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NF VALIDATION
Validation of alternative analytical methods
Application in food microbiology

Summary report

Validation study according to the EN ISO 16140-2:2016

iQ-Check *Listeria monocytogenes* II
(Certificate number: BRD 07/10 - 04/05)
for the detection of *Listeria monocytogenes*
in food products and environmental samples

Qualitative method

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This report consists of 225 pages, including 9 appendices.
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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 EN ISO 16140-2:2016 and the AFNOR technical rules (PR Revision 7).

Validation protocols	▪ ISO 16140-1 (2016): Microbiology of the food chain - Method validation — *Part 1: Vocabulary* ▪ ISO 16140-2 (2016): Microbiology of the food chain - Method validation — *Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method* ▪ AFNOR technical rules (PR Revision 7)
Reference method♦	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
Alternative method	**iQ-Check *Listeria monocytogenes* II**
Scope	☒ **Food products** ☒ **Environmental samples**
Certification organism	AFNOR Certification (http://nf-validation.afnor.org/)

♦ Analyses performed according to the COFRAC accreditation

1 INTRODUCTION

The iQ-Check *Listeria monocytogenes* method was validated in April 2005 according to the ISO 16140:2003 (certificate number BRD 07/10 - 04/05). The study was performed by IPL. The following renewals and extensions were performed:

Date	Validation	Reference method	Validation standard	Expert laboratory
April 2005	Initial validation	ISO 11290-1 (1997)	ISO 16140 (2003)	IPL
December 2006	Extension for a new protocol (enrichment in LSB broth) and a new DNA extraction protocol (Easy II protocol)	ISO 11290-1 (1997) ISO 11290-1/A1 (2005)	ISO 16140 (2003)	IPL
September 2007	Extension for the use of new thermal cyclers: MiniOpticon and iQ5	/	/	Bio-Rad internal data*
January 2009	Extension for the use of a new mix PCR and a new version of the Opticon Monitor software including automatic analysis	/	/	Bio-Rad internal data*
March 2009	Renewal study	ISO 11290-1 (1997) ISO 11290-1/A1 (2005)	ISO 16140 (2003)	IPL
February 2010	Extension with: ▪ 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 thermocyclers	ISO 11290-1 (1997) ISO 11290-1/A1 (2005)	ISO 16140 (2003)	Bio-Rad internal data*
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	Renewal study	ISO 11290-1 (1997) ISO 11290-1/A1 (2005)	ISO 16140 (2003)	ISHA

	Extension to the use of the iQ-Check Prep automation system v1 and the CFX Manager software IDE v2.0	ISO 11290-1 (1997) ISO 11290-1/A1 (2005)	ISO 16140 (2003)	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 v2and CFX Manager Software IDE v2.2	/	/	Bio-Rad internal data*
January 2018	Renewal study according to the ISO 16140-2:2016	ISO 11290-1 (2017)	ISO 16140-2 (2016)	ADRIA
May 2018	Extension to the iQ-Check Prep v3 and CFX Manager Software IDE v3.0	/	/	Bio-Rad internal data*
January 2020	Extension for the production environmental samples category ▪ For a new enrichment protocol associated with the Easy II lysis protocol ▪ For the 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 Fast).	ISO 11290-1 (2017)	ISO 16140-2 (2016)	ADRIA
February 2021	Renewal study	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 CFX Manager Software IDE v3.1	/	ISO 16140-2 (2016)	Bio-Rad internal data*
June 2023	Extension study for the use of LSB II medium 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 medium on Dairy products	ISO 11290-1 (2017)	ISO 16140-2 (2016)	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 monocytogenes* II kits are tests based on gene amplification and detection by real-time PCR. Ready-to-use PCR reagents contain oligonucleotides (primers and probes) specific for *Listeria monocytogenes*, 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 monocytogenes* in environmental samples and food products previously enriched by culture in Half Fraser broth or *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 samples prior to PCR analysis. In the context of validation, this protocol 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 Protocol

The different protocols and steps are described below:

