DW													CFX Opus DW			CFX 96			CFX Opus	CFX 96	CFX Opus	w/o FDRS	w FDRS
											O&A	PALCAM	O&A	PALCAM	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	RAPID <i>L.mono</i> (100µL)	RAPID <i>Listeria</i> (100µL)		AL (100µL)	AL (10µL)	PALCAM (10µL)								
2023	2750	Saint Nicolas de la Dalmerie au lait cru de brebis	Raw ewe milk cheese	st	st	st	st		-	N/A	32.6	-	N/A	32.73	-	N/A 34.33 * ac N/A* N/A*	N/A 32.46* ac 32.85* 32.81*	i / +*a c / -* / -*	N/A	32.9	-	-	-	-	-	-	-	-	-	-	-	NA	NA	NA	NA	3	a			
2023	2751	Brie de Meaux au lait cru de vache	Raw cow milk cheese	st	st	st	st		-	N/A	35.76	-	N/A	35.4	-	N/A	36.63	-	N/A	36.77	-	-	-	-	-	-	-	-	-	-	-	NA	NA	NA	NA	3	a			
2023	2752	Fromage au lait cru de chèvre 158	Raw goat milk cheese	H+	+	H+	+	<i>L. mono</i>	+	36.13	32.69	+	36.95	32.46	+	39.78	32.61	+	38.54	32.64	+	- / + (x5)	+ d ni / +	- / + (x5)	- / + (x5)	- / + (x5)	<i>L mono</i>	/	+	+	+	+	+	PA	PA	PA	PA	3	a	
2023	2753	Fromage au lait cru de chèvre 252	Raw goat milk cheese	st	st	H+	+	<i>L. mono</i>	+	36.37	33.03	+	37.00	32.43	+	36.21	32.92	+	36.88	32.41	+	+	+	H+	H+	+	<i>L mono</i>	/	+	+	+	+	+	PA	PA	PA	PA	3	a	
2023	3703	Tomme de brebis au lait cru au romarin	Raw ewe milk cheese	-	-	st	-		-	N/A	32.92	-	N/A	32.66	-	N/A	32.93	-	N/A	33.21	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA	NA	NA	3	a		
2023	3704	Roquefort au lait de brebis	Raw ewe milk cheese	-	-	-	-		-	N/A	32.81	-	N/A	32.92	-	N/A	32.75	-	N/A	32.93	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA	NA	NA	3	a		
2023	3937	Fromage au lait cru de chèvre (Selles-sur-Cher AOP)	Goat milk cheese	st	-	st	st		-	N/A	32.59	-	N/A	32.74	-	N/A	32.87	-	N/A	32.79	-	st	st	-	st	st		-	-	-	-	-	-	NA	NA	NA	NA	3	a	
2023	3938	Fromage au lait cru de chèvre (Rocamadour AOP)	Goat milk cheese	st	st	st	-		-	N/A	35.12	-	N/A	33.75	-	N/A	33.91	-	N/A	35.27	-	-	st	-	-	-	-	-	-	-	-	-	NA	NA	NA	NA	3	a		
2023	3939	Fromage au lait cru de brebis (Roquefort)	Raw ewe milk cheese	st	-	st	-		-	35.18	32.44	+	35.04	32.69	+	35.60	32.24	+	35.24	32.27	+	-	st	-	-	-	<i>L. ivan</i>	+	+	+	+	+	+	PD	PD	PD	PD	3	a	
2023	3940	Fromage au lait cru de brebis (Roquefort)	Raw ewe milk cheese	-	st	st	-		-	39.73	32.45	+	39.41	32.65	+	37.92	32.22	+	N/A/N/A /N/A	32.53/33. 22/32.99	-/-/-	-	st	h+d	H+ (2)	+	(2)	<i>L. ivan</i>	+	+	+	+	+	-	PD	PD	PD	NA FN(alt)	3	a

DAIRY PRODUCTS																																							
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						1:10 with prewarmed LSBII Broth -18h at 37°C																																	
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				Half Fraser		Fraser		Identi- fication		Result	CFX96 DW			CFX Opus DW			CFX96 DW													CFX Opus DW			w/o FDRS			w FDRS	w/o FDRS		w FDRS
											O&A	PALCAM	O&A	PALCAM	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	RAPID ^L .mono (100µL)			RAPID ^L . <i>Listeria</i> (100µL)	AL (100µL)	AL (10µL)	PALCAM (10µL)			Identifi- cation	Result	CFX 96	CFX Opus
2023	3701	Beurre de baratte non pasteurisé	Raw milk butter	-	-	-	-	-	30.59	33.01	+	30.11	32.35	+	30.56	32.96	+	30.24	32.79	+	+	+	H+ / H-	H+ / H-	+	<i>L. mono</i> <i>L. inno</i>	/	+	+	+	+	+	PD	PD	PD	PD	3	b	
2023	3705	Faisselle au lait cru	Raw fermented milk	-	st	-	-	-	N/A	32.82	-	N/A	33.1	-	N/A	34.05	-	N/A	33.53	-	-	st	-	-	-		-	-	-	-	-	NA	NA	NA	NA	3	b		
2023	3706	Faisselle au lait cru	Raw fermented milk	st	-	st	-	-	N/A	33.26	-	N/A	32.94	-	N/A	33.3	-	N/A	32.96	-	-	st	-	-	-		-	-	-	-	-	NA	NA	NA	NA	3	b		
2023	2754	Crème glacée à la vanille "cookie"	Ice cream	-	-	-	-	-	40.38 34.88 35.37	33.1 32.68 32.42	+ / + / +	N/A	32.82	-	N/A	33.36	-	N/A	33.6	-	-	-	-	-		-	-	-	-	-	PD FP(alt)	NA	NA	NA	3	c			
2023	2755	Crème glacée à la vanille "caramel"	Ice cream	st	st	-	-	-	N/A	32.7	-	N/A	32.56	-	N/A	32.7	-	N/A	32.93	-	-	-	-	-		-	-	-	-	-	NA	NA	NA	NA	3	c			
2023	2825	Lait de vache 1/2 écrémé pasteurisé	Pasteurized cow milk	H+	+	H+	+	<i>L. mono</i>	+	N/A	32.73	-	N/A	32.5	-	N/A	32.95	-	N/A	32.71	-	-	-	-	-		-	-	-	-	-	ND	ND	ND	ND	3	c		
2023	2826	Lait de vache 1/2 écrémé pasteurisé	Pasteurized cow milk	H+	+	H+	+	<i>L. mono</i>	+	N/A	33	-	N/A	32.92	-	N/A	32.86	-	N/A	32.55	-	-	-	-	-		-	-	-	-	-	ND	ND	ND	ND	3	c		
2023	2827	Lait de vache 1/2 écrémé pasteurisé aromatisé mangue / fruit de la passion	Pasteurized cow milk flavoured	H+	+	H+	+	<i>L. mono</i>	+	27.59	33.29	+	27.54	31.51	+	27.62	32.75	+	27.66	31.82	+	-	-	H-	H-	+	<i>L. seel</i>	/	+	+	+	+	+	PA	PA	PA	PA	3	c
2023	2829	Fromage au lait de brebis pasteurisé	Pasteurized ewe milk cheese	st	st	st	st	-	34.25	33.12	+	34.73	32.46	+	35.71	32.62	+	35.09	33.02	+	+	+	H+	H+	+	<i>L. mono</i>	/	+	+	+	+	+	PD	PD	PD	PD	3	c	
2023	2830	Fromage au lait de chèvre pasteurisé	Pasteurized goat milk cheese	st	st	st	st	-	N/A	32.71	-	N/A	32.49	-	N/A	32.96	-	N/A	32.58	-	-	-	-	-	-		-	-	-	-	-	NA	NA	NA	NA	3	c		
2023	2831	Lait frais de chèvre pasteurisé	Pasteurized goat milk	H+	+	H+	+	<i>L. mono</i>	+	N/A	32.65	-	N/A	32.39	-	N/A	32.7	-	N/A	32.63	-	-	-	-	-		-	-	-	-	-	ND	ND	ND	ND	3	c		
2023	2835	Lait de vache pasteurisé aromatisé cappuccino	Pasteurized flavoured cow milk	st	st	st	st	-	23.56	N/A	+	23.99	N/A	+	24.13	N/A	+	24.6	N/A	+	-	-	H-	H-	+	<i>L..seel</i>	/	+	+	+	+	+	PD	PD	PD	PD	3	c	

DAIRY PRODUCTS																																									
Year of analysis	N°Sample	Product (French name)	Product	Reference method: ISO 11290-1♦		Alternative method : iQ-Check <i>Listeria</i> spp.																												Category	Type						
						1:10 with prewarmed LSBII Broth -18h at 37°C																																			
				1:10 with Half Fraser - 24h at 30°C				Easy II lysis protocol - Without FDRS APF Fast						Easy II lysis protocol - With FDRS APF Fast						Confirmation								Subculture in Fraser broth 24h at 37°C (Negative samples)	Final result confirmation <i>Listeria</i> spp.	Final result						Agreement Ref/Alt					
								Half Fraser			Fraser			Identi- fication	Result	CFX96 DW			CFX Opus DW											CFX96 DW			CFX Opus DW			w/o FDRS	w FDRS	w/o FDRS	w FDRS		
				O&A	PALCAM	O&A	PALCAM	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result			FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	RAPID <i>L.mono</i> (100µL)	RAPID <i>Listeria</i> (100µL)	AL (100µL)	AL (10µL)	PALCAM (10µL)	Identi- fication	Result	CFX 96	CFX Opus	CFX 96	CFX Opus	CFX 96			CFX Opus	CFX 96	CFX Opus			
2023	3071	Poudre de lait demi-écrémé	Half-skimmed milk powder	-	-	H+	+	<i>L. mono</i>	+	N/A	32.46	-	N/A	32.39	-	N/A	32.82	-	N/A	32.49	-	-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	3	c					
2023	3072	Poudre de lait demi-écrémé	Half-skimmed milk powder	-	-	-	-		-	32.28	32.18	+	32.17	32.29	+	32.44	32.31	+	32.16	32.15	+	+ (1)	+	-	-	-	-	<i>L.inno</i>	/	+	+	+	+	+	+	PD	PD	PD	PD	3	c
2023	3073	Poudre de lait entier	Milk powder	-	-	-	-		-	N/A	32.7	-	N/A	32.42	-	N/A	32.66	-	N/A	32.73	-	-	-	-	-	-	-	-	-	-	NA	NA	NA	NA	3	c					
2023	3074	Poudre de lait entier	Milk powder	-	-	-	-		-	N/A	32.01	-	N/A	32.84	-	N/A	32.43	-	N/A	32.54	-	-	-	-	-	-	-	-	-	-	NA	NA	NA	NA	3	c					
2023	3075	Poudre de lait écrémé	Skimmed milk powder	-	-	-	-		-	N/A	32.72	-	N/A	32.36	-	N/A	32.45	-	N/A	32.56	-	-	-	-	-	-	-	-	-	-	NA	NA	NA	NA	3	c					
2023	3076	Poudre de lait écrémé	Skimmed milk powder	-	-	-	-		-	N/A	32.51	-	N/A	32.23	-	N/A	32.32	-	N/A	32.64	-	-	-	-	-	-	-	-	-	-	NA	NA	NA	NA	3	c					
2023	3077	Poudre de lait demi-écrémé	Half-skimmed milk powder	-	-	-	-		-	40.07 N/A N/A	32.26 32.25 32.22	+ / - /-	N/A	32.09	-	N/A	32.83	-	N/A	32.68	-	-	-	-	-	-	-	-	-	-	PD FP(alt)	NA	NA	NA	NA	3	c				
2023	3078	Lait écrémé déshydraté	Skimmed milk powder	-	-	-	-		-	N/A	32.2	-	N/A	32.18	-	N/A	32.34	-	N/A	31.95	-	-	-	-	-	-	-	-	-	-	NA	NA	NA	NA	3	c					
2023	3260	Crème glacée vanille	Ice cream	H-	+	H-	+	<i>L. seell</i>	+	23.25	N/A	+	23.35	31.16	+	23.23	N/A	+	23.35	31.62	+	+	+	H-	H-	+	<i>L. seel</i>	/	+	+	+	+	+	PA	PA	PA	PA	3	c		
2023	3261	Crème glacée vanille	Ice cream	st	-	st	-		-	N/A	33.08	-	N/A	32.99	-	N/A	33.05	-	N/A	33.06	-	-	st	-	-	-	-	-	-	-	NA	NA	NA	NA	3	c					
2023	3263	Crème glacée à la vanille	Ice cream	st	-	st	st		-	N/A	33.08	-	N/A	32.69	-	N/A	33.16	-	N/A	32.83	-	-	-	-	-	-	-	-	-	-	NA	NA	NA	NA	3	c					
2023	3543	Brique pur brebis	Pasteurized ewe milk cheese	st	-	st	-		-	32.74	32.07	+	33.34	32.71	+	32.85	32.1	+	32.85	32.32	+	-	+	H+	H+	+	<i>L. mono</i>	/	+	+	+	+	+	PD	PD	PD	PD	3	c		
2023	3544	Brique pur brebis	Pasteurized ewe milk cheese	H-	-	H-	+	<i>L. inno</i>	+	39.98	32.7	+	39.76	33.14	+	N/A N/A N/A	33.12 33.02 32.54	- / - / -	N/A N/A N/A	32.83 32.66 32.45	- / - /-	-	+	H-d	H-d	-	<i>L.. inno</i>	/	+	+	+	-	-	PA	PA	ND FN(alt)	ND FN(alt)	3	c		
2023	3545	Tomme des Pyrénées	Pasteurized cow milk cheese	H+	+	H+	+	<i>L. mono</i>	+	33.91	34.91	+	34.05	34.11	+	33.39	33.51	+	33.24	33.33	+	-	+	H+	H+	+	<i>L.mono</i>	/	+	+	+	+	+	PA	PA	PA	PA	3	c		
2023	3546	Tomme des Pyrénées	Pasteurized cow cheese	st	-	st	st		-	39.62	34.99	+	36.75	33.9	+	38.41	33.23	+	40.21	33.86	+	+	+	H-d	H-d	-	<i>L. inno</i>	/	+	+	+	+	+	PD	PD	PD	PD	3	c		

MEAT AND POULTRY PRODUCTS																									
Year of analysis	N°Sample	Product (French name)	Product	Reference method: ISO 11290-1 (2017)*						Alternative method : iQ-Check <i>Listeria</i> spp.														Category	Type
										1:10 with LSB2 Broth pre-warmed-18h at 37°C															
										iQ-Check <i>Listeria</i> spp. 18 h			Confirmation								Subculture in Fraser broth 24h at 37°C	Final result confirmation <i>Listeria</i> spp.	iQ-Check <i>Listeria</i> spp. 18 h		
				1:10 with Half Fraser - 24h at 30°C						Easy II lysis protocol - APF Fast													Final result		
				Half Fraser		Fraser		Identification	Result	CFX Opus Deepwell			RAPID' <i>L.mono</i> (100µL)	RAPID' <i>Listeria</i> (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identification (biochemical galery)	Result						
				O&A	PALCAM	O&A	PALCAM			FAM Cq	I.C. Cq	Result													
2023	3951	Gigot d'agneau	Lamb leg	H-	+	H-	+	<i>L. innocua</i>	+	22.65	32.89	+	+spp	+	H-	H-	+	<i>L.welshimeri</i>	+	+	+	PA	4	a	
2024	1278	Steak haché	Ground beef	H+/H-	+	H+/H-	+	<i>L. welshimeri</i> <i>L. monocytogenes</i>	+	38.35	33	+	+	+	H+	H+	+	<i>L. monocytogenes</i>	+	+	+	PA	4	a	
2024	1279	Steak haché de volaille	Ground poultry	H+/H-d	+	H+/H-	+	<i>L. welshimeri</i> <i>L. monocytogenes</i>	+	N/A/ N/A/ N/A	33.42/ 33.04/ 33.08	-/-/-	+	+	H+	H+	+	<i>L. monocytogenes</i>	+	+	-	ND _{FN(alt)}	4	a	
2024	1280	Jambon de porc	Ham	H+	+	H+	+	<i>L. monocytogenes</i>	+	N/A	32.96	-	-	-	-	st	-	/	-	-	-	ND	4	a	
2024	1281	Steak haché de volaille	Ground poultry	H+/H-	+	H+/H-	+	<i>L. welshimeri</i> <i>L. monocytogenes</i>	+	29.04	31.68	+	+/+spp	+	H+/H-	H+/H-	+	<i>L. welshimeri</i> <i>L. monocytogenes</i>	+	+	+	PA	4	a	
2024	1282	Poulet	Poultry	st	st	st	st	/	-	N/A	33.13	-	-	-C	-C	st	-B	/	-	-	-	NA	4	a	
2024	1283	Flanchet de porc 10%MG	Pork flank	H-d/-	-	st	-	/	-	32.95	32.63	+	+	+	H+/H-d H+	H+	+	<i>L. monocytogenes</i>	+	+	+	PD	4	a	
2024	1699	Escalope de dinde	Turkey escalope	H+	+	H+	+	<i>L. monocytogenes</i>	+	38.01	33.04	+	+	+	H+	H+	+	<i>L. monocytogenes</i>	+	+	+	PA	4	a	
2024	1700	Steak haché 5%MG	Ground beef 5%fat	H-	+	H-	+	<i>L. welshimeri</i>	+	32.59	33	+	+spp	+	H-	H-	+(1)	<i>L. welshimeri</i>	+	+	+	PA	4	a	
2024	1701	Aiguillettes de poulet	Chicken	H+	+	H+	+	<i>L. ivanovii</i> (x12)	+	36.38	33.23	+	+spp	+	H+	H+	+	<i>L. ivanovii</i> (x7)	+	+	+	PA	4	a	
2024	1923	Escalope de dinde	Turkey meat	-	-	-	-	/	-	33.81	32.93	+	+	+	H+	H+	+	<i>L. monocytogenes</i>	+	+	+	PD	4	a	
2024	1925	Steak haché de volaille fin production	Steak haché de volaille	H-	-	H-	+	<i>L. welshimeri</i>	+	N/A	33.24	-	-	-	-	-	-	/	-	-	-	ND	4	a	
2024	2533	Boulettes de bœuf surgelées	Frozen beef balls	-	-	-	-	/	-	N/A	33.56	-	-	-	-	-	-	/	-	-	-	NA	4	a	
2024	2534	Steak haché surgelé	Frozen grounded beef	-	st	-	st	/	-	N/A	33.15	-	-	st	-	-	-	/	-	-	-	NA	4	a	
2024	2535	Cuisse de poulet surgelé	Frozen chicken	-	-	-	st	/	-	N/A	33.16	-	-	st	-	-	-	/	-	-	-	NA	4	a	
2024	2536	Aiguillettes de poulet	Chicken strips	-	st	-	st	/	-	N/A	33.34	-	-	st	-	-	-	/	-	-	-	NA	4	a	
2024	2537	Côte de veau	Veal chop	-	-	-	-	/	-	N/A	32.86	-	-	st	-	-	-	/	-	-	-	NA	4	a	
2024	2538	Côte de porc	Pork chop	-	-	-	-	/	-	N/A	33.05	-	-	st	st	st	-	/	-	-	-	NA	4	a	
2024	2539	Tranche à griller agneau	Lamb grill slice	-	st	-	-	/	-	N/A	33.1	-	-	st	st	-	-	/	-	-	-	NA	4	a	
2024	2540	Sauté de dinde surgelé	Frozen turkey	H-	+	H-	+	<i>L. welshimeri</i>	+	35.76	32.73	+	+d	+	H-d	H-d	+	<i>L. welshimeri</i>	+	+	+	PA	4	a	
2024	1284	Emincé kebab dinde rôti et poulet	Sliced roast turkey and chicken kebab	-	-	-	-	/	-	N/A	32.93	-	+spp d / -B	-C	-B	-C	-C	/	-	-	-	NA	4	b	
2024	1286	Dés de poulet fumés	Diced smoked chicken	st	-	st	-	/	-	N/A	33.07	-	-C	-C	st	st	-C	/	-	-	-	NA	4	b	
2024	1704	Viande de hachis parmentier	Shepherd's pie meat	H+	+	H+	+	<i>L. monocytogenes</i>	+	26.21	30.86	+	+	+	H-	H-	+	<i>L. welshimeri</i>	+	+	+	PA	4	b	

* Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

MEAT AND POULTRY PRODUCTS																									
Year of analysis	N°Sample	Product (French name)	Product	Reference method: ISO 11290-1 (2017)*						Alternative method : iQ-Check <i>Listeria</i> spp.														Category	Type
										1:10 with LSB2 Broth pre-warmed-18h at 37°C															
				iQ-Check <i>Listeria</i> spp. 18 h			Confirmation							Subculture in Fraser broth 24h at 37°C	Final result confirmation <i>Listeria</i> spp.	iQ-Check <i>Listeria</i> spp. 18 h									
				1:10 with Half Fraser - 24h at 30°C												Easy II lysis protocol - APF Fast			Result	Final result	Agreement Ref/Alt				
				Half Fraser		Fraser		Identification	Result	CFX Opus Deepwell															
				O&A	PALCAM	O&A	PALCAM			FAM Cq	I.C. Cq	Result	RAPID' <i>L.mono</i> (100µL)	RAPID' <i>Listeria</i> (100µL)		AL (100µL)	AL (10µL)	Palcam (10µL)				Identification (biochemical galery)			
2024	1705	Bœuf charolais au médoc	Wine beef	H+/H-	+	H+/H-	+	<i>L. monocytogenes</i> <i>L. welshimeri</i>	+	N/A/ N/A/ N/A	32.89/ 32.68/ 33.04	-/-/-	st	st	st	st	-	/	-	-	-	ND	4	b	
2024	1706	Viande de couscous	Couscous meat	H+	+	H+	+	<i>L. monocytogenes</i>	+	23.51	30.12	+	+	+	H+	H+	+	<i>L. monocytogenes</i>	+	+	+	PA	4	b	
2024	1926	Langue de bœuf en sauce	Beef tongue in sauce	st	st	st	-	/	-	N/A	32.75	-	-	-	-	H- (1)	-	<i>L. innocua</i>	-/+ / + / -/ (<i>L.innocua</i>)	+	-	NA _{FN(alt)}	4	b	
2024	2265	Viande de parmentier de canard	Duck parmentier meat	H-	+	H-	+	<i>L. innocua</i>	+	N/A	32.75	-	-	st	-	st	st	/	-	-	-	ND	4	b	
2024	2267	Bœuf bourguignon	Bourguignon	H-d	+	H-	+	<i>L. innocua</i>	+	21.5	29.44	+	+spp	+	H-	H-	+	<i>L. innocua</i>	+	+	+	PA	4	b	
2024	2542	Blanquette de veau	Veal blanquette	st	st	st	st	/	-	N/A	33.09	-	st	st	st	st	st	/	-	-	-	NA	4	b	
2024	2543	Poulet basquaise	Basque chicken	st	st	st	st	/	-	N/A	33.17	-	-	st	-	-	st	/	-	-	-	NA	4	b	
2024	2546	Lapin aux deux moutardes	Mustard rabbit	st	st	st	st	/	-	N/A	32.93	-	st	st	st	st	st	/	-	-	-	NA	4	b	
2024	2659	Canard confit	Duck confit	st	st	st	st	/	-	N/A	32.99	-	st	st	st	st	st	/	-	-	-	NA	4	b	
2024	2660	Emincés de bœuf sauce au poivre	Sliced beef with pepper sauce	st	st	st	st	/	-	37.6	32.63	+	+	+	H+	H+ (3)	+	(5) <i>L. monocytogenes</i>	+	+	+	PD	4	b	
2024	2661	Paupiette de veau	Veal paupiette	st	st	H+	+	<i>L. monocytogenes</i>	+	N/A	33.15	-	st	st	st	st	st	/	-	-	-	ND	4	b	
2024	2662	Blanquette de veau	Veal blanquette	st	st	st	st	/	-	N/A	33.04	-	st	st	st	st	st	/	-	-	-	NA	4	b	
2024	2663	Langue de bœuf sauce piquante	Beef tongue with spicy sauce	st	st	st	st	/	-	N/A	33.07	-	st	st	st	st	st	/	-	-	-	NA	4	b	
2024	2664	Rougail saucisses	Sausage rougail	st	st	st	st	/	-	N/A	32.83	-	st	st	st	st	st	/	-	-	-	NA	4	b	
2024	2665	Joue de porc sauce provençale	Pork cheek and Provencal sauce	st	st	st	st	/	-	N/A	33.5	-	st	st	st	st	st	/	-	-	-	NA	4	b	
2024	2666	Porc au caramel	Pork with caramel	st	st	st	st	/	-	N/A	33.04	-	st	st	st	st	st	/	-	-	-	NA	4	b	
2024	2667	Poulet tikka massala	Chicken tikka massala	st	st	st	st	/	-	N/A	32.71	-	st	st	st	st	st	/	-	-	-	NA	4	b	
2024	2672	Canard confit	Duck confit	st	st	st	st	/	-	N/A	32.84	-	st	st	st	st	st	/	-	-	-	NA	4	b	
2024	2673	Emincés de bœuf sauce poivre	Sliced beef with pepper sauce	st	st	st	st	/	-	N/A	33.03	-	st	st	st	st	st	/	-	-	-	NA	4	b	
2024	2674	Paupiette de veau	Veal paupiette	st	st	st	st	/	-	39.87/ 39.26/ 40.08	32.92/ 32.57/ 32.76	+ / + / +	st	st	st	st	st	/	-	-	-	PD _{FP(alt)}	4	b	
2024	2675	Blanquette de veau	Veal blanquette	st	st	st	st	/	-	N/A	33.07	-	st	st	st	st	st	/	-	-	-	NA	4	b	
2024	2676	Langue de bœuf sauce piquante	Beef tongue with spicy sauce	st	st	st	st	/	-	N/A	33.74	-	st	st	st	st	st	/	-	-	-	NA	4	b	
2024	2677	Sauté de porc	Stir fried pork	st	st	st	st	/	-	N/A	33.25	-	st	st	st	st	st	/	-	-	-	NA	4	b	
2024	2678	Filet de poulet	Chicken fillet	st	st	st	st	/	-	N/A	33.34	-	st	st	st	st	st	/	-	-	-	NA	4	b	
2024	2679	Poulet tikka massala	Tikka massala chicken	st	st	st	st	/	-	41.48/ N/A/ 40.09	33.21/ 32.92/ 32.69	+ / - / +	st	st	st	st	st	/	-	-	-	PD _{FP(alt)}	4	b	

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										iQ-Check <i>Listeria</i> spp. 18 h			Confirmation							Subculture in Fraser broth 24h at 37°C	Final result confirmation <i>Listeria</i> spp.	iQ-Check <i>Listeria</i> spp. 18 h			
				1:10 with Half Fraser - 24h at 30°C						Easy II lysis protocol - APF Fast												Final result	Agreement Ref/Alt		
				Half Fraser		Fraser		Identification	Result	CFX Opus Deepwell															
				O&A	PALCAM	O&A	PALCAM			FAM Cq	I.C. Cq	Result	RAPID' <i>L.mono</i> (100µL)	RAPID' <i>Listeria</i> (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identification (biochemical galery)	Result	Final result		Agreement Ref/Alt			
				2024	2680	Colombo de porc	Pork colombo	st	st	st	st	/	-	N/A	32.63	-	st	st	st	st	st	/	-		
2024	2681	Aiguillettes de poulet à la méditerranéenne	Mediterranean chicken strips	st	st	st	st	/	-	N/A	32.92	-	st	st	st	st	st	/	-	-	-	NA	4	b	
2024	1277	Merguez	Merguez	H+/H-	+	H+/H-	+	<i>L. welshimeri</i> <i>L. monocytogenes</i>	+	30.61	32.22	+	+/-spp +	+	H+	H+	+	<i>L. monocytogenes</i>	+	+	+	PA	4	c	
2024	1287	Saucisse de poulet	Poultry sausage	st	st	st	st	/	-	N/A	33.1	-	-C	-C	st	st	-C	/	-	-	-	NA	4	c	
2024	1288	Saucisse fumée	Smoked sausage	H+/H-	+	H+/H-	+	<i>L. welshimeri</i> <i>L. monocytogenes</i>	+	23.16	30.19	+	+spp	+	H-	H-	+	<i>L. welshimeri</i>	+	+	+	PA	4	c	
2024	1289	Chorizo fumé pur porc	Smoked chorizo	H-	+	H-	+	<i>L. welshimeri</i>	+	37.21/ 36.84/ 38.03	33.32/ 32.3/ 32.42	+/-/ +	-C	-C	-C	st	-C	/	- (x5)	-	-	PA _{FP(alt)}	4	c	
2024	1290	Pâté de campagne maison	Pâté	st	st	st	st	/	-	39.03/ 42.1/ 41.01	32.85/ 32.33/ 32.51	+/-/ +	-C	-C	-C	st	-C	/	- (x5)	-	-	PD _{FP(alt)}	4	c	
2024	1291	Jambon cuit supérieur - Dés	Cooked ham	H+	+	H+	+	<i>L. monocytogenes</i>	+	N/A	32.87	-	-C	-C	-C	st	-C	/	-	-	-	ND	4	c	
2024	1292	Boudin noir	Black sausage	st	st	st	st	/	-	N/A	33.23	-	-C	-C	-C	st	-C	/	-	-	-	NA	4	c	
2024	1293	Saucisse fumée cuite	Cooked smoked sausage	st	st	st	-	/	-	38.25/ 42.13/ 40.58	32.91/ 32.6/ 32.52	+/-/ +	-C	-C	-C	st	-C	/	- (x5)	-	-	PD _{FP(alt)}	4	c	
2024	1294	Saucisson	Sausage	st	st	st	st	/	-	N/A	32.85	-	-C	-C	-C	st	-C	/	-	-	-	NA	4	c	
2024	1295	Miettes bacon fumé	Smoked bacon	st	st	st	st	/	-	N/A	32.96	-	-C	-C	-C	st	-C	/	-	-	-	NA	4	c	
2024	1707	Bacon	Bacon	st	st	st	st	/	-	30.57	32.48	+	+	+	H-	H-	+	<i>L. seeligeri</i>	+	+	+	PD	4	c	
2024	1708	Rillettes de porc	Pork rillettes	H-	+	H-	+	<i>L. seeligeri</i>	+	25.75	31.55	+	+	+	H+/H-	H+	+	<i>L. monocytogenes</i> <i>L. seeligeri</i>	+	+	+	PA	4	c	
2024	1709	Lardons nature	Bacon	H-	+(2)	st	-	<i>L. grayi</i>	+	35.58	33.25	+	+spp	st	H-	H-	-	<i>L. grayi</i>	-	+	+	PA	4	c	
2024	1710	Pancetta	Pancetta	H-	+	H-	+	<i>L. seeligeri</i>	+	38.46	34.01	+	+spp	st	H-	H-	+	<i>L. seeligeri</i>	+	+	+	PA	4	c	
2024	1924	Saucisse de volaille fumée	Saucisse de volaille fumée	st	st	H+	+	<i>L. monocytogenes</i>	+	31.42	32.15	+	+	+	H+	H+	+	<i>L. monocytogenes</i>	+	+	+	PA	4	c	
2024	1927	Saucisse (kit charcuterie vrac)	Sausage	st	st	st	-	/	-	37.42	33.37	+	+	+	H+	H+	+	<i>L. monocytogenes</i>	+	+	+	PD	4	c	
2024	1928	Boudin noir	Black pudding	H+	+	H+/H-	+	<i>L. monocytogenes</i> <i>L. innocua</i>	+	26.16	30.99	+	+	+	H+/H-	H+/H-	+	<i>L. monocytogenes</i> <i>L. innocua</i>	+	+	+	PA	4	c	
2024	1929	Pavé au poivre	Pavé au poivre	st	-	st	-	/	-	39.12/ 38.12/ 38.09	33.14/ 32.49/ 32.3	+/-/ +	-	-	-	st	-	/	-	-	-	PD _{FP(alt)}	4	c	
2024	1930	Poitrine fumée en tranches	Sliced smoked bacon	st	+(4)	H+	+	<i>L. monocytogenes</i>	+	31.28	32.59	+	+	+	H+	H+	+	<i>L. monocytogenes</i>	+	+	+	PA	4	c	
2024	2547	Pâté de campagne maison	Pâté	st	st	-	-	/	-	40.51/ N/A/ N/A	32.79/ 32.5/ 33.09	+/-/-	-	-	-	-	st	/	-	-	-	PD _{FP(alt)}	4	c	

MEAT AND POULTRY PRODUCTS																									
Year of analysis	N°Sample	Product (French name)	Product	Reference method: ISO 11290-1 (2017)*						Alternative method : iQ-Check <i>Listeria</i> spp.														Category	Type
										1:10 with LSB2 Broth pre-warmed-18h at 37°C															
										iQ-Check <i>Listeria</i> spp. 18 h			Confirmation							Subculture in Fraser broth 24h at 37°C		Final result confirmation <i>Listeria</i> spp.	iQ-Check <i>Listeria</i> spp. 18 h		
				1:10 with Half Fraser - 24h at 30°C						Easy II lysis protocol - APF Fast													Final result		
				Half Fraser		Fraser		Identification	Result	CFX Opus Deepwell															
				O&A	PALCAM	O&A	PALCAM			FAM Cq	I.C. Cq	Result	RAPID' <i>L.mono</i> (100µL)	RAPID' <i>Listeria</i> (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identification (biochemical galery)	Result						
2024	2548	Coppa	Coppa	-	-	-	-	/	-	38.3/ N/A/ 40.01	33.15/ 32.93/ 33.06	+/-/+	-	st	-	-	-	/	-	-	-	PD _{FP(alt)}	4	c	
2024	2549	Lardons fumés	Smoked bacon	-	st	st	st	/	-	35.01	33.2	+	+d	+	H-	H-d	+	<i>L. welshimeri</i>	+	+	+	PD	4	c	

VEGETABLES																								
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1*				Alternative method : iQ-Check <i>Listeria</i> spp.														Category	Type	
								1:10 with LSB2 Broth pre warmed-18h at 37°C																
				iQ-Check <i>Listeria</i> spp. 18 h			Confirmation						Subculture in Fraser broth 24h at 37°C	Final result confirmation <i>Listeria</i> spp.	iQ-Check <i>Listeria</i> spp.									
				1:10 with Half Fraser - 24h at 30°C											CFX Opus Deep Well			Final result	Agreement Ref/Alt					
				Half Fraser	Fraser	Identification	Result	FAM Cq	I.C. Cq	Result	RAPID' <i>L.mono</i> (100µL)	RAPID' <i>Listeria</i> (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identification (biochemical gallery)	Result.							
2024	2605	Chou	Cabbage	st	st			st	st	/	-	39.85 35.92 36.18 N/A(F)	32.89 32.66 32.57 32.67*	+/-/ +/- (F)	st	st	st	st	st	/	- (x5)	-	-	PD _{FP(alt)}
2024	2181	Chou-fleur riz	Cauliflower	-	st	st	st	/	-	30.29	32.27	+	+	+	H+	H+	+	<i>L. mono</i>	+	+	+	PD	5	a
2024	2182	Mélange légumes (carottes, oignons, navets)	Vegetables mix	st	st	st	st	/	-	N/A	32.85	-	-	st	-		-	/	-	-	-	NA	5	a
2024	2184	Brocolis hachés	Ground broccoli	H+/-	+	H+/ H-	+	<i>L. mono</i> <i>L. innoc</i>	+	20.57	28.2	+	+/+spp	+	H+/-	H+/-	+	<i>L. mono</i> <i>L. innoc</i>	+	+	+	PA	5	a
2024	2185	Ciboulette	Chive	-	-	st	-	/	-	N/A	33.08	-	-	-	-	-	-	/	-	-	-	NA	5	a
2024	2186	Persil frisé	Curly parsley	-	-	-	-	/	-	N/A	33.16	-	-	-	-	-	-	/	-	-	-	NA	5	a
2024	2608	Chou-fleur	Cauliflower	st	st	st	st	/	-	33.02	32.46	+	+spp	+	H-	H-	st	<i>L. seeli</i>	+	+	+	PD	5	a
2024	2606	Brocoli	Broccoli	H+	+	H+	+	<i>L. mono</i>	+	37.7 N/A N/A N/A(F)	32.68 32.5 32.57 32.51*	+/-/- /- (F)	+spp d/-	st	-	-	st	/	- (x5)	-	-	PA _{FP(alt)}	5	a
2024	2611	Ciboulette	Chives	H+	+	H+	+	<i>L. mono</i>	+	40.63 N/A N/A 40.28(F)	32.79 32.91 32.91 32.74(F)	+/-/- /+ (F)	+spp d/-	+d/-	-	-	-	/	-	-	-	PA _{FP(alt)}	5	a
2024	2607	Haricots verts	Green beans	-	-	H-	+	<i>L. seeli</i>	+	35.98/ 34.76/ 35.71	32.83/ 32.65/ 32.8	+/-/ +	+spp d/-	+d/-	H-d/-	-	-	<i>L. mono</i>	-d/+	+	+	PA	5	a
2024	2860	Wok du soleil	Vegetables wok	-	-	st	-	/	-	31.9	32.15	+	+	+	H+	H+	+	<i>L. mono</i>	+	+	+	PD	5	a
2024	2610	Persil	Parsley	-	+	H-	+	<i>L. seeli</i>	+	30.38	31.81	+	+spp	+	H-	H-	+	<i>L. welsh</i>	+	+	+	PA	5	a
2024	3735	Oignons	Onions	st	st	st	-	/	-	27.3	32.25	+	+	+	H+	H+	+	<i>L. mono</i>	/	+	+	PD	5	a
2024	2613	Carottes râpées	Grated carrots	st	st	st	st	/	-	N/A	33.13	-	-	st	-	-	-	/	-	-	-	NA	5	a
2024	2932	Légumes pour couscous	Vegetables for couscous	H-d/-	-	-	-	/	-	N/A	33.02	-	-	+d/-	H-d/-	-	-	/	-	-	-	NA	5	a
2024	3123	Courgettes en julienne	Julienne zucchini	H+	+	H+	+	<i>L. mono</i>	+	25.23	30.97	+	+/+spp	+	H+/-	H+/-	+	<i>L. mono</i> <i>L. innoc</i>	+	+	+	PA	5	a
2024	3124	Champignons émincés	Sliced mushrooms	-	-	-	st	/	-	N/A	33.19	-	-	-	-	-	-	/	-	-	-	NA	5	a
2024	3125	Persil plat	Flat parsley	-	st	-	st	/	-	N/A	32.53	-	-	-	-	-	st	/	-	-	-	NA	5	a
2024	3733	Tomate	Tomato	H+	+	H+	+	<i>L. mono</i>	+	20.23	N/A	+	+	+	H+	H+	+	<i>L. mono</i>	/	+	+	PA	5	a
2024	3734	Poireau	Leek	H+	+	H+	+	<i>L. mono</i>	+	27.31	32.3	+	+	+	H+	H+	+	<i>L. mono</i>	/	+	+	PA	5	a
2024	3736	Courgette	Zucchini	H+	+	H+	+	<i>L. mono</i>	+	21.16	N/A	+	+	+	H+	H+	+	<i>L. mono</i>	/	+	+	PA	5	a
2024	3737	Aubergine	Eggplant	H+	+	H+	+	<i>L. mono</i>	+	23.72	N/A	+	+	+	H+	H+	+	<i>L. mono</i>	/	+	+	PA	5	a
2024	3738	Salade	Salad	H+	+	H+	+	<i>L. mono</i>	+	20.51	N/A	+	+	+	H+	H+	+	<i>L. mono</i>	/	+	+	PA	5	a
2024	3755	Tomate	Tomato	-	-	-	-	/	-	N/A	33.12	-	-	-	-	-	st	/	-	-	-	NA	5	a
2024	3756	Poireau	Leek	st	st	st	st	/	-	N/A	33.43	-	st	st	-	st	-	/	-	-	-	NA	5	a
2024	2183	Haricots verts très fins surgelés	Frozen green beans	H-	+	H-	+	<i>L. innoc</i>	+	26.1	30.66	+	+spp	+	H-d	H-	-	<i>L. innoc</i>	+	+	+	PA	5	b
2024	2187	Mélange légumes grillés	Roasted vegetables mix	-	-	-	-	/	-	N/A	33.01	-	-	-	-	-	-	/	-	-	-	NA	5	b

* Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

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O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A			PALCAM	O&A		PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A