Enrichment step	Protocols available: - **Half Fraser** for **24 - 26 h at 30°C** for all categories (Protocol 1) - **LSB** broth for **22 - 24 h at 30°C ± 1°C** for all categories (Protocol 2) - **LSB** broth for **24 - 26 h at 30°C ± 1°C** for all categories (Protocol 3). - **LSB** broth for **18 – 26 h at 30°C ± 1°C** for environmental samples (Protocols 4 and 5) - **LSB II** broth for **18 - 26 h at 37°C ± 1°C** for composite foods and environmental samples (Protocol 6) - **LSB II** broth for **20 - 28 h at 37°C ± 1°C** after pre-warming of the broth (Protocol 7)
iQ-Check Free DNA Removal Solution (FDRS): (Protocol 5: optional for environmental samples)	- 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 (protocols 1 and 2)**: ▪ Centrifugation of 1.5 ml enriched Half-Fraser or 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 ± 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 (protocol 3 to 7)** ▪ Aliquote 100 µl of lysis reagent (A + F) to tubes of 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) 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: streaking 10 µl of the enriched broth (Half Fraser or LSB or LSBII) 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 broth (Half Fraser or LSB) onto Agar *Listeria* or RAPID'*Listeria* Agar or RAPID'*L.mono* Agar incubated for 24 h at 37°C ± 1°C. For RAPID'*L.mono* and Agar *Listeria*, the only presence of typical colonies allows to confirm the positive PCR result. For RAPID'*Listeria* spp confirmation, the typical colonies are confirmed by the tests described in the ISO method. - 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 tested during the different validation studies are summarized in Table 1.

Table 1 – Summary of the protocols

Validation study	Protocol	Scope	Enrichment step	FDRS	Lysis step	APF[1]
Initial 2005	Protocol 1	All categories	Half Fraser for 24h – 26 h at 30°C ±1°C	No	Standard II	Classic Fast
Extension 2006	Protocol 2		LSB for 22 – 24 h at 30°C ±1°C	No	Standard II	Classic Fast
	Protocol 3		LSB for 24h – 26 h at 30°C ±1°C	No	Easy II	Classic Fast
Extension 2020	Protocol 4	Environmental samples	LSB for 18 -26 h at 30°C ±1°C	No	Easy II	Classic Fast
	Protocol 5		LSB for 18 – 26 h at 30°C ±1°C	Yes	Easy II	Classic Fast
Extension 2023	Protocol 6	Composite foods Environmental samples	LSB II for 18 - 26 h at 37°C ± 1°C	Optional	Easy II	Fast
	Protocol 7	Dairy products	Pre-warmed LSB II broth for 20 - 28 h at 37°C ± 1°C	Optional	Easy II	Fast

2.1.3 Restrictions

There is no restriction for use.

2.2 Reference method◆

The reference method is 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

It was an **unpaired study**, except for Protocol 1 (Half-Fraser) which has the same enrichment protocol as the reference method.

[1] Application Protocol File
◆ Analysis performed according to the COFRAC accreditation

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 diversity of samples and strains representative of agri-food products. This does not constitute an exhaustive list of the different matrices included in the scope.
For any comment on the alternative method, please contact AFNOR Certification at http://nf-validation.afnor.org/contact-2/.

3.1 Initial validation, extension/renewal studies: results – Half-Fraser and LSB protocol

As different protocols are available for samples testing, the following combinations of protocols were used for interpretation of the data generated during the different studies (See **Table 2**).

Table 2 – Combinations of protocols used for interpretation

Interpretation	Food categories (categories 1 to 5)	Environmental samples category (category 6)
A1	Protocol 1	Protocol 1
B1	Protocol 1	Protocol 4 – APF Classic
C1	Protocol 1	Protocol 5 – APF Classic
D1	Protocol 1	Protocol 4 – APF Fast
E1	Protocol 1	Protocol 5 – APF Fast
A2	Protocol 2	Protocol 2
B2	Protocol 2	Protocol 4 – APF Classic
C2	Protocol 2	Protocol 5 – APF Classic
D2	Protocol 2	Protocol 4 – APF Fast
E2	Protocol 2	Protocol 5 – APF Fast
A3	Protocol 3	Protocol 3
B3	Protocol 3	Protocol 4 – APF Classic
C3	Protocol 3	Protocol 5 – APF Classic
D3	Protocol 3	Protocol 4 – APF Fast
E3	Protocol 3	Protocol 5 – 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 samples*

The distribution per type is given in **Tables 3** to **5**.

Table 3 – Distribution per type - Results associated to Protocol 1

Categor		Type		Protocol	APF	Positive	Negative	Total
1	Meat products	a	Raw products (including deep-frozen, fresh, seasoned)	Protocol 1	Classic	10	20	30
		b	RTE and processed meat products	Protocol 1	Classic	7	15	22
		c	Fermented or dried meats products (raw and cooked)	Protocol 1	Classic	14	10	24
		Total				31	45	76
2	Dairy products	a	Raw milk cheese	Protocol 1	Classic	9	12	21
		b	Other raw milk products	Protocol 1	Classic	13	9	22
		c	Heat processed milk and dairy products	Protocol 1	Classic	12	17	29
		Total				34	38	72
3	Seafood products	a	Raw products	Protocol 1	Classic	10	14	24
		b	Smoked, marinated products	Protocol 1	Classic	15	13	28
		c	Processed products	Protocol 1	Classic	11	10	21
		Total				36	37	73
4	Vegetal products	a	Raw vegetal products	Protocol 1	Classic	12	10	22
		b	RTE and RTC raw vegetal products, precooked vegetal products	Protocol 1	Classic	13	10	23
		c	Processed vegetal products	Protocol 1	Classic	11	10	21
		Total				36	30	66
5	RTE-RTRH	a	RTE foods	Protocol 1	Classic	11	9	20
		b	RTRH foods	Protocol 1	Classic	11	11	22
		c	Pastries, egg products	Protocol 1	Classic	12	10	22
		Total				34	30	64
6	Environmental samples	a	Process waters	Protocol 1	Classic	10	10	20
		b	Surface sample	Protocol 1	Classic	15	17	32
		c	Dusts and residues	Protocol 1	Classic	7	15	22
		Total				32	42	74
		a	Process waters	Protocol 4	Classic	11	9	20
		b	Surface sample	Protocol 4	Classic	10	10	20
		c	Dusts and residues	Protocol 4	Classic	9	11	20
		Total				30	30	60
		a	Process waters	Protocol 5	Classic	11	9	20
		b	Surface sample	Protocol 5	Classic	10	10	20
		c	Dusts and residues	Protocol 5	Classic	9	11	20
		Total				30	30	60
		a	Process waters	Protocol 4	Fast	11	9	20
		b	Surface sample	Protocol 4	Fast	10	10	20
		c	Dusts and residues	Protocol 4	Fast	9	11	20
		Total				30	30	60
		a	Process waters	Protocol 5	Fast	11	9	20
		b	Surface sample	Protocol 5	Fast	10	10	20
		c	Dusts and residues	Protocol 5	Fast	9	11	20
		Total				30	30	60
All categories		**A1: Protocol 1 - APF Classic**				**203**	**222**	**425**
		B1: Protocol 1 + Protocol 4 - APF Classic				**201**	**210**	**411**
		C1: Protocol 1 + Protocol 5 - APF Classic				**201**	**210**	**411**
		D1: Protocol 1 + Protocol 4 - APF Fast				**201**	**210**	**411**
		E1: Protocol 1 + Protocol 5 - APF Fast				**201**	**210**	**411**