VEGETABLES																										
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1♦						Alternative method : iQ-Check <i>Listeria</i> spp.														Category	Type	
										1:10 with LSB2 Broth pre warmed-18h at 37°C																
				1:10 with Half Fraser - 24h at 30°C						iQ-Check <i>Listeria</i> spp. 18 h			Confirmation								Subculture in Fraser broth 24h at 37°C	Final result confirmation <i>Listeria</i> spp.	iQ-Check <i>Listeria</i> spp.			
																							Half Fraser			Fraser
				O&A	PALCAM	O&A	PALCAM	FAM Cq	I.C. Cq	Result	RAPID' <i>L.mono</i> (100µL)	RAPID' <i>Listeria</i> (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identification (biochemical gallery)	Result.									
2024	3508	Printanière de légumes surgelée	Frozen spring vegetables	H+	+	H+	+	<i>L. mono</i>	+	22.36	N/A	+	+	+	H+	H+	+	<i>L. mono</i>	/	+	+	PA	5	b		
2024	3509	Risotto de légumes verts surgelé	Frozen green vegetables risotto	H+/H-	+	H+	+	<i>L. mono</i> <i>L. seeli</i>	+	22.82	N/A	+	+	+	H+	H+	+	<i>L. mono</i>	/	+	+	PA	5	b		
2024	3511	Poêlée rustique surgelée	Frozen rustic stir-fry	H+	+	H+	+	<i>L. mono</i>	+	24.55	N/A	+	+	+	H+	H+	+	<i>L. mono</i>	/	+	+	PA	5	b		
2024	2190	Epinards hachés crème surgelés	Frozen ground spinach	H+	+	H+	+	<i>L. mono</i>	+	26.54	31.26	+	+spp	+	H+	H+	+	<i>L. mono</i>	+	+	+	PA	5	c		
2024	2609	Gaspacho	Gaspacho	H+	+	H+	+	<i>L. mono</i>	+	29	31.66	+	+	+	H+	H+	+	<i>L. mono</i>	+	+	+	PA	5	c		
2024	2191	Pommes de terres blanchies	Whitened potatoes	-	-	-	-	/	-	21.23	33.06	+	+/+spp	+	H+/H-	H+/H-	+	<i>L. mono</i> <i>L. innoc</i>	+	+	+	PD	5	c		
2024	2612	Mélange de crudités chou blanc-céliéri-carottes	Mix of raw vegetables	st	st	st	st	/	-	30.79	31.96	+	+	+	H+	H+	+	<i>L. mono</i>	+	+	+	PD	5	c		
2024	3740	Vegetal balls	Vegetal balls	-	-	-	st	/	-	24.84	33.57	+	+	+	H+	H+	+	<i>L. mono</i>	/	+	+	PD	5	c		
2024	2195	Pommes rissolées préfrites	Pre-fried potatoes	H-	-	-	-	<i>L. grayi</i>	+	N/A	33.13	-	-	-	-	-	-	/	-	-	-	ND	5	c		
2024	2929	Aubergines grillées	Grilled eggplant	H-d	-	H-d	-	<i>L. seeli</i>	+	N/A/ N/A /N/A	33.16/ 32.99/ 33.17	-/-/-	-	+d	-	H-d	-	<i>L. seeli</i>	+d	+	-	ND _{FN(alt)}	5	c		
2024	2933	Champignons cuits coupés	Cut cooked mushrooms	st	-	-	-	/	-	N/A	32.76	-	st	st	st	st	st	/	-	-	-	NA	5	c		
2024	2934	Poivrons rouges grillés	Grilled red peppers	H+	+	H+	+	<i>L. mono</i>	+	41.39/ N/A/ N/A	33.14/ 32.7/ 32.7	+/-/-	st	st	-	st	st	/	+(x5: <i>L. mono</i>)	+	+	PA	5	c		
2024	2931	Knack végétal préparation fumée	Smoked vegetable knack	H-d	-	-	-	<i>L. seeli</i>	+	N/A/ N/A/ N/A	32.95/ 32.49/ 32.46	-/-/-	-	+d	-	-	-	<i>L. seeli</i>	-	+	-	ND _{FN(alt)}	5	c		
2024	3126	Purée de courgettes	Zucchini puree	H+/H-	+	H+/ H-	+	<i>L. mono</i> <i>L. seeli</i>	+	25.83	33.5	+	+/+spp	+	H+/H-	H+/H-	+	<i>L. mono</i> <i>L. innoc</i>	+	+	+	PA	5	c		
2024	3494	Falafels végétaux coriandre, menthe	Vegetable falafels with coriander and mint	-	-	-	-	/	-	38.96 39.1 N/A N/A(F)	32.89 32.58 32.83 32.9(F)	+/+/- /- (F)	-	-	-	-	-	/	-	-	-	PD _{FP(alt)}	5	c		
2024	3758	Vegetal balls	Vegetal balls	-	-	st	-	/	-	40.29 39.02 38.05 N/A(F)	33.15 32.7 32.77 32.51(F)	+/+/ +/- (F)	-	st	-	-	-	/	-	-	-	PD _{FP(alt)}	5	c		
2024	3739	Galette végétale	Vegetable cake	H+	+	H+	+	<i>L. mono</i>	+	22.42	N/A	+	+	+	H+	H+	+	<i>L. mono</i>	/	+	+	PA	5	c		
2024	3743	Purée de courgettes	Zucchini puree	-	st	st	st	/	-	N/A	36.28	-	-	-	-	-	st	/	/	-	-	NA	5	c		
2024	3744	Ecrasé de pommes de terre et deux carottes	Mashed potatoes and two carrots	-	st	st	st	/	-	N/A	32.98	-	-	st	st	st	st	/	-	-	-	NA	5	c		
2024	3745	Velouté 8 légumes et pois chiches	8 vegetables soup with chick peas	st	st	st	st	/	-	N/A	33.43	-	-	st	st	st	st	/	-	-	-	NA	5	c		
2024	3746	Soupe carottes et poireaux	Carrot and leek soup	st	st	st	st	/	-	N/A	32.62	-	st	st	st	st	st	/	-	-	-	NA	5	c		
2024	3747	Betterave entière cuite	Whole cooked beetroot	st	st	st	st	/	-	N/A	33.58	-	-	st	-	st	st		+(<i>L. mono</i>)	+(after Fraser)	-	NA _{FN(alt)}	5	c		
2024	3750	Soupe carottes et poireaux	Carrot and leek soup	st	st	st	st	/	-	N/A	33.18	-	st	st	st	st	st	/	-	-	-	NA	5	c		
2024	3751	Betterave entière cuite	Whole cooked beetroot	st	st	st	st	/	-	N/A	33.54	-	st	st	st	st	st	/	-	-	-	NA	5	c		
2024	3752	Purée de courgettes	Zucchini puree	-	-	-	-	/	-	N/A	36.47	-	st	st	st	st	st	/	-	-	-	NA	5	c		

VEGETABLES																									
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1♦						Alternative method : iQ-Check <i>Listeria</i> spp.														Category	Type
										1:10 with LSB2 Broth pre warmed-18h at 37°C															
				1:10 with Half Fraser - 24h at 30°C						iQ-Check <i>Listeria</i> spp. 18 h			Confirmation						Subculture in Fraser broth 24h at 37°C	Final result confirmation <i>Listeria</i> spp.	iQ-Check <i>Listeria</i> spp.				
																					Half Fraser		Fraser		
				O&A	PALCAM	O&A	PALCAM	FAM Cq	I.C. Cq	Result	RAPID' <i>L.mono</i> (100µL)	RAPID' <i>Listeria</i> (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identification (biochemical gallery)	Result.								
				2024	3753	Ecrasé de pommes de terre et deux carottes	Mashed potatoes and two carrots	st	st	st	st	/	-	N/A	32.96	-	st	st	st	st	-	/	-		
2024	3754	Velouté 8 légumes et pois chiches	8 vegetables soup with chick peas	st	st	st	st	/	-	N/A	33.14	-	st	st	st	st	st	/	-	-	-	NA	5	c	
2024	3757	Galette végétale	Vegetable cake	-	-	-	st	/	-	N/A	33.55	-	-	-	-	-	-	/	-	-	-	NA	5	c	

FISHERY AND SEAFOOD PRODUCTS																								
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1♦						Alternative method : iQ-Check <i>Listeria</i> spp.													Category	Type
										1:10 with LSB2 Broth pre warmed-18h at 37°C														
				1:10 with Half Fraser - 24h at 30°C						iQ-Check <i>Listeria</i> spp. 18 h			Confirmation						Subculture in Fraser broth 24h at 37°C	Final result confirmation <i>Listeria</i> spp.	iQ-Check <i>Listeria</i> spp.			
																					Half Fraser			
				O&A	PALCAM	O&A	PALCAM	FAM Cq	I.C. Cq	Result	RAPID' <i>L.mono</i> (100µL)	RAPID' <i>Listeria</i> (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identification (biochemical gallery)	Result.							
2024	1931	Tranche de colin nature	Sliced hake	st	-	st	-	/	-	N/A	33.06	-	-	st	st	st	-	/	-	-	-	NA	6	a
2024	1934	Saumon chair crue	Raw salmon	H+/H-	+	H+/H-	+	<i>L. mono</i> <i>L. innoc</i>	+	38.04	32.76	+	+/+spp	+	H+/H-	H+/H-	+	<i>L. mono</i> <i>L. innoc</i>	+	+	+	PA	6	a
2024	2737	Filet de dorade sebaste	Fillet of bream	H+	+	H+	+	<i>L. mono</i>	+	28.06	31.35	+	-	+	H+/H-	H+/H-	+	<i>L. mono</i> <i>L. seeli</i>	+	+	+	PA	6	a
2024	2738	Dos de cabillaud	Raw cod	H+/H-	+	H+/H-	+	<i>L. mono</i> <i>L. seeli</i>	+	25.02	30.84	+	+spp	+	H+/H-	H+/H-	+	<i>L. mono</i> <i>L. seeli</i>	+	+	+	PA	6	a
2024	2739	Filet de merlan	Raw whiting fillet	H+	+	H+	+	<i>L. mono</i>	+	26.05	30.81	+	+	+	H+	H+	+	<i>L. mono</i>	+	+	+	PA	6	a
2024	2741	Merlu petit	Small hake	H+	+	H+	+	<i>L. mono</i>	+	34.99	33.04	+	+spp	+	H-	H-	+	<i>L. welsh</i>	+	+	+	PA	6	a
2024	2742	Pavé de truite	Trout	H-	+	H-	+	<i>L. welsh</i>	+	17.89	N/A	+	+spp	+	H-	H-	+	<i>L. welsh</i>	+	+	+	PA	6	a
2024	2743	Filet d'Eglefin	Haddock fillet	H+	-	H+	+	<i>L. mono</i>	+	27.06	31.08	+	+	+	H+	H+	+	<i>L. mono</i>	+	+	+	PA	6	a
2024	2740	Filet de lieu noir	Raw fillet of saithe	-	-	st	-	/	-	26.31	31.18	+	+spp	+	-	H-	+	<i>L. seeli</i>	+	+	+	PD	6	a
2024	2939	Pavé de saumon	Salmon steak	st	st	st	st	/	-	N/A	32.63	-	st	st	st	st	st	/	-	-	-	NA	6	a
2024	2937	Paupiettes de saumon	Salmon paupiettes	-	-	-	-	/	-	38.03	32.53	+	+	+	-	-	-	<i>L. mono</i>	+	+	+	PD	6	a
2024	3113	Crevettes crues congelées	Frozen raw shrimp	-	-	-	-	/	-	N/A	32.9	-	-	-	-	-	-	/	-	-	-	NA	6	a
2024	3111	Sardine	Sardine	st	st	st	st	/	-	30.26	32.03	+	+spp	+	H-	H-	+	<i>L. innoc</i>	+	+	+	PD	6	a
2024	3478	Encornet	Squid	st	st	st	-	/	-	N/A	33.14	-	-	st	-	-	-	/	-	-	-	NA	6	a
2024	3479	Pavé de truite	Trout steak	st	st	st	st	/	-	28.1	31.63	+	+	+	H+	H+	+	<i>L. mono</i>	+	+	+	PD	6	a
2024	3480	Filet de cabillaud sans peau	Skinless cod fillet	st	st	st	-	/	-	N/A	33.09	-	st	st	-	st	-	/	-	-	-	NA	6	a
2024	3483	Longe de thon rouge	Red tuna	st	st	st	-	/	-	N/A	33.09	-	-	st	-	st	-	/	-	-	-	NA	6	a
2024	3484	Filet de lieu noir sans peau	Skinless pollack fillet	st	st	st	st	/	-	N/A	32.91	-	-	st	-			/	-	-	-	NA	6	a
2024	1932	Crevettes rouges surgelées	Frozen red shrimps	st	-	st	-	/	-	38.78 39.74 N/A N/A(F)	33.15 32.46 32.54 32.92(F)	+/-/- -(F)	-	st	st	st	-	/	- (x5)	-	-	PD _{FP(alt)}	6	a
2024	3495	Dorade royale	Royal sea bream	st	st	st	-	/	-	N/A	32.89	-	-	-	-	-	-	/	-	-	-	NA	6	a
2024	1935	Filet de saumon de Norvège fumé	Smoked salmon	st	st	st	st	/	-	N/A	33.02	-	st	st	-	st	-	/	-	-	-	NA	6	b
2024	1937	Filet de cabillaud à la provençale	"Provencale" cod	-	-	-	-	/	-	N/A	33	-	-	-	-	-	-	/	-	-	-	NA	6	b
2024	2744	Saumon fumé	Smoked salmon	H+	+	H+	+	<i>L. mono</i>	+	28.83	31.35	+	+	+	H+	H+	+	<i>L. mono</i>	+	+	+	PA	6	b
2024	2745	Truite fumée	Smoked trout	st	st	st	st	/	-	N/A	33.13	-	-	st	-	st	st	/	-	-	-	NA	6	b
2024	2747	Anchois marinés à l'ail	Marinated anchovies	st	st	st	st	/	-	N/A	32.33	-	st	st	st	st	st	/	-	-	-	NA	6	b
2024	2749	Harengs marinés au vinaigre	Herring marinated with vinegar	st	st	st	st	/	-	N/A	32.74	-	st	st	st	st	st	/	-	-	-	NA	6	b

* Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

FISHERY AND SEAFOOD PRODUCTS																								
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1♦						Alternative method : iQ-Check <i>Listeria</i> spp.													Category	Type
										1:10 with LSB2 Broth pre warmed-18h at 37°C														
				iQ-Check <i>Listeria</i> spp. 18 h			Confirmation						Subculture in Fraser broth 24h at 37°C	Final result confirmation <i>Listeria</i> spp.	iQ-Check <i>Listeria</i> spp.									
															CFX Opus Deep Well	Final result	Agreement Ref/Alt							
				O&A	PALCAM	O&A	PALCAM	Identification	Result	FAM Cq	I.C. Cq	Result	RAPID' <i>L.mono</i> (100µL)	RAPID' <i>Listeria</i> (100µL)				AL (100µL)	AL (10µL)	Palcam (10µL)	Identification (biochemical gallery)	Result.		
2024	2935	Marinade de poulpe	Octopus marinade	-	-	-	-	/	-	N/A	32.6	-	-	st	-	-	-	/	-	-	-	NA	6	b
2024	2936	Truite fumée bio	Smoked trout	H-d	+	H-d	+	<i>L. welsh</i>	+	28.63	31.69	+	+spp	+	H-	H-	+	<i>L. welsh</i>	+	+	+	PA	6	b
2024	2938	Saumon fumé Norvège	Smoked Norwegian salmon	st	st	st	st	/	-	N/A	32.45	-	st	st	st	-	st	/	-	-	-	NA	6	b
2024	3112	Marinade de poulpe aux poivres	Octopus marinade with peppers	-	-	H-d/-	-	/	-	N/A/ N/A/ N/A	32.72/ 32.64/ 32.93	-/-/-	-	+	-	-	-	<i>L. mono</i>	- (x2)	+	-	NA _{FN(alt)}	6	b
2024	3115	Coquilles fine au champagne	Fine shells with champagne	H+	+	H+	+	<i>L. mono</i>	+	25.4	30.74	+	+	+	H+	H+	+	<i>L. mono</i>	+	+	+	PA	6	b
2024	3118	Poulpe ail et persil	Ocotpus with garlic and parsley	-	-	H-d/-	st	/	-	N/A	33.05	-	st	st	-	-	-	/	-	-	-	NA	6	b
2024	3119	Filet de merlu sauce vierge	Hake fillet with vierge sauce	H-d/-	+d/-	H-d/-	+d/-	/	-	N/A	32.61	-	st	+/-	H-d/-	H-d/-	-	/	-	-	-	NA	6	b
2024	3122	Dés saumon fumé	Diced smoked salmon	H-	+	H-	+	<i>L. welsh</i>	+	N/A	32.52	-	st	st	st	st	st	/	-	-	-	ND	6	b
2024	3130	Saumon fumé en tranches	Sliced smoked salmon	st	st	st	st	/	-	N/A	32.31	-	-	st	-	-	st	/	-	-	-	NA	6	b
2024	3189	Emincés de saumon fumé à l'aneth et aromatisé au citron	Sliced smoked salmon with dill and flavored with lemon	H+	+	H+	+	<i>L. mono</i>	+	32.26	32.34	+	+	+	H+	H+	+	<i>L. mono</i>	/	+	+	PA	6	b
2024	3190	Saumon mariné gravlax aneth citron	Gravlax marinated salmon with dill and lemon	H+	+	H+	+	<i>L. mono</i>	+	26.08	34.97	+	+	+	H+	H+	+	<i>L. mono</i>	/	+	+	PA	6	b
2024	3191	Carpaccio de saumon façon gravlax et sa marinade	Salmon carpaccio with marinade	H+	+	H+	+	<i>L. mono</i>	+	33.02	32.28	+	+	+	H+	H+	+	<i>L. mono</i>	/	+	+	PA	6	b
2024	3192	Harengs fumés doux	Sweet smoked herring	H+/H-	+	H+/H-	+	<i>L. mono</i> <i>L. innoc</i>	+	29.18	31.19	+	+/+spp	+	H+/H-	H+/H-	+	<i>L. mono</i> <i>L. innoc</i>	/	+	+	PA	6	b
2024	3193	Maquereaux fumés	Smoked mackerel fillet	H+	+	H+	+	<i>L. mono</i>	+	26.19	32.94	+	+/+spp	+	H+/H-	H+/H-	+	<i>L. mono</i> <i>L. innoc</i>	+	+	+	PA	6	b
2024	3194	Emincés de truite fumée	Sliced smoked trout	H+/H-	+	H+/H-	+	<i>L. mono</i> <i>L. innoc</i>	+	25.68	31.69	+	+spp	+	H-	H-	+	<i>L. innoc</i>	+	+	+	PA	6	b
2024	3116	Filets de saumon mariné à l'aneth	Salmon fillets marinated	st	st	st	st	/	-	36.61 N/A N/A N/A(F)	32.29 32.87 32.83 32.12(F)	+/-/-/- (F)	+spp d/-	-	H-d/-	-	-	/	- (x2)	-	-	PD _{FP(alt)}	6	b
2024	2746	Filet de maquereaux fumés	Smoked mackerel fillet	st	st	st	st	/	-	22.98	30.43	+	+spp	+	H-	H-	+	<i>L. innoc</i>	+	+	+	PD	6	b
2024	2748	Encornet au chorizo mariné	Squid with chorizo, marinated	st	-	st	st	/	-	25.51	30.73	+	+spp	+	H+	H+	+	<i>L. mono</i>	+	+	+	PD	6	b