Table 4 – Distribution per type - Results associated to Protocol 2

Category		Type		Protocol	APF	Positive	Negative	Total
1	Meat products	a	Raw products (including deep-frozen, fresh, seasoned)	Protocol 2	Classic	13	9	22
		b	RTE and processed meat products	Protocol 2	Classic	18	11	29
		c	Fermented or dried meats products (raw and cooked)	Protocol 2	Classic	10	11	21
		Total				41	31	72
2	Dairy products	a	Raw milk cheese	Protocol 2	Classic	12	11	23
		b	Other raw milk products	Protocol 2	Classic	13	10	23
		c	Heat processed milk and dairy products	Protocol 2	Classic	15	19	34
		Total				40	40	80
3	Seafood products	a	Raw products	Protocol 2	Classic	10	10	20
		b	Smoked, marinated products	Protocol 2	Classic	12	10	22
		c	Processed products	Protocol 2	Classic	11	10	21
		Total				33	30	63
4	Vegetal products	a	Raw vegetal products	Protocol 2	Classic	12	10	22
		b	RTE and RTC raw vegetal products, precooked vegetal products	Protocol 2	Classic	11	10	21
		c	Processed vegetal products	Protocol 2	Classic	10	11	21
		Total				33	31	64
5	RTE-RTRH	a	RTE foods	Protocol 2	Classic	12	11	23
		b	RTRH foods	Protocol 2	Classic	11	11	22
		c	Pastries, egg products	Protocol 2	Classic	11	10	21
		Total				34	32	66
6	Environmental samples	a	Process waters	Protocol 2	Classic	10	10	20
		b	Surface sample	Protocol 2	Classic	19	18	37
		c	Dusts and residues	Protocol 2	Classic	10	10	20
		Total				39	38	77
		a	Process waters	Protocol 4	Classic	11	9	20
		b	Surface sample	Protocol 4	Classic	10	10	20
		c	Dusts and residues	Protocol 4	Classic	9	11	20
		Total				30	30	60
		a	Process waters	Protocol 5	Classic	11	9	20
		b	Surface sample	Protocol 5	Classic	10	10	20
		c	Dusts and residues	Protocol 5	Classic	9	11	20
		Total				30	30	60
		a	Process waters	Protocol 4	Fast	11	9	20
		b	Surface sample	Protocol 4	Fast	10	10	20
		c	Dusts and residues	Protocol 4	Fast	9	11	20
		Total				30	30	60
		a	Process waters	Protocol 5	Fast	11	9	20
		b	Surface sample	Protocol 5	Fast	10	10	20
		c	Dusts and residues	Protocol 5	Fast	9	11	20
		Total				30	30	60
All categories		**A2: Protocol 2 - APF Classic**				**220**	**202**	**422**
		B2: Protocol 2 + Protocol 4 - APF Classic				**211**	**194**	**405**
		C2: Protocol 2 + Protocol 5- APF Classic				**211**	**194**	**405**
		D2: Protocol 2 + Protocol 4 - APF Fast				**211**	**194**	**405**
		E2: Protocol 2 + Protocol 5 - APF Fast				**211**	**194**	**405**

Table 5 – Distribution per type - Results associated to Protocol 3

Category		Type		Protocol	APF	Positive	Negative	Total
1	Meat products	a	Raw products (including deep-frozen, fresh, seasoned)	Protocol 3	Classic	13	9	22
		b	RTE and processed meat products	Protocol 3	Classic	18	11	29
		c	Fermented or dried meats products (raw and cooked)	Protocol 3	Classic	9	12	21
		Total				40	32	72
2	Dairy products	a	Raw milk cheese	Protocol 3	Classic	12	11	23
		b	Other raw milk products	Protocol 3	Classic	13	10	23
		c	Heat processed milk and dairy products	Protocol 3	Classic	15	19	34
		Total				40	40	80
3	Seafood products	a	Raw products	Protocol 3	Classic	10	10	20
		b	Smoked, marinated products	Protocol 3	Classic	12	10	22
		c	Processed products	Protocol 3	Classic	11	10	21
		Total				33	30	63
4	Vegetal products	a	Raw vegetal products	Protocol 3	Classic	12	10	22
		b	RTE and RTC raw vegetal products, precooked vegetal products	Protocol 3	Classic	11	10	21
		c	Processed vegetal products	Protocol 3	Classic	10	11	21
		Total				33	31	64
5	RTE-RTRH	a	RTE foods	Protocol 3	Classic	12	11	23
		b	RTRH foods	Protocol 3	Classic	11	11	22
		c	Pastries, egg products	Protocol 3	Classic	11	10	21
		Total				34	32	66
6	Environmental samples	a	Process waters	Protocol 3	Classic	10	10	20
		b	Surface sample	Protocol 3	Classic	19	18	37
		c	Dusts and residues	Protocol 3	Classic	10	10	20
		Total				39	38	77
		a	Process waters	Protocol 4	Classic	11	9	20
		b	Surface sample	Protocol 4	Classic	10	10	20
		c	Dusts and residues	Protocol 4	Classic	9	11	20
		Total				30	30	60
		a	Process waters	Protocol 5	Classic	11	9	20
		b	Surface sample	Protocol 5	Classic	10	10	20
		c	Dusts and residues	Protocol 5	Classic	9	11	20
		Total				30	30	60
		a	Process waters	Protocol 4	Fast	11	9	20
		b	Surface sample	Protocol 4	Fast	10	10	20
		c	Dusts and residues	Protocol 4	Fast	9	11	20
		Total				30	30	60
		a	Process waters	Protocol 5	Fast	11	9	20
		b	Surface sample	Protocol 5	Fast	10	10	20
		c	Dusts and residues	Protocol 5	Fast	9	11	20
		Total				30	30	60
All categories		**A3: Protocol 3 - APF Classic**				**219**	**203**	**422**
		B3: Protocol 3 + Protocol 4 - APF Classic				**210**	**195**	**405**
		C3: Protocol 3 + Protocol 5 - APF Classic				**210**	**195**	**405**
		D3: Protocol 3 + Protocol 4 - APF Fast				**210**	**195**	**405**
		E3: Protocol 3 + Protocol 5 - APF Fast				**210**	**195**	**405**