FISHERY AND SEAFOOD PRODUCTS																								
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1♦						Alternative method : iQ-Check <i>Listeria</i> spp.													Category	Type
										1:10 with LSB2 Broth pre warmed-18h at 37°C														
				iQ-Check <i>Listeria</i> spp. 18 h			Confirmation						Subculture in Fraser broth 24h at 37°C	Final result confirmation <i>Listeria</i> spp.	iQ-Check <i>Listeria</i> spp.									
															CFX Opus Deep Well	Final result	Agreement Ref/Alt							
				O&A	PALCAM	O&A	PALCAM	Identification	Result	FAM Cq	I.C. Cq	Result	RAPID' <i>L.mono</i> (100µL)	RAPID' <i>Listeria</i> (100µL)				AL (100µL)	AL (10µL)	Palcam (10µL)	Identification (biochemical gallery)	Result.		
2024	1933	Aiguillettes de colin panés	Breaded hake	H-	-	H-	-	<i>L. seeli</i>	+	33.45	32.59	+	-	+	H-d	-	+d	<i>L. seeli</i>	+	+	+	PA	6	c
2024	1936	Dos de colin d'Alaska cuit	Cooked hake	H+	+	H+	+	<i>L. mono</i>	+	27.51	31.62	+	+	+	H+	H+	+	<i>L. mono</i>	+	+	+	PA	6	c
2024	1938	Portion de crumble de colin	Crumble of hake	-	-	H+/ H-	+d	<i>L. welsh</i> <i>L. mono</i>	+	33.65	33.17	+	+	+	H+	H+	-	<i>L. welsh</i> <i>L. mono</i>	+	+	+	PA	6	c
2024	2750	Dos de cabillaud amande et pistache	Ready to eat cod	H+	+	H+	+	<i>L. mono</i>	+	28.02	31.44	+	+	+	H+	H+	+	<i>L. mono</i>	+	+	+	PA	6	c
2024	2751	Panés au poisson	Braeded fish	H+	+	H+	+	<i>L. mono</i>	+	28.11	31.52	+	+	+	H+	H+	+	<i>L. mono</i>	+	+	+	PA	6	c
2024	2753	Coquille St-Jacques	Ready to eat scallops	H+	+	H+	+	<i>L. mono</i>	+	24.49	30.84	+	+	+	H+	H+	+	<i>L. mono</i>	+	+	+	PA	6	c
2024	2754	Navarin de St-Jacques	Ready to eat scallops	H+	+	H+	+	<i>L. mono</i>	+	22.46	31.07	+	+	+	H+	H+	+	<i>L. mono</i>	+	+	+	PA	6	c
2024	3114	Colin gratiné fromage	Hackey with cheese gratin	-	-	H- d/-	-	/	-	N/A	32.87	-	-	st	-	-	st	/	-	-	-	NA	6	c
2024	3117	Anchois fris	Fried anchoives	H+/-	+	H+/ H-	+	<i>L. mono</i> <i>L. innoc</i>	+	22.95	N/A	+	+/-spp	+	H-/H+	H+/-	+	<i>L. mono</i> <i>L. innoc</i>	+	+	+	PA	6	c
2024	3121	Pané de cabillaud bio	Breaded organic cold	H+	+	H+	+	<i>L. mono</i>	+	30.58	31.95	+	+	+	H+	H+	+	<i>L. mono</i>	+	+	+	PA	6	c
2024	3482	Rillettes de maquereau	Mackerel rillettes	st	st	st	st	/	-	N/A	33.11	-	-	-	st	st	st	/	-	-	-	NA	6	c
2024	3485	Merlan pané	Breaded whiting	-	-	-	-	/	-	N/A	33.32	-	-	st	-	-	-	/	-	-	-	NA	6	c
2024	3486	Bâtonnets de surimi	Surimi stick	st	st	st	st	/	-	N/A	32.82	-	st	st	-	-	-	/	-	-	-	NA	6	c
2024	3487	Râpé de surimi	Grated surimi	st	st	st	st	/	-	N/A	33	-	st	st	st	st	-	/	-	-	-	NA	6	c
2024	3488	Hâchés au saumon et ciboulette	Salmon and chive mince	-	st	st	-	/	-	N/A	32.59	-	-	st	-	-	st	/	-	-	-	NA	6	c
2024	3489	Hâchés au cabillaud, crème et oignons	Cod, cream and onion mince	st	st	st	st	/	-	N/A	33.03	-	-	st	-	-	-	/	-	-	-	NA	6	c
2024	3120	Calamar rings	Squid rings	H+	+	H+	+	<i>L. mono</i>	+	40.52 39.84 38.16 N/A(F)	32.71 33.14 32.69 32.44(F)	+/-/+ /- (F)	-	st	-	-	-	/	-	-	-	PA _{FP(alt)}	6	c
2024	3748	Rillettes de thon	Tuna rillettes	st	st	st	st	/	-	N/A	33.34	-	st	st	st	st	-	/	-	-	-	NA	6	c
2024	3749	Rillettes de saumon	Slamon rillettes	st	-	st	st	/	-	N/A	33.55	-	st	st	st	st	st	/	-	-	-	NA	6	c
2024	3481	Beignets de crevettes	Shrimp fritters	-	-	-	-	/	-	38.42 38.08 36.33 N/A(F)	32.93 32.7 33.04 32.37(F)	+/-/+ /- (F)	-	st	-	st	st	/	-	-	-	PD _{FP(alt)}	6	c

COMPOSITE FOODS																														
Date of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290- 1	Alternative method : iQ-Check Listeria spp.																								Category	Type
					1:10 with LSBII Broth -18h at 37°C + 72h at 4°C																									
					PCR												Confirmation				Final result				Agreement Ref/Alt					
					Easy II lysis protocol - Without FDRS APF Fast						Easy II lysis protocol - With FDRS APF Fast																			
					CFX96 Deep Well			CFX Opus Deep Well			CFX96 Deep Well			CFX OPUS Deep Well																
Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	RAPID' <i>L.mono</i>	RAPID' <i>Listeria</i>	AL	Final results confirmation	w/o FDRS	w FDRS	w/o FDRS	w FDRS	CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW		
2022	3317	Paniers tartiflette	RTH (Puff ham, cheese)	+	26.41	N/A	+	25.61	31.91	+	27.68	N/A	+	26.72	32.74	+	+spp	+	H-	+	+	+	+	PA	PA	PA	PA	1	b	
2022	3461	Tourte poularde-cèpes	RTH (Puff chicken, mushroom)	+	26.28	33.09	+	26.38	31.54	+	26.31	34.17	+	26.35	31.99	+	+	+	H+	+	+	+	+	PA	PA	PA	PA	1	b	
2022	3464	Paella	RTRH (Paella)	-	N/A	32.88	-	N/A	32.90	-	N/A	32.78	-	N/A	32.95	-	st	st	-	-	-	-	-	NA	NA	NA	NA	1	b	
2022	3465	Galette soja-légumes	RTRH (vegetables, soya)	+	27.87	32.09	+	28.07	31.48	+	28.72	31.57	+	28.87	31.59	+	+	+	H+	+	+	+	+	PA	PA	PA	PA	1	b	
2022	3469	Buffalo wings	Chicken wings	-	28.74	32.04	+	28.80	31.35	+	28.58	31.88	+	28.82	31.63	+	+	+	H+	+	+	+	+	PD	PD	PD	PD	1	b	
2022	3471	Galette soja-tomates-basilic	RTRH (soya, tomato, basilic)	+	N/A	33.16	-	N/A	33.05	-	N/A	33.06	-	N/A	N/A	-	-	st	-	-	-	-	-	ND	ND	ND	ND	1	b	
2022	3472	Paillasson de légumes	RTRH (cheese and vegetable)	-	25.21	N/A	+	25.23	32.09	+	25.66	37.02	+	24.88	34.11	+	+	+	H+	+	+	+	+	PD	PD	PD	PD	1	b	
2022	3473	Galette de soja à la provençale	RTRH (	-	40.88 N/A N/A	33.23 33.63 32.97	+/-/-	N/A	32.63	-	N/A	33.25	-	N/A	33.83	-	-	st	st	-	-	-	-	PDFP(alt)	NA	NA	NA	1	b	
2022	3671	Cordon bleu de dinde	RTRH (Ham and cheese escalope)	+	22.06	N/A	+	22.67	28.97	+	25.14	31.68	+	25.47	30.25	+	+	+	H-	+	+	+	+	PA	PA	PA	PA	1	b	
2022	3674	Panini kebab	Panini kebab	+	20.25	N/A	+	19.97	26.54	+	20.22	N/A	+	20.04	26.58	+	+	+	H+	+	+	+	+	PA	PA	PA	PA	1	b	
2022	3675	Nuggets saumon	Salmon nuggets	+	18.34	N/A	+	18.40	24.35	+	18.11	N/A	+	18.07	25.74	+	+	+	H+	+	+	+	+	PA	PA	PA	PA	1	b	
2022	3676	Nuggets saumon	Salmon nuggets	+	19.75	N/A	+	20.28	27.48	+	19.26	N/A	+	19.19	27.23	+	+	+	H+	+	+	+	+	PA	PA	PA	PA	1	b	
2022	3677	Palet choux-fleurs brocolis	RTRH (Pallet of cauliflower and broccoli)	+	18.70	N/A	+	18.77	26.96	+	18.98	N/A	+	18.89	26.95	+	+	+	H+	+	+	+	+	PA	PA	PA	PA	1	b	
2022	3470	Pâte à quiche	Raw dough	+	21.96	N/A	+	21.81	32.26	+	22.46	N/A	+	22.88	N/A	+	+/+spp	+	H+/H-	+	+	+	+	PA	PA	PA	PA	1	c	
2022	3807	Tortilla	Tortilla	+	16.98	N/A	+	17.12	24.07	+	17.35	N/A	+	17.22	N/A	+	+/+spp	+	H+/H-	+	+	+	+	PA	PA	PA	PA	1	c	
2022	3808	Tortilla à l'oignon	Onion tortilla	-	17.26	N/A	+	17.40	N/A	+	16.54	N/A	+	16.74	26.20	+	+	+	H+	+	+	+	+	PD	PD	PD	PD	1	c	
2022	3809	Choux chantilly	Pastry	+	17.84	N/A	+	18.02	33.31	+	17.58	N/A	+	17.87	N/A	+	+/+spp	+	H+/H-	+	+	+	+	PA	PA	PA	PA	1	c	
2022	3810	Charlotte framboise	Pastry	+	21.58	N/A	+	21.81	N/A	+	22.21	N/A	+	22.59	N/A	+	+/+spp	+	H+/H-	+	+	+	+	PA	PA	PA	PA	1	c	
2022	3811	Ile flottante	Custard based dessert	+	18.88	N/A	+	19.14	28.80	+	19.73	N/A	+	20.07	N/A	+	+	+	H+	+	+	+	+	PA	PA	PA	PA	1	c	
2022	3812	Mousse au chocolat	Confectionary (chocolate)	+	21.21	N/A	+	21.13	N/A	+	22.34	N/A	+	21.99	N/A	+	+/+spp	+	H+/H-	+	+	+	+	PA	PA	PA	PA	1	c	
2023	114	Coupe profiterole	Pastry	-	N/A	32.72	-	N/A	32.58	-	N/A	32.75	-	N/A	33.38	-	-	st	-	-	-	-	-	NA	NA	NA	NA	1	c	
2023	118	Mousse chocolat noir	Chocolate mousse	-	N/A	32.61	-	N/A	32.33	-	N/A N/A	N/A 32.30	i/-*	N/A	39.15	-	st	st	st	-	-	-	-	NA	NA	NA	NA	1	c	
2023	517	Mousse au chocolat à l'ancienne	Chocolate mousse	-	43.69	N/A	+	40.61	33.63	+	N/A	36.26	-	N/A	32.96	-	-	-	-	-	-	-	-	PDFP(alt)	PDFP(alt)	NA	NA	1	c	

PRODUCTION ENVIRONMENTAL SAMPLES																														
Date of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1	Alternative method : iQ-Check Listeria spp.																								Category	Type
					1:10 with LSBII Broth -18h at 37°C + 72h at 4°C																									
				1:10 with Half Fraser - 24h at 30°C	PCR									Confirmation				Final result				Agreement Ref/Alt								
					Easy II lysis protocol - Without FDRS APF Fast						Easy II lysis protocol - With FDRS APF Fast																			
					Result	CFX96 Deep Well			CFX Opus Deep Well			CFX96 Deep Well			CFX OPUS Deep Well			w/o FDRS	w FDRS		w/o FDRS		w FDRS							
FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq		Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	RAPID' <i>L.mono</i>	RAPID' <i>Listeria</i>	AL	Final results confi- rmation	CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW						
2022	3760	Chiffonnette hall techno production pâté fini (porc) après nettoyage	Wipe after cleaning process	+	33.29	32.40	+	33.43	32.82	+	33.31	32.88	+	33.32	32.60	+	+	+	H+	+	+	+	+	PA	PA	PA	PA	2	a	
2022	3761	Chiffonnette grille siphon VHS 19 après nettoyage	Wipe after cleaning process	+	25.32	31.78	+	25.66	30.56	+	26.40	31.37	+	26.54	30.72	+	+/+spp	+	H+/H-	+	+	+	+	PA	PA	PA	PA	2	a	
2022	3762	Chiffonnette VHS2 table transfert environnement carné, après nettoyage	Wipe after cleaning process	+	21.65	N/A	+	21.94	29.00	+	21.81	N/A	+	22.05	28.02	+	+	+	H+	+	+	+	PA	PA	PA	PA	2	a		
2022	3763	Chiffonnette pompe production crème glacée avant nettoyage	Wipe before cleaning process	+	30.31	32.19	+	30.43	31.84	+	30.78	32.36	+	31.01	32.18	+	+	+	H+	+	+	+	PA	PA	PA	PA	2	a		
2022	3765	Chiffonnette environnement laitier avant nettoyage	Wipe before cleaning process	+	24.07	N/A	+	24.18	29.78	+	26.37	32.52	+	26.43	30.52	+	+	+	H+	+	+	+	PA	PA	PA	PA	2	a		
2023	723	Chiffonnette de surface réception UPM, après nettoyage	Wipe after cleaning process	+	24.05	30.98	+	24.30	29.91	+	24.17	42.27	+	24.48	30.19	+	+	+	H+	+	+	+	PA	PA	PA	PA	2	a		
2023	724	Chiffonnette de surface table de façonnage brioche après désinfection	Wipe after cleaning process	-	N/A	32.92	-	N/A	32.72	-	N/A	32.80	-	N/A	32.68	+	-	st	st	-	-	-	-	NA	NA	NA	NA	2	a	
2023	757	Chiffonnette prélèvement de surface environnement bovin	Wipe before cleaning process	+	24.51	N/A	+	24.99	N/A	+	21.28	N/A	+	21.32	N/A	+	+/+spp	+	H+/H-	+	+	+	+	PA	PA	PA	PA	2	a	
2023	822	Chiffonnette environnement végétal avant nettoyage	Wipe before cleaning process	+	28.07	31.06	+	27.74	30.52	+	28.13	31.22	+	27.78	30.56	+	+/+spp	+	H+	+	+	+	PA	PA	PA	PA	2	a		
2023	823	Chiffonnette environnement laitier (production glace) avant nettoyage	Wipe before cleaning process	+	26.61	30.54	+	26.36	29.82	+	26.42	30.71	+	26.06	30.06	+	+	+	H+	+	+	+	PA	PA	PA	PA	2	a		
2023	824	Chiffonnette environnement porc (production pâté)	Wipe before cleaning process	+	34.73	32.09	+	34.32	32.17	+	34.94	32.26	+	35.00	32.24	+	+spp	+	H+	+	+	+	PA	PA	PA	PA	2	a		

PRODUCTION ENVIRONMENTAL SAMPLES																														
Date of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1	Alternative method : iQ-Check Listeria spp.																								Category	Type
					1:10 with LSBII Broth -18h at 37°C + 72h at 4°C																									
					PCR												Confirmation				Final result				Agreement Ref/Alt					
				Easy II lysis protocol - Without FDRS APF Fast						Easy II lysis protocol - With FDRS APF Fast																				
				Result	CFX96 Deep Well			CFX Opus Deep Well			CFX96 Deep Well			CFX OPUS Deep Well			w/o FDRS	w FDRS	w/o FDRS	w FDRS										
					FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result					RAPID' <i>L.mono</i>	RAPID' <i>Listeria</i>	AL	Final results confi- rmation	CFX 96 DW	CFX Opus DW	CFX 96 DW	CFX Opus DW		
2023	527	Déchét poisson Scan 4 trancheur	Wastes (Fish)	+	30.16	31.94	+	30.24	31.87	+	30.60	32.93	+	30.20	31.83	+	+	+	H+	+	+	+	+	PA	PA	PA	PA	2	b	
2023	725	Déchét viande bovine	Wastes (Meat)	+	N/A 34.46	N/A 33.33	i/+*	N/A 23.67	N/A 32.37	i/+*	N/A 28.69	N/A 40.40	i/+*	N/A 31.59	N/A 33.04	i/+*	+/+spp	+	H-	+	+	+	+	PA	PA	PA	PA	2	b	
2023	726	Déchét viande bovine	Wastes (Meat)	+	29.08	32.06	+	29.33	31.49	+	29.91	32.34	+	30.38	31.97	+	+	+	H+	+	+	+	+	PA	PA	PA	PA	2	b	
2023	727	Déchets de production biscuit	Wastes	+	23.43	N/A	+	23.97	30.52	+	24.11	N/A	+	24.19	30.95	+	+	+	H+	+	+	+	+	PA	PA	PA	PA	2	b	
2023	728	Déchets saumon	Wastes (Salmon)	+	24.51	35.43	+	25.36	30.13	+	24.26	N/A	+	24.87	30.90	+	+	+	H+	+	+	+	+	PA	PA	PA	PA	2	b	
2023	729	Déchét poisson dessous épineux	Wastes (Fish)	+	25.99	35.21	+	26.63	30.82	+	25.73	34.02	+	26.29	30.63	+	+	+	H+	+	+	+	+	PA	PA	PA	PA	2	b	
2023	759	Déchets truite	Wastes (Trout)	-	38.08	35.32	+	40.23	35.78	+	25.77	32.34	+	25.68	30.99	+	+	+	H+	+	+	+	+	PD	PD	PD	PD	2	b	
2023	825	Déchets découpe viande	Wastes (Meat)	+	24.59	30.49	+	24.62	29.14	+	26.63	31.14	+	26.24	30.26	+	+/+spp	+	H+/H-	+	+	+	+	PA	PA	PA	PA	2	b	
2023	826	Déchets caséinate production pâté	Wastes (Meat)	+	24.78	30.47	+	24.55	28.69	+	26.78	30.81	+	26.96	30.44	+	+	+	H+	+	+	+	+	PA	PA	PA	PA	2	b	
2023	960	Déchét viande bovine	Wastes (Meat)	+	27.86	31.77	+	28.02	N/A	+	30.18	32.29	+	30.40	38.16	+	+spp	+	H-	+	+	+	+	PA	PA	PA	PA	2	b	
2023	961	Déchets saumon	Wastes (Salmon)	+	N/A	33.09	-	N/A	33.46	-	39.98 40.59 37.84	33.29 32.95 33.20	+++	N/A																

PRODUCTION ENVIRONMENTAL SAMPLES																														
Date of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1	Alternative method : iQ-Check Listeria spp.																								Category	Type
					1:10 with LSBII Broth -18h at 37°C + 72h at 4°C																									
				1:10 with Half Fraser - 24h at 30°C	PCR												Confirmation				Final result				Agreement Ref/Alt					
					Easy II lysis protocol - Without FDRS APF Fast						Easy II lysis protocol - With FDRS APF Fast																			
					CFX96 Deep Well			CFX Opus Deep Well			CFX96 Deep Well			CFX OPUS Deep Well																
Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	RAPID' <i>L.mono</i>	RAPID' <i>Listeria</i>	AL	Final results confi- mation	CFX 96 DW w/o FDRS	CFX Opus DW w FDRS	CFX 96 DW w/o FDRS	CFX Opus DW w FDRS	CFX 96 DW w/o FDRS	CFX Opus DW w FDRS	CFX 96 DW w/o FDRS	CFX Opus DW w FDRS						
2023	829	Eau de process environnement végétal	Process water	+	26.82	30.47	+	26.71	29.94	+	26.77	30.69	+	26.60	30.04	+	+spp	+	H-	+	+	+	+	PA	PA	PA	PA	2	c	
2023	830	Eau de rinçage environnement carné	Rinsing water	+	29.39	31.09	+	29.09	31.17	+	28.46	30.79	+	28.53	30.55	+	+/+spp	+	H+/H-	+	+	+	+	PA	PA	PA	PA	2	c	
2023	964	Eau de process lait	Process water	+	27.64	33.98	+	28.03	33.96	+	27.84	32.98	+	37.17	32.73	+	+	+	H+	+	+	+	PA	PA	PA	PA	2	c		
2023	966	Eau de process batch 2 (environnement carné)	Process water	-	24.34	N/A	+	24.32	30.42	+	24.06	N/A	+	24.02	N/A	+	+	+	H+	+	+	+	PD	PD	PD	PD	2	c		

DAIRY PRODUCTS																														
Year of analysis	N° Sample	Product (fFench name)	Product	Reference method: ISO 11290-1♦	Alternative method : iQ-Check <i>Listeria</i> spp.																								Category	Type
				1:10 with Half Fraser - 24h at 30°C	1/10 with prewarmed LSBII broth 18h at 37°C + 72 h at 5 ± 3 °C																									
					Easy II lysis protocol - Without FDRS APF Fast						Easy II lysis protocol - With FDRS APF Fast						Confirmation				Final result				Agreement Ref/Alt					
					CFX96 DW			CFX Opus DW			CFX96 DW			CFX Opus DW							w/o FDRS		w FDRS		w/o FDRS		w FDRS			
Result	FAM Cq	I.C. Cq	Result.	FAM Cq	I.C. Cq	Result.	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	RAPID/L.mono	RAPID/Listeria	AL	Final results confirmation L.spp	CFX 96	CFX Opus	CFX 96	CFX Opus	CFX 96	CFX Opus	CFX 96	CFX Opus			
2023	1720	Lait cru de vache	Raw cow milk	+	23.79	32.14	+	23.36	30.98	+	23.86	N/A	+	23.54	31.09	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	3	b
2023	1721	Lait cru de vache	Raw cow milk	+	28.39	38.2	+	27.84	37.5	+	28.67	N/A	+	28.32	36.11	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	3	b
2023	1722	Lait cru de vache	Raw cow milk	+	26.27	32.49	+	25.94	31.09	+	26.38	32.08	+	26.01	31.23	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	3	b
2023	1723	Lait cru de brebis	Raw ewe milk	+	20.41	N/A	+	20.17	42.01	+	21.13	N/A	+	20.94	34.41	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	3	b
2023	1725	Lait cru de brebis	Raw ewe milk	+	31.06	32.24	+	31.44	32.41	+	31.19	32	+	31.03	31.92	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	3	b
2023	1726	Lait cru de chèvre	Raw goat milk	+	23.91	N/A	+	23.6	32.05	+	24.31	32.55	+	24.45	30.8	+	+ L. mono / + L. spp	+	H+ / H-	+	+	+								

♦ Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

DAIRY PRODUCTS																														
Year of analysis	N° Sample	Product (fFench name)	Product	Reference method: ISO 11290-1♦	Alternative method : iQ-Check <i>Listeria</i> spp.																								Category	Type
				1:10 with Half Fraser - 24h at 30°C	1/10 with prewarmed LSBII broth 18h at 37°C + 72 h at 5 ± 3 °C																									
				Easy II lysis protocol - Without FDRS APF Fast						Easy II lysis protocol - With FDRS APF Fast						Confirmation				Final result				Agreement Ref/Alt						
				CFX96 DW			CFX Opus DW			CFX96 DW			CFX Opus DW							w/o FDRS		w FDRS		w/o FDRS		w FDRS				
Result	FAM Cq	I.C. Cq	Result.	FAM Cq	I.C. Cq	Result.	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	RAPID <i>L.mono</i>	RAPID <i>Listeria</i>	AL	Final results confirmation <i>L.spp</i>	CFX 96	CFX Opus	CFX 96	CFX Opus	CFX 96	CFX Opus	CFX 96	CFX Opus	CFX 96	CFX Opus	
2023	3071	Poudre de lait demi-écrémé	Half-skimmed milk powder	+	N/A	32.3	-	N/A	32.6	-	N/A	32.55	-	N/A	32.61	-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	3	c
2023	3072	Poudre de lait demi-écrémé	Half-skimmed milk powder	-	30	31.69	+	30.09	32.04	+	30.22	32.09	+	30.11	32.13	+	-	+1/2	-	+	+	+	+	+	PD	PD	PD	PD	3	c
2023	3260	Crème glacée vanille	Ice cream	+	21.13	N/A	+	21.13	N/A	+	20.93	N/A	+	20.58	N/A	+	+	+	H-	+	+	+	+	+	PA	PA	PA	PA	3	c
2023	3543	Brique pur brebis	Pasteurized ewe milk cheese	-	31.16	32.34	+	31.03	32.21	+	31.65	32.49	+	31.43	32.4	+	+	(2)	+	H+	+	+	+	+	PD	PD	PD	PD	3	c
2023	3544	Brique pur brebis	Pasteurized ewe milk cheese	+	37.43	32.61	+	N/A / 36.71 / 39.76	32.52 / 32.37 / 32.32	- / + / +	N/A / N/A / N/A	32.62 / 32.5 / 32.11	- / - / -	N/A / N/A / N/A	32.91 32.56 / 32.61	- / - / -	-	-	H- (1) d ni		+	-	-	-	PA	ND _{FP(alt)}	ND _{FP(alt)}	ND _{FP(alt)}	3	c
2023	3545	Tomme des Pyrénées	Pasteurized cow milk cheese	+	30.89	34.43	+	29.83	32.34	+	31.23	34.23	+	30.95	33.24	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	3	c
2023	3546	Tomme des Pyrénées	Pasteurized cow cheese	-	35.97	34.32	+	36.47	34.71	+	38.87	34.97	+	39.44	35.63	+	+	+	H-	+	+	+	+	+	PD	PD	PD	PD	3	c
2023	3701	Beurre de baratte non pasteurisé	Raw milk butter	-	28.76	33.44	+	28.45	32.38	+	29.1	33.22	+	28.87	32.07	+	+ <i>Lmono</i> / + <i>Lspp</i>	+	H+ / H-	+	+	+	+	+	PD	PD	PD	PD	3	b
2023	3939	Fromage au lait cru de brebis (Roquefort)	Raw ewe milk cheese	-	33.09	32.08	+	32.72	32.34	+	32.20	32.33	+	32.32	32.49	+	+	st	H+	+	+	+	+	+	PD	PD	PD	PD	3	a
2023	3940	Fromage au lait cru de brebis (Roquefort)	Raw ewe milk cheese	-	35.35	32.23	+	35.44	32.80	+	34.58	32.23	+	35.07	32.82	+	+	st	H+	+	+	+	+	+	PD	PD	PD	PD	3	a

MEAT AND POULTRY PRODUCTS																
Year of analysis	N° Sample	Product (french name)	Product	Reference method: ISO 11290-1 (2017)*	Alternative method : iQ-Check <i>Listeria</i> spp.										Category	Type
					1:10 with LSB II Broth pre-warmed -18h at 37°C + 72h at 5°C ± 3°C											
					iQ-Check <i>Listeria</i> spp. 18 h + 72 h			Confirmation				iQ-Check <i>Listeria</i> spp. 18 h + 72 h				
					1:10 with Half Fraser - 24h at 30°C							Final result	Agreement Ref/Alt			
					Result	CFX Opus Deepwell										
FAM Cq	I.C. Cq	Result.	RAPID' <i>L.mono</i>	RAPID' <i>Listeria</i>	AL	Final results confirmation										
2023	3951	Gigot d'agneau	Lamb leg	+	20.46	N/A	+	+spp	+	H-	+	+	PA	4	a	
2024	1278	Steak haché	Ground beef	+	29.04	31.79	+	+	+	H+	+	+	PA	4	a	
2024	1279	Steak haché de volaille	Ground poultry	+	30.99	32.22	+	+	+	H+	+	+	PA	4	a	
2024	1280	Jambon de porc	Ham	+	N/A	33.4	-	-	st	-	-	-	ND	4	a	
2024	1281	Steak haché de volaille	Ground poultry	+	26.14	30.96	+	+spp	+	H+/H-	+	+	PA	4	a	
2024	1283	Flanchet de porc 10%MG	Pork flank	-	32.91	33.2	+	+	+	H+	+	+	PD	4	a	
2024	1699	Escalope de dinde	Turkey escalope	+	36.15	33.04	+	+	+	H+	+	+	PA	4	a	
2024	1700	Steak haché 5%MG	Ground beef 5%fat	+	26.02	30.45	+	+spp	+	H-	+	+	PA	4	a	
2024	1701	Aiguillettes de poulet	Chicken	+	28.91	31.3	+	+	+	H+	+	+	PA	4	a	
2024	1923	Escalope de dinde	Turkey meat	-	31.89	32.45	+	+	+	H+	+	+	PD	4	a	
2024	1925	Steak haché de volaille fin production	Steak haché de volaille	+	N/A	32.8	-	-	st	-	-	-	ND	4	a	
2024	2540	Sauté de dinde surgelé	Frozen turkey	+	35.13	33.23	+	+spp	+	H-	+	+	PA	4	a	
2024	1704	Viande de hachis parmentier	Shepherd's pie meat	+	20.46	27.97	+	+spp	+	H-	+	+	PA	4	b	
2024	1705	Bœuf charolais au médoc	Wine beef	+	39.04/N/A/N/A	32.99/32.49/32.45	+/-/-	-	-	st	-	-	ND	4	b	
2024	1706	Viande de couscous	Couscous meat	+	18.45	34.07	+	+	+	H+	+	+	PA	4	b	
2024	1926	Langue de bœuf en sauce	Beef tongue in sauce	-	N/A	32.94	-	-	st	-	-	-	NA	4	b	
2024	2265	Viande de parmentier de canard	Duck parmentier meat	+	N/A	33.03	-	-	st	-	-	-	ND	4	b	
2024	2267	Bœuf bourguignon	Bourguignon	+	20.04	33.48	+	+spp	+	H-	+	+	PA	4	b	
2024	2660	Emincés de bœuf sauce au poivre	Sliced beef with pepper sauce	-	35.27	32.77	+	+	+	H+	+	+	PD	4	b	
2024	2661	Paupiette de veau	Veal paupiette	+	N/A											

* Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

VEGETABLES															
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1*	Alternative method : iQ-Check <i>Listeria</i> spp.									Category	Type
					1:10 with LSB II Broth pre-warmed -18h at 37°C + 72h at 5°C ± 3°C										
				1:10 with Half Fraser - 24h at 30°C	iQ-Check <i>Listeria</i> spp.18 h + 72 h			Confirmation				iQ-Check <i>Listeria</i> spp. 18 h + 72 h			
												Final result	Agreement Ref/Alt		
					Result	FAM Cq	I.C. Cq	Result	RAPID' <i>L.mono</i>	RAPID' <i>Listeria</i>	AL				
2024	2605	Chou	Cabbage	-	N/A	33.11	-	st	st	st	-	-	NA	5	a
2024	2181	Chou-fleur riz	Cauliflower	-	25.66	30.71	+	+	+	H+	+	+	PD	5	a
2024	2184	Brocolis hachés	Ground broccoli	+	18.73	N/A	+	+/+spp	+	H+/H- -	+	+	PA	5	a
2024	2608	Chou-fleur	Cauliflower	-	25.84	30.66	+	+spp	+	H-	+	+	PD	5	a
2024	2606	Brocoli	Broccoli	+	N/A	32.93	-	-	st	-	-	-	ND	5	a
2024	2611	Ciboulette	Chives	+	N/A	32.66	-	-	-	-	-	-	ND	5	a
2024	2607	Haricots verts	Green beans	+	38.32/ 35.46/ 35.72	33.09/ 32.33/ 32.49	+/-/+	-	-	-	-(x5 AL/Palcam)	-	PA _{FP(alt)}	5	a
2024	2860	Wok du soleil	Vegetables wok	-	23.79	31.34	+	+	+	H+	+	+	PD	5	a
2024	2610	Persil	Parsley	+	27.51	31.38	+	+spp	+	H-	+	+	PA	5	a
2024	3735	Oignons	Onions	-	25.14	31.03	+	+	+	H+	+	+	PD	5	a
2024	3123	Courgettes en julienne	Julienne zucchini	+	22.15	34.76	+	+	+	H+/H- -	+	+	PA	5	a
2024	3733	Tomate	Tomato	+	18.12	N/A	+	+	+	H+	+	+	PA	5	a
2024	3734	Poireau	Leek	+	24.33	31	+	+	+	H+	+	+	PA	5	a
2024	3736	Courgette	Zucchini	+	18.26	N/A	+	+	+	H+	+	+	PA	5	a
2024	3737	Aubergine	Eggplant	+	21.02	N/A	+	+	+	H+	+	+	PA	5	a
2024	3738	Salade	Salad	+	22.3	30.19	+	+	+	H+	+	+	PA	5	a
2024	2183	Haricots verts très fins surgelés	Frozen green beans	+	23.73	30.65	+	+spp	+	H-	+	+	PA	5	b
2024	2188	Poêlée champêtre surgelée	Frozen fried vegetables	+	23.52	30.68	+	+spp	+	H-	+	+	PA	5	b
2024	2193	Courgettes grillées	Roasted zucchini	+	18.53	29.78	+	+	+	H+	+	+	PA	5	b
2024	2192	Potimarron en cube surgelés	Frozen pumpkin brick	+	N/A	32.66	-	-	st	-	-	-	ND	5	b
2024	2614	Ratatouille surgelée	Frozen ratatouille	-	N/A	33.06	-	st	st	-	-	-	NA	5	b
2024	3128	Galette de soja provençale	Provençal soy pancake	-	N/A	32.98	-	-	-	-	-	-	NA	5	b
2024	3493	Galette soja, poivre, persil	Soy, pepper and parsley pancake	-	N/A	32.98	-	-	st	-	-	-	NA	5	b
2024	2616	Poêlée champêtre surgelée	Frozen stir-fried vegetables	+	23.37	29.55	+	+spp	+	H-	+	+	PA	5	b
2024	2618	Chou-fleur fleurettes surgelés	Frozen cauliflower florets	-	22.05	30.12	+	+spp	+	H-	+	+	PD	5	b
2024	2619	Cartottes en rondelles surgelées	Frozen sliced carrots	+	22.77	29.42	+	+	+	H+	+	+	PA	5	b
2024	3127	Poêlée parisienne	Parisian stir-fry	-	21.16	N/A	+	+	+	H+ /H-	+	+	PD	5	b
2024	3510	Potage de légumes variés surgelé	Frozen mixed vegetable soup	+	N/A	32.9	-	-	-	-	-	-	ND	5	b
2024	3129	Palets chou/brocoli	Cabbage/broccoli patties	+	22.22	30.98	+	+/+spp	+	H+	+	+	PA	5	b
2024	3506	Trio de poivrons lanières surgelés	Trio of frozen pepper strips	+	22.03	N/A	+	+	+	H+	+	+	PA	5	b
2024	3507	Epinards en branches surgelés	Frozen sprig spinach	+	19.09	N/A	+	+	+	H+	+	+	PA	5	b
2024	3508	Printanière de légumes surgelée	Frozen spring vegetables	+	18.62	N/A	+	+	+	H+	+	+	PA	5	b
2024	3509	Risotto de légumes verts surgelé	Frozen green vegetables risotto	+	19.72	N/A	+	+	+	H+	+	+	PA	5	b
2024	3511	Poêlée rustique surgelée	Frozen rustic stir-fry	+	19.18	N/A	+	+	+	H+	+	+	PA	5	b
2024	2190	Epinards hachés crème surgelés	Frozen ground spinach	+	22.89	30.42	+	+/+spp	+	H+/ H-	+	+	PA	5	c
2024	2609	Gaspacho	Gaspacho	+	24.38	30.5	+	+	+	H+	+	+	PA	5	c

* Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

VEGETABLES															
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1*	Alternative method : iQ-Check <i>Listeria</i> spp.									Category	Type
					1:10 with LSB II Broth pre-warmed -18h at 37°C + 72h at 5°C ± 3°C										
				1:10 with Half Fraser - 24h at 30°C	iQ-Check <i>Listeria</i> spp.18 h + 72 h			Confirmation				iQ-Check <i>Listeria</i> spp. 18 h + 72 h			
					CFX Opus Deepwell							Final result	Agreement Ref/Alt		
					Result	FAM Cq	I.C. Cq	Result	RAPID' <i>L.mono</i>	RAPID' <i>Listeria</i>	AL				
2024	2191	Pommes de terres blanchies	Whitened potatoes	-	16.98	N/A	+	+ /+spp	+	H+/ H-	+	+	PD	5	c
2024	2612	Mélange de crudités chou blanc-céleri-carottes	Mix of raw vegetables	-	27.3	31.13	+	+	+	H+	+	+	PD	5	c
2024	3740	Vegetal balls	Vegetal balls	-	22.43	N/A	+	+	+	H+	+	+	PD	5	c
2024	2195	Pommes rissolées préfrites	Pre-fried potatoes	+	N/A	32.78	-	-	st	-	-	-	ND	5	c
2024	2929	Aubergines grillées	Grilled eggplant	+	N/A	33.09	-	-	-	-	-	-	ND	5	c
2024	2934	Poivrons rouges grillés	Grilled red peppers	+	N/A	33.1	-	st	st	st	-	-	ND	5	c
2024	2931	Knack végétal préparation fumée	Smoked vegetable knack	+	39.94	32.41	+	-	-	-	-	-	PA _{FP(alt)}	5	c
2024	3126	Purée de courgettes	Zucchini puree	+	20.79	N/A	+	+	+	H+	+	+	PA	5	c
2024	3494	Falafels végétaux coriandre, menthe	Vegetable falafels with coriander and mint	-	N/A	32.55	-	st	st	st	-	-	NA	5	c
2024	3758	Vegetal balls	Vegetal balls	-	41.26	32.63	+	-	-	-	-	-	PD _{FP(alt)}	5	c
2024	3739	Galette végétale	Vegetable cake	+	19.58	N/A	+	-	+	H+	+	+	PA	5	c
2024	3747	Betterave entière cuite	Whole cooked beetroot	-	N/A	33.02	-	+	+	H+	+	-	NA _{FN(alt)}	5	c

FISHERY AND SEAFOOD PRODUCTS																	
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1*	Alternative method : iQ-Check <i>Listeria</i> spp.									Category	Type		
					1:10 with LSB II Broth pre-warmed -18h at 37°C + 72h at 5°C ± 3°C												
				1:10 with Half Fraser - 24h at 30°C	iQ-Check <i>Listeria</i> spp. 18 h + 72 h			Confirmation				iQ-Check <i>Listeria</i> spp. 18 h + 72 h					
					CFX Opus Deepwell							Final result	Agreement Ref/Alt				
				Result	FAM Cq	I.C. Cq	Result	RAPID' <i>L.mono</i>	RAPID' <i>Listeria</i>	AL	Final results confirmation L.spp						
2024	1934	Saumon chair crue	Raw salmon	+	29.86	31.32	+	+/+spp	+	H+/H-	+	+	PA	6	a		
2024	2737	Filet de dorade sebaste	Fillet of bream	+	23.63	30.03	+	+spp	+	H+/H-	+	+	PA	6	a		
2024	2738	Dos de cabillaud	Raw cod	+	21.24	29.37	+	+/+spp	+	H+/H-	+	+	PA	6	a		
2024	2739	Filet de merlan	Raw whiting fillet	+	22.14	29.61	+	+	+	H+	+	+	PA	6	a		
2024	2741	Merlu petit	Small hake	+	30.75	32.01	+	+spp	+	H-	+	+	PA	6	a		
2024	2742	Pavé de truite	Trout	+	16.06	N/A	+	+spp	+	H-	+	+	PA	6	a		
2024	2743	Filet d'Eglefin	Haddock fillet	+	26.46	30.73	+	+	+	H+	+	+	PA	6	a		
2024	2740	Filet de lieu noir	Raw fillet of saithe	-	21.55	29.49	+	+spp	+	H-	+	+	PD	6	a		
2024	2937	Paupiettes de saumon	Salmon paupiettes	-	34.75	31.86	+	+	+	H+	+	+	PD	6	a		
2024	3111	Sardine	Sardine	-	21.49	N/A	+	+spp	+	H-	+	+	PD	6	a		
2024	3479	Pavé de truite	Trout steak	-	25.9	33.38	+	+	+	H+	+	+	PD	6	a		
2024	1932	Crevettes rouges surgelées	Frozen red shrimps	-	N/A	32.81	-	st	st	-	-	-	NA	6	a		
2024	2744	Saumon fumé	Smoked salmon	+	24.14	30.08	+	+	+	H+	+	+	PA	6	b		
2024	2936	Truite fumée bio	Smoked trout	+	23.86	30.73	+	+spp	+	H-	+	+	PA	6	b		
2024	3112	Marinade de poulpe aux poivres	Octopus marinade with peppers	-	N/A	32.66	-	-	-	-	-	-	NA	6	b		
2024	3115	Coquilles fine au champagne	Fine shells with champagne	+	21.59	42.04	+	+	+	H+	+	+	PA	6	b		
2024	3118	Poulpe ail et persil	Octopus with garlic and parsley	-	N/A	32.53	-	-	-	-	-	-	NA	6	b		
2024	3119	Filet de merlu sauce vierge	Hake fillet with vierge sauce	-	N/A	32.56	-	-	st	-	-	-	NA	6	b		
2024	3122	Dés saumon fumé	Diced smoked salmon	+	N/A	32.55	-	-	-	-	-	-	ND	6	b		
2024	3189	Emincés de saumon fumé à l'aneth et aromatisé au citron	Sliced smoked salmon with dill and flavored with lemon	+	18.79	N/A	+	+	+	H+	+	+	PA	6	b		
2024	3190	Saumon mariné gravlax aneth citron	Gravlax marinated salmon with dill and lemon	+	17.49	N/A	+	+	+	H+	+	+	PA	6	b		
2024	3191	Carpaccio de saumon façon gravlax et sa marinade	Salmon carpaccio with marinade	+	25.2	31.03	+	+	+	H+	+	+	PA	6	b		
2024	3192	Harengs fumés doux	Sweet smoked herring	+	22.47	N/A	+	+/+spp	+	H+/H-	+	+	PA	6	b		
2024	3193	Maquereaux fumés	Smoked mackerel fillet	+	17.73	N/A	+	+/+spp	+	H+/H-	+	+	PA	6	b		
2024	3194	Emincés de truite fumée	Sliced smoked trout	+	17.19	26.86	+	+spp	+	H-	+	+	PA	6	b		
2024	3116	Filets de saumon mariné à l'aneth	Salmon fillets marinated	-	31.77	31.76	+	st	st	-	-	-	PD _{FP(alt)}	6	b		
2024	2746	Filet de maquereaux fumés	Smoked mackerel fillet	-	20.4	30.61	+	+spp	+	H-	+	+	PD	6	b		
2024	2748	Encornet au chorizo mariné	Squid with chorizo, marinated	-	24.02	30.37	+	+	+	H+	+	+	PD	6	b		
2024	1933	Aiguillettes de colin panés	Breaded hake	+	31.08	32.09	+	+spp	+	H-	+	+	PA	6	c		
2024	1936	Dos de colin d'Alaska cuit	Cooked hake	+	24.03	29.98	+	+	+	H+	+	+	PA	6	c		
2024	1938	Portion de crumble de colin	Crumble of hake	+	30.05	31.7	+	+	+	H+	+	+	PA	6	c		
2024	2750	Dos de cabillaud amande et pistache	Ready to eat cod	+	24.81	29.83	+	+	+	H+	+	+	PA	6	c		
2024	2751	Panés au poisson	Breaded fish	+	24.74	30.26	+	+	+	H+	+	+	PA	6	c		
2024	2753	Coquille St-Jacques	Ready to eat scallops	+	20.81	29.26	+	+	+	H+	+	+	PA	6	c		
2024	2754	Navarin de St-Jacques	Ready to eat scallops	+	19.13	29.52	+	+	+	H+	+	+	PA	6	c		
2024	3114	Colin gratiné fromage	Hackey with cheese gratin	-	44.02	32.56	+	-	-	st	-	-	PD _{FP(alt)}	6	c		
2024	3117	Anchois fris	Fried anchovies	+	18.54	27.06	+	+	+	H+/H-	+	+	PA	6	c		
2024	3121	Pané de cabillaud bio	Breaded organic cold	+	24.05	32.42	+	+	+	H+	+	+	PA	6	c		
2024	3120	Calamar rings	Squid rings	+	N/A	32.99	-	-	st	-	-	-	ND	6	c		
2024	3481	Beignets de crevettes	Shrimp fritters	-	38.71	32.7	+	-	st	st	-	-	PD _{FP(alt)}	6	c		

* Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

Appendix 9 - Relative level of detection: raw results - Enrichment in LSB II broth (Extension studies, 2023 and 2024)

Matrix: Piemontaise
Strain: *Listeria innocua* Ad3269
Seeding 48h at 3±2°C
Aerobic mesophilic flora: 1.6 x 10⁷ CFU/g

Sample N°	Inoculation level (cfu/test portion)	Reference method: ISO 11290-1*					Alternative method : iQ-Check <i>Listeria</i> spp																
		Half Fraser		Fraser		<i>Final result L.spp</i>	Number positive samples/Total	PCR results									Confirmations					Final result <i>L.spp</i>	Number positive samples/Total
								Easy II lysis protocol - Without FDRS APF Fast						Easy II lysis protocol - With FDRS APF Fast									
								CFX96 DW			CFX Opus DW			CFX96 DW			CFX Opus DW						
		O&A	Palcam	O&A	Palcam			FAM Cq	I.C. Cq	Result <i>L.spp</i>	FAM Cq	I.C. Cq	Result <i>L.spp</i>	FAM Cq	I.C. Cq	Result <i>L.spp</i>	FAM Cq	I.C. Cq	Result <i>L.spp</i>	RAPID' <i>L.mono</i> (100µL)	RAPID' <i>L.spp</i> (100µL)	AL (100µL)	AL (10µL)

* Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

Matrix: Process water
Strain: *Listeria monocytogenes* Ad2503
Seeding 48h at 3±2°C
Aerobic mesophilic flora: 1.4 x 10⁷ CFU/mL

Sample N°	Inoculation level (cfu/test portion)	Reference method: ISO 11290-1*					Alternative method : iQ-Check <i>Listeria</i> spp																			
		Half Fraser		Fraser		Final result <i>L.spp</i>	Number positive samples/Total	PCR results									Confirmations					Final result <i>L.spp</i>	Number positive samples/Total			
								Easy II lysis protocol - Without FDRS APF Fast						Easy II lysis protocol - With FDRS APF Fast												
		CFX96 DW			CFX Opus DW			CFX96 DW			CFX Opus DW															
		O&A	Palcam	O&A	Palcam			FAM Cq	I.C. Cq	Result <i>L.spp</i>	FAM Cq	I.C. Cq	Result <i>L.spp</i>	FAM Cq	I.C. Cq	Result <i>L.spp</i>	FAM Cq	I.C. Cq	Result <i>L.spp</i>	RAPID' <i>L.mono</i> (100µL)	RAPID' <i>L.spp</i> (100µL)	AL (100µL)	AL (10µL)	Palcam (10 µL)		
997	/	st	st	st	st	-	0/5	N/A	33.03	-	N/A	33.12	-	N/A	33.11	-	N/A	32.90	-	st	st	st	st	st	-	0/5
998		st	st	st	st	-		N/A	33.15	-	N/A	33.08	-	N/A	33.06	-	N/A	32.61	-	st	st	st	st	st	-	
999		st	st	st	st	-		N/A	33.12	-	N/A	33.18	-	N/A	33.16	-	N/A	32.67	-	st	st	st	st	-	-	
1000		st	st	st	st	-		N/A	33.07	-	N/A	33.27	-	N/A	33.03	-	N/A	32.87	-	st	st	-	-	-	-	
1001		st	st	st	st	-		N/A	33.17	-	N/A	32.66	-	N/A	32.94	-	N/A	33.29	-	st	st	st	st	st	-	
1002	0.8	H+	+	H+	+	+	14/20	N/A	33.10	-	N/A	33.18	-	N/A	33.08	-	N/A	32.91	-	st	st	st	st	st	-	9/20
1003		H+	+	H+	+	+		34.59	32.92	+	34.17	33.06	+	N/A/34.20	33.01	+	34.37	33.17	+	+	st	H+	H+	+	+	
1004		st	st	st	st	-		35.02	32.88	+	34.91	33.52	+	36.56	33.39	+	35.34	33.26	+	+	st	H+	H+	+	+	
1005		st	st	st	st	-		N/A	33.07	-	N/A	33.19	-	N/A	33.06	-	N/A	33.26	-	st	st	st	st	st	-	
1006		H+	+	H+	+	+		34.30	33.02	+	33.86	32.68	+	35.32	33.14	+	35.29	32.94	+	+	st	H+	H+	+	+	
1007		H+	+	H+	+	+		33.94	32.94	+	34.08	32.82	+	34.79	33.47	+	34.53	32.84	+	+	st	H+	H+	+	+	
1008		H+	+	H+	+	+		33.63	32.70	+	33.10	32.64	+	34.23	33.12	+	33.68	32.73	+	+	st	H+	H+	+	+	
1009		H+	+	H+	+	+		N/A	33.39	-	N/A	32.92	-	N/A	32.90	-	N/A	33.02	-	st	st	st	st	st	-	
1010		H+	+	H+	+	+		32.92	32.54	+	34.00	33.08	+	34.36	33.29	+	33.80	32.86	+	+	st	H+	H+	+	+	
1011		H+	+	H+	+	+		N/A	33.25	-	N/A	33.23	-	N/A	32.82	-	N/A	33.12	-	st	st	st	st	st	-	
1012		st	st	st	st	-		N/A	33.30	-	N/A	32.79	-	N/A	33.22	-	N/A	33.16	-	st	st	st	st	st	-	
1013		st	st	st	st	-		N/A	33.14	-	N/A	33.10	-	N/A	33.53	-	N/A	33.08	-	st	st	st	st	st	-	
1014		H+	+	H+	+	+		35.91	32.97	+	37.62	32.97	+	35.29	33.08	+	34.21	33.11	+	+	st	H+	H+	+	+	
1015		H+	+	H+	+	+		N/A	33.19	-	N/A	33.09	-	N/A	33.50	-	N/A	32.65	-	-	st	-	-	st	-	
1016		H+	+	H+	+	+		N/A	33.05	-	N/A	33.01	-	N/A	33.19	-	N/A	33.08	-	st	st	-	-	st	-	
1017		H+	+	H+	+	+		N/A	33.03	-	N/A	32.84	-	N/A	33.12	-	N/A	33.08	-	st	st	st	st	st	-	
1018		H+	+	H+	+	+		N/A	33.14	-	N/A	33.13	-	N/A	33.05	-	N/A	32.98	-	st	st	st	st	st	-	
1019		st	st	st	st	-		36.37	32.90	+	35.35	33.00	+	37.39	32.82	+	36.82	33.10	+	+	st	H+	H+ (3)	+ (4)	+	
1020		H+	+	H+	+	+		35.51	33.02	+	35.38	33.00	+	40.24	33.21	+	35.79	33.08	+	+	st	H+	H+	+ (2)	+	
1021		st	st	st	st	-		N/A	33.17	-	N/A	33.01	-	N/A	33.15	-	N/A	32.94	-	st	st	st	st	st	-	
1022	3.6	H+	+	H+	+	+	5/5	N/A	33.31	-	N/A	32.83	-	N/A	33.15	-	N/A	33.27	-	st	st	st	st	st	-	4/5
1023		H+	+	H+	+	+		31.87	32.32	+	31.58	32.46	+	32.35	32.65	+	31.48	32.36	+	+	+	H+	H+	+	+	
1024		H+	+	H+	+	+		33.01	32.88	+	32.46	32.79	+	32.41	32.63	+	32.38	32.85	+	+	+	H+	H+	+	+	
1025		H+	+	H+	+	+		34.38	32.76	+	34.03	33.14	+	34.76	32.64	+	34.21	33.06	+	+	+	H+	H+	+	+	
1026		H+	+	H+	+	+		32.53	32.62	+	32.05	32.50	+	32.66	33.01	+	32.58	32.81	+	+	+	H+	H+	+	+	

♦ Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

Matrix : Raw milk cheese (Roquefort)
Strain : *Listeria ivanovii* Ad1737
Seeding 48h at 3±2°C
Aerobic mesophilic flora: 6.6 x 10⁷ UFC/mL

N° sample	Inoculation level (cfu/sample)	Reference method: ISO 11290-1 ♦					ALTERNATIVE METHOD : iQ-Check <i>Listeria</i> spp																														
							1:10 with pre-warmed LSB II Broth -18h at 37°C																														
		Half Fraser		Fraser		Final result <i>L.spp</i>	Number positive samples/Total	PCR iQ-Check <i>Listeria</i> spp.									Confirmations					Final result <i>L.spp</i>				Number positive samples/Total											
								Easy II lysis protocol - Without FDRS APF Fast						Easy II lysis protocol - With FDRS APF Fast																							
								CFX 96			CFX Opus			CFX 96			CFX Opus																				
		O&A	Palcam	O&A	Palcam			FAM Cq	I.C. Cq	Result <i>L.spp</i>	FAM Cq	I.C. Cq	Result <i>L.spp</i>	FAM Cq	I.C. Cq	Result <i>L.spp</i>	FAM Cq	I.C. Cq	Result <i>L.spp</i>	RAPID' <i>L.mono</i> (100µL)	RAPID' Lspp	AL (100µL)	AL (10µL)	Palcam (10 µL)	CFX 96	CFX Opus	CFX 96	CFX Opus	CFX 96	CFX Opus	CFX 96	CFX Opus					
4149	0	st	st	-	st	-	0/5	N/A	32.99	-	N/A	33.09	-	N/A	32.93	-	N/A	32.57	-	-	st	-	-	-	-	-	-	-	-	-	-	-					
4150		-	st	-	st	-		N/A	32.56	-	N/A	33.27	-	N/A	32.80	-	N/A	32.84	-	-	st	-	st	-	-	-	-	-	-	-	-	-					
4151		st	-	-	st	-		N/A	32.68	-	N/A	33.20	-	N/A	33.02	-	N/A	32.87	-	-	st	-	-	-	-	-	-	-	-	-	-	-					
4152		st	-	-	st	-		N/A	32.65	-	N/A	32.65	-	N/A	32.92	-	N/A	32.48	-	-	st	-	-	-	-	-	-	-	-	-	-	-					
4153		-	-	-	st	-		N/A	32.93	-	N/A	32.68	-	N/A	32.76	-	N/A	32.48	-	-	st	-	st	-	-	-	-	-	-	-	-	-					
4164	1.9	H+	+	H+	+	+	14/20	40.53	32.78	+	N/A	32.82	-	N/A	32.76	-	N/A	32.79	-	+	+	-	-	-	+	-	-	-	-	-	-	-					
4165		H+	+	H+	+	+		N/A	32.76	-	N/A	32.53	-	38.62	32.71	+	39.02	32.47	+	-	+	H+ (1)	H+ (1)	+	+	-	-	+	+	+	+						
4166		st	-	st	-	-		40.41	14	+	37.27	32.49	+	35.81	32.56	+	37.99	32.58	+	+	+	H+	H+	+	+	+	+	+	+	+	+						
4167		-	st	st	-	-		36.91	32.38	+	37.11	32.78	+	35.76	32.62	+	36.36	33.00	+	+	+	H+	H+	+	+	+	+	+	+	+	+						
4168		H+	+	H+	+	+		39.09	32.77	+	39.88	32.52	+	36.19	32.42	+	37.29	32.40	+	-	+	-	-	-	+	+	+	+	+	+	+						
4169		st	-	H+	+	+		34.38	32.47	+	35.11	32.88	+	33.46	32.25	+	33.81	32.31	+	+	+	H+ (4)	H+ (3)	+	+	+	+	+	+	+	+						
4170		st	-	st	-	-		N/A	32.71	-	39.69	33.06	+	40.07	32.61	+	38.32	32.43	+	-	+	+	-	-	-	+	+	+	+	+	+						
4171		H+	+	H+	+	+		35.31	32.54	+	36.08	32.66	+	36.21	33.04	+	37.52	32.61	+	+	+	H+ (2)	H+ (3)	-	+	+	+	+	+	+	+						
4172		H+	+	H+	+	+		37.24	32.50	+	38.11	32.86	+	N/A	32.87	-	N/A	33.14	-	+(4)	+	+	H+ (1)	-	-	+	+	-	-	-	-						
4173		H+	+	H+	+	+		35.40	33.00	+	35.34	32.71	+	34.10	32.44	+	34.53	32.33	+	+	+	H+	H+	+	+	+	+	+	+	+	+						
4174																																					

Matrix : Rillettes
Strain : *Listeria monocytogenes* Ad669
Seeding 48h at 3±2°C

N° sample	Inoculation level (cfu/sample)	Reference method: ISO 11290-1 (2017) ♦					Alternative method : iQ-Check <i>Listeria</i> spp 1:10 with pre-warmed LSB II Broth -18 h at 37°C												
		Half Fraser		Fraser		<i>Final result L.spp</i>	Number positive samples/Total	PCR iQ-Check <i>Listeria</i> spp.			Confirmations							Final result <i>L.spp</i>	Number positive samples/Total
								Easy II lysis protocol - Without FDRS			Direct streaking					Fraser			
								CFX OPUS											
		O&A	Palcam	O&A	Palcam	FAM Cq	I.C. Cq	Result <i>L.spp</i>	RAPID' <i>L.mono</i>	RAPID' Lspp	AL (100µL)	AL (10µL)	Palcam	AL	Palcam	CFX OPUS	CFX OPUS		
2072	0	st	st	st	st	-	0/5	N/A	32.86	-	st	st	st	st	st	st	-	0/5	
2073		st	st	st	st	-		N/A	32.98	-	st	st	st	st	st	st	-		
2074		st	st	st	st	-		N/A	33.27	-	st	st	st	st	st	st	-		
2075		st	st	st	st	-		N/A	32.75	-	st	st	st	st	st	st	-		
2076		st	st	st	st	-		N/A	33.13	-	st	st	st	st	st	st	-		
2077	0,8	H+	+	H+	+	+	13/20	N/A	33.12	-	st	st	st	st	st	st	st	-	12/20
2078		st	st	st	st	-		25.29	30.6	+	+	+	H+	H+	+	H+	+	+	
2079		H+	+	H+	+	+		24.81	30.55	+	+	+	H+	H+	+	H+	+	+	
2080		H+	+	H+	+	+		N/A	32.69	-	st	st	st	st	st	st	st	-	
2081		H+	+	H+	+	+		24.89	30.24	+	+	+	H+	H+	+	H+	+	+	
2082		H+	+	H+	+	+		27.13	31.43	+	+	+	H+	H+	+	H+	+	+	
2083		H+	+	H+	+	+		39.65	33.21	+	st	st	st	st	st	st	st	-	
2084		H+	+	H+	+	+		25.09	30.7	+	+	+	H+	H+	+	H+	+	+	
2085		st	st	st	st	-		N/A	33.22	-	st	st	st	st	st	st	st	-	
2086		H+	+	H+	+	+		N/A	33.66	-	st	st	st	st	st	st	st	-	
2087		st	st	st	st	-		26	31.21	+	+	+	H+	H+	+	H+	+	+	
2088		H+	+	H+	+	+		26.03	30.86	+	+	+	H+	H+	+	H+	+	+	
2089		st	st	st	st	-		N/A	33.13	-	st	st	st	st	st	st	st	-	
2090		st	st	st	st	-		24.69	30.77	+	+	+	H+	H+	+	H+	+	+	
2091		st	st	st	st	-		N/A	33.16	-	st	st	st	st	st	st	st	-	
2092		H+	+	H+	+	+		27.33	31.24	+	+	+	H+	H+	+	H+	+	+	
2093		st	st	st	st	-		N/A	33.44	-	st	st	st	st	st	st	st	-	
2094		H+	+	H+	+	+		33.29	32.93	+	+	+	H+	H+	+	H+	+	+	
2095		H+	+	H+	+	+		28.18	31.71	+	+	+	H+	H+	+	H+	+	+	
2096		H+	+	H+	+	+		26.55	31.57	+	+	+	H+	H+	+	H+	+	+	
2097	3,7	H+	+	H+	+	+	5/5	25.11	31.43	+	+	+	H+	H+	+	H+	+	+	5/5
2098		H+	+	H+	+	+		23.56	30.48	+	+	+	H+	H+	+	H+	+	+	
2099		H+	+	H+	+	+		26.23	31.03	+	+	+	H+	H+	+	H+	+	+	
2100		H+	+	H+	+	+		26.7	31.14	+	+	+	H+	H+	+	H+	+	+	
2101		H+	+	H+	+	+		26.23	30.97	+	+	+	H+	H+	+	H+	+	+	

♦ Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

Matrix : Frozen green peas
Strain : *Listeria seeligeri* Ad1754
Seeding -20°C 2 weeks
Aerobic mesophilic flora: 2.0E2 UFC/mL

N° sample	Inoculation level (cfu/sample)	Reference method: ISO 11290-1 ♦						Alternative method: iQ-Check <i>Listeria</i> spp.										
								1:10 with pre-warmed LSB II Broth -18 h at 37°C										
		Half Fraser		Fraser		Final result	Number positive samples/Total	PCR iQ-Check <i>Listeria</i> spp.			Confirmations					Final result	Number positive samples/Total	
								Easy II lysis protocol - Without FDRS			Direct streaking							Subculture Fraser
		O&A	Palcam	O&A	Palcam			FAM Cq	I.C. Cq	Result	RAPID'L.mono (100µL)	RAPID' Lspp	AL (100µL)	AL (10µL)	Palcam (10 µL)	CFX OPUS	CFX OPUS	
3197	0	-	-	st	st	-	0/5	N/A	32.41	-	-	-	-	-	/	-	0/5	
3198		-	-	-	-	-		N/A	32.59	-	-	-	-	-	/	-		
3199		-	-	-	-	-		N/A	32.76	-	-	-	-	-	/	-		
3200		-	-	-	-	-		38.9/38.83/N/A	32.81/32.83/32.99	+/-/-	-	-	-	-	-	-		
3201		-	-	-	-	-		N/A	32.49	-	-	-	-	-	/	-		
3202	0.7	-	-	-	-	-	10/20	N/A	32.64	-	-	-	-	-	/	-	8/20	
3203		-	-	-	-	-		23.09	N/A	+	+spp	+	H-	H-	+	/		+
3204		-	-	-	-	-		N/A	33.25	-	-	st	-	-	-	/		-
3205		-	-	-	-	-		N/A	32.63	-	-	-	-	-	-	/		-
3206		-	+	H-	+	+		N/A	32.36	-	-	-	-	-	-	/		-
3207		-	-	-	-	-		24.14	31.26	+	+spp	-	-	-	+	/		+
3208		-	+	H-	+	+		23.25	31.8	+	+spp	+	H-	H-	+	/		+
3209		-	-	-	-	-		23.84	30.46	+	+spp (1)	+	-	H-	+	/		+
3210		-	+	H-	+	+		N/A	33.04	-	-	st	-	-	-	/		-
3211		-	-	-	-	-		39.66/N/A/39.68	32.4/32.79/32.84	+/-/+	-	-	-	-	-	-		-
3212		-	-	-	-	-		N/A	32.38	-	-	-	-	-	-	/		-
3213		-	+	H-	+	+		N/A	32.46	-	-	st	-	-	-	/		-
3214		H-	+	H-	+	+		36/36.15/36.42	32.29/32.91/32.87	+/-/+	-	st	-	-	-	-		-
3215		H-	+	H-	+	+		21.84	32.18	+	+spp	+	H-	H-	+	/		+
3216		H-	+	H-	+	+		23.04	31.16	+	+spp	+	H-	H-	+	/		+
3217		-	-	-	-	-		23.82	31.5	+	+spp	+	H-	H-	+	/		+
3218		-	-	-	-	-		N/A	32.61	-	-	st	-	-	-	/		-
3219		-	+	H-	+	+		N/A	32.45	-	-	st	-	-	-	/		-
3220		-	+	H-	+	+		38.59	32.88	+	-	-	-	-	-	-		-
3221		-	+	H-	+	+		24.26	31.86	+	+spp	+d	H-	-	+	/		+
3222	2.6	H-	+	H-	+	+	4/5	21.18	N/A	+	-	+	H-	H-	+	/	+	5/5
3223		-	+	H-	+	+		21.89	N/A	+	-	+	-	H-d	+	/	+	
3224		H-	+	H-	+	+		23.06	32.32	+	+d	+	-	-	+	/	+	
3225		-	+	H-	+	+		21.66	30.56	+	-	+	-	-	+	/	+	
3226		-	-	-	-	-		21.36	N/A	+	-	+	-	H-d	+	/	+	

♦ Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

Matrix : **Smoked salmon**
Strain : *Listeria monocytogenes* Ad670
Seeding 48h at 3±2°C
Aerobic mesophilic flora: 0 UFC/mL

N° sample	Inoculation level (cfu/sample)	Reference method: ISO 11290-1 ♦					Alternative method: iQ-Check <i>Listeria</i> spp.												
							1:10 with pre-warmed LSB II Broth -18 h at 37°C												
		Half Fraser		Fraser		Final result	Number positive samples/Total	PCR iQ-Check <i>Listeria</i> spp.			Confirmations							Final result	Number positive samples/Total
								Easy II lysis protocol - Without FDRS			Direct streaking					Fraser			
		CFX OPUS																	
O&A	Palcam	O&A	Palcam	FAM Cq	I.C. Cq	Result	RAPID'L.mono (100µL)	RAPID' Lspp	AL (100µL)	AL (10µL)	Palcam (10 µL)	AL	Palcam	CFX OPUS	CFX OPUS				
2865	0	-	-	st	-	-	0/5	N/A	32.67	-	-	st	-	-	st	st	st	-	0/5
2866		st	st	-	-	-		N/A	32.35	-	-	st	-	-	-	st	st	-	
2867		st	st	st	st	-		N/A	32.18	-	-	st	-	-	st	st	st	-	
2868		st	st	-	st	-		N/A	32.61	-	-	st	-	st	st	st	st	-	
2896		st	st	st	st	-		N/A	32.2	-	-	st	-	st	st	st	st	-	
2969	0.8	H+	+	H+	+	+	10/20	N/A	32.37	-	-	st	-	-	-	st	st	-	5/20
2970		H+	+	H+	+	+		N/A	32.54	-	-	st	-	-	-	st	st	-	
2971		H+	+	H+	+	+		N/A	32.61	-	st	st	st	st	st	st	st	-	
2972		H+	+	H+	+	+		N/A	32.09	-	st	st	-	st	st	st	st	-	
2973		H+	+	H+	+	+		N/A	32.22	-	-	st	-	st	st	st	st	-	
2974		H+	+	H+	+	+		28.66	31.25	+	+	+	H+	H+	+	H+	+	+	
2975		st	st	st	st	-		N/A	32.18	-	-	st	-	st	st	st	st	-	
2976		H+	+	H+	+	+		29	31.29	+	+	+	H+	H+	+	H+	+	+	
2977		st	st	st	st	-		N/A	32.3	-	st	-	st	st	st	st	st	-	
2978		st	st	st	st	-		N/A	32.03	-	st	st	st	st	st	-	st	-	
2979		st	st	st	st	-		N/A	32.16	-	-	st	-	-	-	-	st	-	
2980		st	st	st	st	-		27.09	31.42	+	+	+	H+	H+	+	H+	+	+	
2981		-	st	st	st	-		N/A	32.22	-	-	st	-	-	st	st	st	-	
2982		H+	+	H+	+	+		N/A	32.03	-	st	st	st	st	st	st	st	-	
2983		H+	+	H+	+	+		N/A	32.11	-	st	st	st	st	st	st	st	-	
2984		st	st	st	st	-		27.25	31.63	+	+	+	H+	H+	+	H+	+	+	
2985		H+	+	H+	H+	+		N/A	32.56	-	-	st	-	-	-	-	-	-	
2986		st	st	st	st	-		26.71	32.05	+	+	+	H+	H+	+	H+	+	+	
2987		st	st	st	st	-		N/A	32.45	-	st	st	st	st	st	st	st	-	
2988		st	st	st	st	-		N/A	32.5	-	-	st	-	-	-	st	-	-	
2989	3.4	H+	+	H+	+	+	5/5	28.11	31.21	+	+	+	H+	H+	+	H+	+	+	5/5
2990		H+	+	H+	+	+		25.87	34.16	+	+	+	H+	H+	+	H+	+	+	
2991		H+	+	H+	+	+		25.92	32.38	+	+	+	H+	H+	+	H+	+	+	
2992		H+	+	H+	+	+		24.32	33.23	+	+	+	H+	H+	+	H+	+	+	
2993		H+	+	H+	+	+		24.25	33.41	+	+	+	H+	H+	+	H+	+	+	

♦ Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

Appendix 10 – Inter-laboratory study: raw data (initial validation study)

Laboratory A

Reference	Reference method: NF EN ISO 11290-1						Comparison / expected results	Alternative method: iQ-Check Listeria spp.					Comparison / expected results
	Fraser 1/2		Fraser		Confirmation	Result		Ct Cint	Ct FAM	Test result	Confirmation RLspp	Result	
	AL	PALCAM	AL	PALCAM									
1	-	-	-	-	/	-	=	35.55	N/A	-	/	-	=
2	-	-	-	-	/	-	=	36.04	N/A	-	/	-	=
3	-	-	-	-	/	-	=	36.06	N/A	-	/	-	=
4	+	+	+	+	<i>L.innocua</i>	+	=	N/A	25.20	+	+	+	=
5	+	+	+	+	<i>L.innocua</i>	+	=	N/A	24.66	+	+	+	=
6	+	+	+	+	<i>L.innocua</i>	+	=	N/A	24.14	+	+	+	=
7	+	+	+	+	<i>L.innocua</i>	+	=	N/A	21.00	+	+	+	=
8	+	+	+	+	<i>L.innocua</i>	+	=	N/A	21.34	+	+	+	=
9	+	+	+	+	<i>L.innocua</i>	+	=	N/A	20.73	+	+	+	=
10	-	-	-	-	/	-	=	N/A 32.16	36.54 N/A	+	-	-	=(FP)
11	-	-	-	-	/	-	=	35.27	N/A	-	/	-	=
12	-	-	-	-	/	-	=	35.71	N/A	-	/	-	=
13	+	+	+	+	<i>L.innocua</i>	+	=	N/A	25.70	+	+	+	=
14	+	+	+	+	<i>L.innocua</i>	+	=	N/A	24.34	+	+	+	=
15	+	+	+	+	<i>L.innocua</i>	+	=	N/A	24.01	+	+	+	=
16	+	+	+	+	<i>L.innocua</i>	+	=	N/A	22.41	+	+	+	=
17	+	+	+	+	<i>L.innocua</i>	+	=	N/A	22.50	+	+	+	=
18	+	+	+	+	<i>L.innocua</i>	+	=	N/A	22.14	+	+	+	=
19	-	-	-	-	/	-	=	35.45	N/A	-	/	-	=
20	-	-	-	-	/	-	=	35.85	N/A	-	/	-	=
21	+	+	+	+	<i>L.innocua</i>	+	=	N/A N/A	28.59 22.10	+	+	+	=
22	+	+	+	+	<i>L.innocua</i>	+	=	N/A	22.97	+	+	+	=
23	+	+	+	+	<i>L.innocua</i>	+	=	N/A	20.47	+	+	+	=
24	+	+	+	+	<i>L.innocua</i>	+	=	N/A	19.78	+	+	+	=
T+													
T-													
Aerobic mesophilic flora (CFU/ml): 2													

Laboratory B

Reference	Reference method: NF EN ISO 11290-1						Comparison / expected results	Alternative method: iQ-Check Listeria spp.					Comparison / expected results
	Fraser 1/2		Fraser		Confirmation	Result		Ct Cint	Ct FAM	Test result	Confirmation RLspp	Result	
	AL	PALCAM	AL	PALCAM									
1	-	-	-	-	/	-	=	27.98	N/A	-	/	-	=
2	-	-	-	-	/	-	=	27.15	N/A	-	/	-	=
3	-	-	-	-	/	-	=	27.04	35.91	+	-	-	=(FP)
4	-	-	-	-	/	-	#	28.22	25.25	+	+	+	=
5	+	+	+	+	+	+	=	28.87	26.11	+	+	+	=
6	+	+	+	+	+	+	=	28.50	28.60	+	+	+	=
7	+	+	+	+	+	+	=	27.37	23.92	+	+	+	=
8	+	+	+	+	+	+	=	25.64	23.18	+	+	+	=
9	+	+	+	+	+	+	=	28.28	23.54	+	+	+	=
10	-	-	-	-	/	-	=	27.13	N/A	-	/	-	=
11	-	-	-	-	/	-	=	28.46	38.50	+	-	-	=(FP)
12	-	-	-	-	/	-	=	27.85	N/A	-	/	-	=
13	+	+	+	+	+	+	=	24.15	23.24	+	+	+	=
14	-	-	-	-	/	-	#	23.68	N/A	-	/	-	#
15	+	+	+	+	+	+	=	25.53	N/A	-	/	-	#
16	+	+	+	+	+	+	=	25.44	22.39	+	+	+	=
17	+	+	+	+	+	+	=	28.13	23.70	+	+	+	=
18	+	+	+	+	+	+	=	26.13	23.47	+	+	+	=
19	-	-	-	-	/	-	=	24.69	N/A	-	/	-	=
20	-	-	-	-	/	-	=	26.20	N/A	-	/	-	=
21	+	+	+	+	+	+	=	24.54	27.62	+	+	+	=
22	+	+	+	+	+	+	=	25.49	26.98	+	+	+	=
23	+	+	+	+	+	+	=	29.30	23.08	+	+	+	=
24	+	+	+	+	+	+	=	26.04	23.47	+	+	+	=
T+													
T-													
Aerobic mesophilic flora (CFU/ml) : 													

Laboratory C

Reference	Reference method: NF EN ISO 11290-1						Comparison / expected results	Alternative method: iQ-Check Listeria spp.					Comparison / expected results
	Fraser 1/2		Fraser		Confirmation	Result		Ct Cint	Ct FAM	Test result	Confirmation RLspp	Result	
	AL	PALCAM	AL	PALCAM									
1	-	-	-	-	/	-	=	34.63	N/A	-	-	-	=
2	-	-	-	-	/	-	=	34.15	N/A	-	-	-	=
3	-	-	-	-	/	-	=	34.02	N/A	-	-	-	=
4	+	+	+	+	Listeria spp.	+	=	N/A	29.40	+	+	+	=
5	+	+	+	+	Listeria spp.	+	=	N/A	29.37	+	+	+	=
6	+	+	+	+	Listeria spp.	+	=	N/A	27.20	+	+	+	=
7	+	+	+	+	Listeria spp.	+	=	N/A	26.24	+	+	+	=
8	+	+	+	+	Listeria spp.	+	=	N/A	26.99	+	+	+	=
9	+	+	+	+	Listeria spp.	+	=	N/A	26.18	+	+	+	=
10	-	-	-	-	/	-	=	33.92	N/A	-	/	-	=
11	-	-	-	-	/	-	=	33.61	N/A	-	/	-	=
12	-	-	-	-	/	-	=	33.91	N/A	-	/	-	=
13	+	+	+	+	Listeria spp.	+	=	N/A	28.64	+	+	+	=
14	+	+	+	+	Listeria spp.	+	=	N/A	22.66	+	+	+	=
15	+	+	+	+	Listeria spp.	+	=	N/A	26.64	+	+	+	=
16	+	+	+	+	Listeria spp.	+	=	N/A	24.60	+	+	+	=
17	+	+	+	+	Listeria spp.	+	=	N/A	24.34	+	+	+	=
18	+	+	+	+	Listeria spp.	+	=	N/A	24.25	+	+	+	=
19	-	-	-	-	/	-	=	32.08	N/A	-	/	-	=
20	-	-	-	-	/	-	=	33.74	N/A	-	/	-	=
21	+	+	+	+	Listeria spp.	+	=	N/A	27.74	+	+	+	=
22	+	+	+	+	Listeria spp.	+	=	N/A	25.81	+	+	+	=
23	+	+	+	+	Listeria spp.	+	=	N/A	23.59	+	+	+	=
24	+	+	+	+	Listeria spp.	+	=	N/A	22.21	+	+	+	=
T+													
T-													
Aerobic mesophilic flora (CFU/ml) : 													

Laboratory D

Reference	Reference method: NF EN ISO 11290-1						Comparison / expected results	Alternative method: iQ-Check Listeria spp.					Comparison / expected results
	Fraser 1/2		Fraser		Confirmation	Result		Ct Cint	Ct FAM	Test result	Confirmation RLspp	Result	
	AL	PALCAM	AL	PALCAM									
1	-	-	-	-	/	-	=	31.80	N/A	-	/	-	=
2	-	-	-	-	/	-	=	32.00	N/A	-	/	-	=
3	-	-	-	-	/	-	=	31.60	N/A	-	/	-	=
4	+	+	+	+	+	+	=	N/A	18.40	+	+	+	=
5	+	+	+	+	+	+	=	N/A	17.90	+	+	+	=
6	+	+	+	+	+	+	=	N/A	18.30	+	+	+	=
7	+	+	+	+	+	+	=	N/A	18.10	+	+	+	=
8	+	+	+	+	+	+	=	N/A	18.00	+	+	+	=
9	+	+	+	+	+	+	=	N/A	18.70	+	+	+	=
10	-	-	-	-	/	-	=	31.80	N/A	-	/	-	=
11	-	-	-	-	/	-	=	31.80	N/A	-	/	-	=
12	-	-	-	-	/	-	=	31.50	N/A	-	/	-	=
13	+	+	+	+	+	+	=	N/A	18.00	+	+	+	=
14	+	+	+	+	+	+	=	N/A	18.10	+	+	+	=
15	+	+	+	+	+	+	=	N/A	18.10	+	+	+	=
16	+	+	+	+	+	+	=	N/A	18.30	+	+	+	=
17	+	+	+	+	+	+	=	N/A	18.20	+	+	+	=
18	+	+	+	+	+	+	=	N/A	17.90	+	+	+	=
19	-	-	-	-	/	-	=	31.90	N/A	-	/	-	=
20	-	-	-	-	/	-	=	31.90	N/A	-	/	-	=
21	+	+	+	+	+	+	=	N/A	18.30	+	+	+	=
22	+	+	+	+	+	+	=	N/A	18.90	+	+	+	=
23	+	+	+	+	+	+	=	N/A	18.60	+	+	+	=
24	+	+	+	+	+	+	=	N/A	18.20	+	+	+	=
T+													
T-													
Aerobic mesophilic flora (CFU/ml) : 													

Laboratory E

Reference	Reference method: NF EN ISO 11290-1						Comparison / expected results	Alternative method: iQ-Check Listeria spp.					Comparison / expected results
	Fraser 1/2		Fraser		Confirmation	Result		Ct Cint	Ct FAM	Test result	Confirmation RLspp	Result	
	AL	PALCAM	AL	PALCAM									
1	-	-	-	-	/	-	=	31.80	N/A	-	/	-	=
2	-	-	-	-	/	-	=	32.20	N/A	-	/	-	=
3	-	-	-	-	/	-	=	31.50	N/A	-	/	-	=
4	+	+	+	+	Listeria spp.	+	=	N/A	20.00	+	+	+	=
5	+	+	+	+	Listeria spp.	+	=	N/A	21.20	+	+	+	=
6	+	+	+	+	Listeria spp.	+	=	N/A	20.40	+	+	+	=
7	+	+	+	+	Listeria spp.	+	=	N/A	19.70	+	+	+	=
8	+	+	+	+	Listeria spp.	+	=	N/A	19.90	+	+	+	=
9	+	+	+	+	Listeria spp.	+	=	N/A	20.00	+	+	+	=
10	-	-	-	-	/	-	=	31.70	N/A	-	/	-	=
11	-	-	-	-	/	-	=	31.70	N/A	-	/	-	=
12	-	-	-	-	/	-	=	31.90	N/A	-	/	-	=
13	+	+	+	+	Listeria spp.	+	=	N/A	22.10	+	+	+	=
14	+	+	+	+	Listeria spp.	+	=	N/A	24.40	+	+	+	=
15	+	+	+	+	Listeria spp.	+	=	N/A	23.20	+	+	+	=
16	+	+	+	+	Listeria spp.	+	=	N/A	21.80	+	+	+	=
17	+	+	+	+	Listeria spp.	+	=	N/A	21.70	+	+	+	=
18	+	+	+	+	Listeria spp.	+	=	N/A	21.60	+	+	+	=
19	-	-	-	-	/	-	=	31.80	N/A	-	/	-	=
20	-	-	-	-	/	-	=	31.70	N/A	-	/	-	=
21	+	+	+	+	Listeria spp.	+	=	N/A	24.20	+	+	+	=
22	-	-	-	-	/	-	#	N/A	23.80	+	+	+	=
23	+	+	+	+	Listeria spp.	+	=	N/A	22.10	+	+	+	=
24	+	+	+	+	Listeria spp.	+	=	N/A	22.00	+	+	+	=
T+													
T-													
Aerobic mesophilic flora (CFU/ml) : <1													

Laboratory F

Reference	Reference method: NF EN ISO 11290-1						Comparison / expected results	Alternative method: iQ-Check Listeria spp.					Comparison / expected results
	Fraser 1/2		Fraser		Confirmation	Result		Ct Cint	Ct FAM	Test result	Confirmation RLspp	Result	
	AL	PALCAM	AL	PALCAM									
1	-	-	-	-	/	-	=	32.70	N/A	-	/	-	=
2	-	-	-	-	/	-	=	32.60	N/A	-	/	-	=
3	-	-	-	-	/	-	=	32.90	N/A	-	/	-	=
4	+	+	+	+	<i>L.innocua</i>	+	=	N/A	23.10	+	<i>L.innocua</i>	+	=
5	+	+	+	+	<i>L.innocua</i>	+	=	N/A	23.10	+	<i>L.innocua</i>	+	=
6	+	+	+	+	<i>L.innocua</i>	+	=	N/A	23.60	+	<i>L.innocua</i>	+	=
7	+	+	+	+	<i>L.innocua</i>	+	=	N/A	21.40	+	<i>L.innocua</i>	+	=
8	+	+	+	+	<i>L.innocua</i>	+	=	N/A	20.20	+	<i>L.innocua</i>	+	=
9	+	+	+	+	<i>L.innocua</i>	+	=	N/A	19.30	+	<i>L.innocua</i>	+	=
10	-	-	-	-	/	-	=	32.70	N/A	-	/	-	=
11	-	-	-	-	/	-	=	32.40	N/A	-	/	-	=
12	-	-	-	-	/	-	=	32.30	N/A	-	/	-	=
13	+	+	+	+	<i>L.innocua</i>	+	=	N/A	22.80	+	<i>L.innocua</i>	+	=
14	+	+	+	+	<i>L.innocua</i>	+	=	N/A	21.60	+	<i>L.innocua</i>	+	=
15	+	+	+	+	<i>L.innocua</i>	+	=	N/A	22.30	+	<i>L.innocua</i>	+	=
16	+	+	+	+	<i>L.innocua</i>	+	=	N/A	19.80	+	<i>L.innocua</i>	+	=
17	+	+	+	+	<i>L.innocua</i>	+	=	N/A	20.00	+	<i>L.innocua</i>	+	=
18	+	+	+	+	<i>L.innocua</i>	+	=	N/A	20.10	+	<i>L.innocua</i>	+	=
19	-	-	-	-	/	-	=	32.30	N/A	-	/	-	=
20	-	-	-	-	/	-	=	32.80	N/A	-	/	-	=
21	+	+	+	+	<i>L.innocua</i>	+	=	N/A	20.90	+	<i>L.innocua</i>	+	=
22	+	+	+	+	<i>L.innocua</i>	+	=	N/A	22.30	+	<i>L.innocua</i>	+	=
23	+	+	+	+	<i>L.innocua</i>	+	=	N/A	20.10	+	<i>L.innocua</i>	+	=
24	+	+	+	+	<i>L.innocua</i>	+	=	N/A	19.60	+	<i>L.innocua</i>	+	=
T+													
T-													
Aerobic mesophilic flora (CFU/ml) : NC													

Laboratory G

Reference	Reference method: NF EN ISO 11290-1						Comparison / expected results	Alternative method: iQ-Check Listeria spp.					Comparison / expected results
	Fraser 1/2		Fraser		Confirmation	Result		Ct Cint	Ct FAM	Test result	Confirmation RLspp	Result	
	AL	PALCAM	AL	PALCAM									
1	-	-	-	-	/	-	=	31.76	N/A	-	/	-	=
2	-	-	-	-	/	-	=	31.28	N/A	-	/	-	=
3	-	-	-	-	/	-	=	31.16	N/A	-	/	-	=
4	+	+	+	+	Listeria spp.	+	=	N/A	20.45	+	+	+	=
5	+	+	+	+	Listeria spp.	+	=	N/A	20.91	+	+	+	=
6	+	+	+	+	Listeria spp.	+	=	N/A	21.03	+	+	+	=
7	+	+	+	+	Listeria spp.	+	=	N/A	18.95	+	+	+	=
8	+	+	+	+	Listeria spp.	+	=	N/A	23.14	+	+	+	=
9	+	+	+	+	Listeria spp.	+	=	N/A	18.96	+	+	+	=
10	-	-	-	-	/	-	=	31.04	N/A	-	/	-	=
11	-	-	-	-	/	-	=	31.18	N/A	-	/	-	=
12	-	-	-	-	/	-	=	31.36	N/A	-	/	-	=
13	+	+	+	+	Listeria spp.	+	=	N/A	20.66	+	+	+	=
14	+	+	+	+	Listeria spp.	+	=	N/A	20.48	+	+	+	=
15	+	+	+	+	Listeria spp.	+	=	N/A	19.67	+	+	+	=
16	+	+	+	+	Listeria spp.	+	=	N/A	19.04	+	+	+	=
17	+	+	+	+	Listeria spp.	+	=	N/A	17.81	+	+	+	=
18	+	+	+	+	Listeria spp.	+	=	N/A	18.60	+	+	+	=
19	-	-	-	-	/	-	=	31.23	N/A	-	/	-	=
20	-	-	-	-	/	-	=	31.72	N/A	-	/	-	=
21	+	+	+	+	Listeria spp.	+	=	N/A	19.60	+	+	+	=
22	+	+	+	+	Listeria spp.	+	=	N/A	23.35	+	+	+	=
23	+	+	+	+	Listeria spp.	+	=	N/A	18.52	+	+	+	=
24	+	+	+	+	Listeria spp.	+	=	N/A	19.23	+	+	+	=
T+													
T-													
Aerobic mesophilic flora (CFU/ml) :2													

Laboratory H

Reference	Reference method: NF EN ISO 11290-1						Comparison / expected results	Alternative method: iQ-Check Listeria spp.					Comparison / expected results
	Fraser 1/2		Fraser		Confirmation	Result		Ct Cint	Ct FAM	Test result	Confirmation RLspp	Result	
	AL	PALCAM	AL	PALCAM									
1	-	-	-	-	/	-	=	31.57	N/A	-	/	-	=
2	-	-	-	-	/	-	=	31.96	N/A	-	/	-	=
3	-	-	-	-	/	-	=	32.07	N/A	-	/	-	=
4	+	+	+	+	<i>L.innocua</i>	+	=	30.85	33.59	+	+	+	=
5	+	+	+	+	<i>L.innocua</i>	+	=	31.85	37.70	+	+	+	=
6	+	+	+	+	<i>L.innocua</i>	+	=	31.39	32.45	+	+	+	=
7	+	+	+	+	<i>L.innocua</i>	+	=	31.63	32.96	+	+	+	=
8	+	+	+	+	<i>L.innocua</i>	+	=	31.28	32.38	+	+	+	=
9	+	+	+	+	<i>L.innocua</i>	+	=	32.82	29.94	+	+	+	=
10	-	-	-	-	/	-	=	30.09	N/A	-	/	-	=
11	-	-	-	-	/	-	=	31.62	N/A	-	/	-	=
12	-	-	-	-	/	-	=	31.06	N/A	-	/	-	=
13	+	+	+	+	<i>L.innocua</i>	+	=	30.87	35.20	+	+	+	=
14	+	+	+	+	<i>L.innocua</i>	+	=	31.08	34.17	+	+	+	=
15	+	+	+	+	<i>L.innocua</i>	+	=	31.13	32.02	+	+	+	=
16	+	+	+	+	<i>L.innocua</i>	+	=	32.47	29.56	+	+	+	=
17	+	+	+	+	<i>L.innocua</i>	+	=	31.28	32.44	+	+	+	=
18	+	+	+	+	<i>L.innocua</i>	+	=	31.55	32.59	+	+	+	=
19	-	-	-	-	/	-	=	30.92	N/A	-	/	-	=
20	-	-	-	-	/	-	=	31.35	N/A	-	/	-	=
21	+	+	+	+	<i>L.innocua</i>	+	=	32.58	30.85	+	+	+	=
22	+	+	+	+	<i>L.innocua</i>	+	=	32.28	30.49	+	+	+	=
23	+	+	+	+	<i>L.innocua</i>	+	=	31.40	27.82	+	+	+	=
24	+	+	+	+	<i>L.innocua</i>	+	=	38.16	29.62	+	+	+	=
T+													
T-													
Aerobic mesophilic flora (CFU/ml) :NC													

Laboratory I

Reference	Reference method: NF EN ISO 11290-1						Comparison / expected results	Alternative method: iQ-Check Listeria spp.					Comparison / expected results
	Fraser 1/2		Fraser		Confirmation	Result		Ct Cint	Ct FAM	Test result	Confirmation RLspp	Result	
	AL	PALCAM	AL	PALCAM									
1	-	-	-	-	/	-	=	31.99	N/A	-	-	-	=
2	-	-	-	-	/	-	=	32.48	N/A	-	-	-	=
3	-	-	-	-	/	-	=	32.02	N/A	-	-	-	=
4	+	+	+	+	Listeria spp.	+	=	N/A	26.11	+	Listeria spp.	+	=
5	+	+	+	+	Listeria spp.	+	=	N/A	24.62	+	Listeria spp.	+	=
6	+	+	+	+	Listeria spp.	+	=	N/A	24.48	+	Listeria spp.	+	=
7	+	+	+	+	Listeria spp.	+	=	N/A	22.94	+	Listeria spp.	+	=
8	+	+	+	+	Listeria spp.	+	=	N/A	22.14	+	Listeria spp.	+	=
9	+	+	+	+	Listeria spp.	+	=	N/A	21.84	+	Listeria spp.	+	=
10	-	-	-	-	/	-	=	30.68	N/A	-	-	-	=
11	-	-	-	-	/	-	=	32.05	N/A	-	-	-	=
12	-	-	-	-	/	-	=	32.27	N/A	-	-	-	=
13	+	+	+	+	Listeria spp.	+	=	N/A	22.93	+	Listeria spp.	+	=
14	+	+	+	+	Listeria spp.	+	=	N/A	24.45	+	Listeria spp.	+	=
15	+	+	+	+	Listeria spp.	+	=	N/A	23.36	+	Listeria spp.	+	=
16	+	+	+	+	Listeria spp.	+	=	N/A	21.79	+	Listeria spp.	+	=
17	+	+	+	+	Listeria spp.	+	=	N/A	22.03	+	Listeria spp.	+	=
18	+	+	+	+	Listeria spp.	+	=	N/A	22.06	+	Listeria spp.	+	=
19	-	-	-	-	/	-	=	32.05	N/A	-	-	-	=
20	-	-	-	-	/	-	=	32.08	N/A	-	-	-	=
21	+	+	+	+	Listeria spp.	+	=	N/A	24.83	+	Listeria spp.	+	=
22	+	+	+	+	Listeria spp.	+	=	N/A	23.08	+	Listeria spp.	+	=
23	+	+	+	+	Listeria spp.	+	=	N/A	22.12	+	Listeria spp.	+	=
24	+	+	+	+	Listeria spp.	+	=	N/A	21.66	+	Listeria spp.	+	=
T+													
T-													
Aerobic mesophilic flora (CFU/ml) :NC													

Laboratory J

Reference	Reference method: NF EN ISO 11290-1						Comparison / expected results	Alternative method: iQ-Check Listeria spp.					Comparison / expected results
	Fraser 1/2		Fraser		Confirmation	Result		Ct Cint	Ct FAM	Test result	Confirmation RLspp	Result	
	AL	PALCAM	AL	PALCAM									
1	-	-	-	-	/	-	=	31.68	41.67	+	-	-	=(FP)
2	-	-	-	-	/	-	=	30.91	N/A	-	-	-	=
3	-	-	-	-	/	-	=	31.54	44.03	+	-	-	=(FP)
4	+	+	+	+	Listeria spp.	+	=	34.53	25.65	+	+	+	=
5	+	+	+	+	Listeria spp.	+	=	37.72	24.52	+	+	+	=
6	+	+	+	+	Listeria spp.	+	=	344.52	25.21	+	+	+	=
7	+	+	+	+	Listeria spp.	+	=	36.94	21.38	+	+	+	=
8	+	+	+	+	Listeria spp.	+	=	31.44	21.98	+	+	+	=
9	+	+	+	+	Listeria spp.	+	=	38.22	21.74	+	+	+	=
10	-	-	-	-	/	-	=	31.01	38.74	+	-	-	=(FP)
11	-	-	-	-	/	-	=	29.75	38.71	+	-	-	=(FP)
12	-	-	-	-	/	-	=	29.95	N/A	-	-	-	=
13	+	+	+	+	Listeria spp.	+	=	30.53	21.84	+	+	+	=
14	+	+	+	+	Listeria spp.	+	=	27.58	21.12	+	+	+	=
15	+	+	+	+	Listeria spp.	+	=	26.57	23.80	+	+	+	=
16	+	+	+	+	Listeria spp.	+	=	34.90	20.80	+	+	+	=
17	+	+	+	+	Listeria spp.	+	=	40.31	21.06	+	+	+	=
18	+	+	+	+	Listeria spp.	+	=	34.47	20.36	+	+	+	=
19	-	-	-	-	/	-	=	30.25	35.43	+	-	-	=(FP)
20	-	-	-	-	/	-	=	30.89	33.12	+	-	-	=(FP)
21	+	+	+	+	Listeria spp.	+	=	31.07	21.19	+	+	+	=
22	+	+	+	+	Listeria spp.	+	=	31.61	21.73	+	+	+	=
23	+	+	+	+	Listeria spp.	+	=	29.14	20.72	+	+	+	=
24	+	+	+	+	Listeria spp.	+	=	32.91	20.89	+	+	+	=

T+

T-

Aerobic mesophilic flora (CFU/ml) :31

Laboratory K

Reference	Reference method: NF EN ISO 11290-1						Comparison / expected results	Alternative method: iQ-Check Listeria spp.					Comparison / expected results
	Fraser 1/2		Fraser		Confirmation	Result		Ct Cint	Ct FAM	Test result	Confirmation RLspp	Result	
	AL	PALCAM	AL	PALCAM									
1	-	-	-	-	/	-	=	32.10	N/A	-	/	-	=
2	-	-	-	-	/	-	=	32.30	N/A	-	/	-	=
3	-	-	-	-	/	-	=	32.30	N/A	-	/	-	=
4	+	+	+	+	Listeria spp.	+	=	N/A	21.80	+	+	+	=
5	+	+	+	+	Listeria spp.	+	=	N/A	21.60	+	+	+	=
6	+	+	+	+	Listeria spp.	+	=	N/A	21.80	+	+	+	=
7	+	+	+	+	Listeria spp.	+	=	N/A	22.00	+	+	+	=
8	+	+	+	+	Listeria spp.	+	=	N/A	20.90	+	+	+	=
9	+	+	+	+	Listeria spp.	+	=	N/A	21.90	+	+	+	=
10	-	-	-	-	/	-	=	31.90	N/A	-	/	-	=
11	-	-	-	-	/	-	=	32.30	N/A	-	/	-	=
12	-	-	-	-	/	-	=	32.10	N/A	-	/	-	=
13	+	+	+	+	Listeria spp.	+	=	31.90	N/A	-	-	-	#
14	+	+	+	+	Listeria spp.	+	=	N/A	19.80	+	+	+	=
15	+	+	+	+	Listeria spp.	+	=	N/A	20.60	+	+	+	=
16	+	+	+	+	Listeria spp.	+	=	N/A	20.60	+	+	+	=
17	+	+	+	+	Listeria spp.	+	=	N/A	19.90	+	+	+	=
18	+	+	+	+	Listeria spp.	+	=	N/A	19.70	+	+	+	=
19	-	-	-	-	/	-	=	32.50	N/A	-	/	-	=
20	-	-	-	-	/	-	=	31.90	N/A	-	/	-	=
21	+	+	+	+	Listeria spp.	+	=	N/A	19.80	+	+	+	=
22	+	+	+	+	Listeria spp.	+	=	N/A	20.40	+	+	+	=
23	+	+	+	+	Listeria spp.	+	=	N/A	20.50	+	+	+	=
24	+	+	+	+	Listeria spp.	+	=	N/A	19.70	+	+	+	=
T+													
T-													

Aerobic mesophilic flora (CFU/ml) :20

Laboratory L

Reference	Reference method: NF EN ISO 11290-1						Comparison / expected results	Alternative method: iQ-Check Listeria spp.					Comparison / expected results
	Fraser 1/2		Fraser		Confirmation	Result		Ct Cint	Ct FAM	Test result	Confirmation RLspp/RLM	Result	
	AL	PALCAM	AL	PALCAM									
1	-	-	-	-	-	-	=	+	-	-	-	-	=
2	-	-	-	-	-	-	=	+	-	-	-	-	=
3	-	-	-	-	-	-	=	+	-	-	-	-	=
4	-	-	-	-	/	-	#	+	+	+	+	+	=
5	+	+	+	+	L.innocua	+	=	+	+	+	+	+	=
6	+	+	+	+	L.innocua	+	=	+	+	+	+	+	=
7	+	+	+	+	L.innocua	+	=	+	+	+	+	+	=
8	+	+	+	+	L.innocua	+	=	+	+	+	+	+	=
9	+	+	+	+	L.innocua	+	=	+	+	+	+	+	=
10	-	-	-	-	-	-	=	+	-	-	-	-	=
11	-	-	-	-	-	-	=	+	-	-	-	-	=
12	-	-	-	-	-	-	=	+	-	-	-	-	=
13	-	+	+	+	L.innocua	+	=	+	+	+	+	+	=
14	+	+	+	+	L.innocua	+	=	+	+	+	+	+	=
15	+	+	+	+	L.innocua	+	=	+	+	+	+	+	=
16	+	+	+	+	L.innocua	+	=	+	+	+	+	+	=
17	+	+	+	+	L.innocua	+	=	+	+	+	+	+	=
18	+	+	+	+	L.innocua	+	=	+	+	+	+	+	=
19	-	-	-	-	-	-	=	+	-	-	-	-	=
20	-	-	-	-	-	-	=	+	-	-	-	-	=
21	+	+	+	+	L.innocua	+	=	+	+	+	+	+	=
22	+	+	+	+	L.innocua	+	=	+	+	+	+	+	=
23	+	+	+	+	L.innocua	+	=	+	+	+	+	+	=
24	+	+	+	+	L.innocua	+	=	+	+	+	+	+	=
T+													
T-													

Aerobic mesophilic flora (CFU/ml) :5

Laboratory M

Reference	Reference method: NF EN ISO 11290-1						Comparison / expected results	Alternative method: iQ-Check Listeria spp.					Comparison / expected results
	Fraser 1/2		Fraser		Confirmation	Result		Ct Cint	Ct FAM	Test result	Confirmation RLspp	Result	
	AL	PALCAM	AL	PALCAM									
1	-	-	-	-	/	-	=	32.70	N/A	-	-	-	=
2	-	-	-	-	/	-	=	32.30	N/A	-	-	-	=
3	-	-	-	-	/	-	=	31.60	N/A	-	-	-	=
4	+	+	+	+	Listeria spp.	+	=	N/A	21.60	+	L.innocua	+	=
5	+	+	+	+	Listeria spp.	+	=	N/A	19.40	+	L.innocua	+	=
6	+	+	+	+	Listeria spp.	+	=	N/A	19.00	+	L.innocua	+	=
7	+	+	+	+	Listeria spp.	+	=	N/A	19.00	+	L.innocua	+	=
8	+	+	+	+	Listeria spp.	+	=	N/A	18.50	+	L.innocua	+	=
9	+	+	+	+	Listeria spp.	+	=	N/A	18.40	+	L.innocua	+	=
10	-	-	-	-	/	-	=	31.20	N/A	-	-	-	=
11	-	-	-	-	/	-	=	31.70	N/A	-	-	-	=
12	-	-	-	-	/	-	=	31.60	N/A	-	-	-	=
13	+	+	+	+	Listeria spp.	+	=	N/A	20.50	+	L.innocua	+	=
14	+	+	+	+	Listeria spp.	+	=	N/A	18.90	+	L.innocua	+	=
15	+	+	+	+	Listeria spp.	+	=	N/A	18.90	+	L.innocua	+	=
16	+	+	+	+	Listeria spp.	+	=	N/A	18.60	+	L.innocua	+	=
17	+	+	+	+	Listeria spp.	+	=	N/A	19.40	+	L.innocua	+	=
18	+	+	+	+	Listeria spp.	+	=	N/A	18.90	+	L.innocua	+	=
19	-	-	-	-	/	-	=	31.40	N/A	-	-	-	=
20	-	-	-	-	/	-	=	31.40	N/A	-	-	-	=
21	+	+	+	+	Listeria spp.	+	=	N/A	19.20	+	L.innocua	+	=
22	+	+	+	+	Listeria spp.	+	=	N/A	19.00	+	L.innocua	+	=
23	+	+	+	+	Listeria spp.	+	=	N/A	18.60	+	L.innocua	+	=
24	+	+	+	+	Listeria spp.	+	=	N/A	18.10	+	L.innocua	+	=
T+													
T-													
Aerobic mesophilic flora (CFU/ml) :30													

Expert laboratory

Reference	Reference method : NF EN ISO 11290-1						Comparison / expected results	Alternative method : iQ-Check <i>Listeria</i> spp.					Comparison / expected results
	Fraser 1/2		Fraser		Confirmation	Results		Ct Cint	Ct FAM	Test result	Confirmation RLspp	Result	
	AL	PALCAM	AL	PALCAM									
1	-	-	-	-	/	-	=	30.51	N/A	-	/	-	=
2	-	-	-	-	/	-	=	30.84	N/A	-	/	-	=
3	-	-	-	-	/	-	=	30.85	N/A	-	/	-	=
4	+	+	+	+	<i>L.innocua</i>	+	=	34.29	20.35	+	<i>L.innocua</i>	+	=
5	+	+	+	+	<i>L.innocua</i>	+	=	34.12	20.19	+	<i>L.innocua</i>	+	=
6	+	+	+	+	<i>L.innocua</i>	+	=	37.05	20.42	+	<i>L.innocua</i>	+	=
7	+	+	+	+	<i>L.innocua</i>	+	=	34.47	19.88	+	<i>L.innocua</i>	+	=
8	+	+	+	+	<i>L.innocua</i>	+	=	34.11	19.56	+	<i>L.innocua</i>	+	=
9	+	+	+	+	<i>L.innocua</i>	+	=	32.97	19.50	+	<i>L.innocua</i>	+	=
10	-	-	-	-	/	-	=	30.56	N/A	-	/	-	=
11	-	-	-	-	/	-	=	30.96	N/A	-	/	-	=
12	-	-	-	-	/	-	=	30.74	N/A	-	/	-	=
13	+	+	+	+	<i>L.innocua</i>	+	=	33.16	19.67	+	<i>L.innocua</i>	+	=
14	+	+	+	+	<i>L.innocua</i>	+	=	31.62	23.78	+	<i>L.innocua</i>	+	=
15	+	+	+	+	<i>L.innocua</i>	+	=	32.84	20.82	+	<i>L.innocua</i>	+	=
16	+	+	+	+	<i>L.innocua</i>	+	=	32.60	19.22	+	<i>L.innocua</i>	+	=
17	+	+	+	+	<i>L.innocua</i>	+	=	31.75	19.24	+	<i>L.innocua</i>	+	=
18	+	+	+	+	<i>L.innocua</i>	+	=	32.22	19.33	+	<i>L.innocua</i>	+	=
19	-	-	-	-	/	-	=	30.36	N/A	-	/	-	=
20	-	-	-	-	/	-	=	30.75	N/A	-	/	-	=
21	+	+	+	+	<i>L.innocua</i>	+	=	31.30	24.74	+	<i>L.innocua</i>	+	=
22	+	+	+	+	<i>L.innocua</i>	+	=	36.56	20.10	+	<i>L.innocua</i>	+	=
23	+	+	+	+	<i>L.innocua</i>	+	=	33.04	19.56	+	<i>L.innocua</i>	+	=
24	+	+	+	+	<i>L.innocua</i>	+	=	33.63	19.69	+	<i>L.innocua</i>	+	=