3.1.1.2 *Artificial contamination of samples*

Artificial contaminations were done by seeding or spiking protocol. The artificial contaminations are presented in **Appendix 3**.
115 samples were artificially contaminated for studies performed in 2005, 2006 and 2017.
For the extension performed in 2019, 31 samples were artificially contaminated. 29 gave a positive result by both protocols (with or without FDRS).

The repartition of the positive samples per inoculation protocol and inoculation level is given in:

- **Table 6** for Protocol 1 combined with the extension,
- **Table 7** for Protocol 2 combined with the extension,
- **Table 8** for Protocol 3 combined with the extension.

Table 6 - Repartition of the positive samples per inoculation protocol and inoculation level – Results associated to Protocol 1

Validation study	Category	Number and percentage of samples analyzed per contamination level (CFU/sample)				
		Naturally contaminated	≤5 (spiking) ≤3 (seeding)	5-10 (spiking) 3-10 (seeding)	10<x<30	Total
Initial, extension and renewal studies	Meat products	30	0	1	0	31
	Dairy products	21	10	3	0	34
	Sea food products	31	5	0	0	36
	Vegetal products	8	25	3	0	36
	RTE-RTRH	11	20	3	0	34
	Environmental samples	23	9	0	0	32
Extension 2019	Environmental samples	1	29	0	0	30
Total		**125**	**98**	**10**	**0**	**233**
%		**53.6 %**	**42.1 %**	**4.3 %**	**0.0%**	**100.0%**

Table 7 - Repartition of the positive samples per inoculation protocol and inoculation level – Results associated to Protocol 2

Validation study	Category	Number and percentage of samples analyzed per contamination level (CFU/sample)				
		Naturally contaminated	≤5 (spiking) ≤3 (seeding)	5-10 (spiking) 3-10 (seeding)	10<x<30	Total
Initial, extension and renewal studies	Meat products	36	5	0	0	41
	Dairy products	13	14	10	3	40
	Sea food products	30	3	0	0	33
	Vegetal products	11	12	7	3	33
	RTE-RTRH	8	22	3	1	34
	Environmental samples	30	9	0	0	39
Extension 2019	Environmental samples	1	29	0	0	30
Total		**129**	**94**	**20**	**7**	**250**
%		51.6 %	37.6 %	8.0 %	3.8 %	100.0 %

Table 8 - Repartition of the positive samples per inoculation protocol and inoculation level – Results associated to Protocol 3

Validation study	Category	Number and percentage of samples analyzed per contamination level (CFU/sample)				
		Naturally contaminated	≤5 (spiking) ≤3 (seeding)	5-10 (spiking) 3-10 (seeding)	10<x<30	Total
Initial, extension and renewal studies	Meat products	35	5	0	0	40
	Dairy products	13	14	10	3	40
	Sea food products	30	3	0	0	33
	Vegetal products	11	12	7	3	33
	RTE-RTRH	8	22	3	1	34
	Environmental samples	30	9	0	0	39
Extension 2019	Environmental samples	1	29	0	0	30
Total		**128**	**94**	**20**	**7**	**249**
%		51.4 %	37.8 %	8.0 %	2.8 %	100.0 %

The percentage of samples inoculated between 3 (spiking) or 5 (seeding) and 10 CFU is comprised between 4.3 and 8.0 % depending on the protocols used for analysis.

The percentage of naturally contaminated samples varies from 51.4 % to 53.6 % depending on the combination of protocols used.

3.1.1.3 *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 initial validation study and the extensions in 2006 and 2020 is shown in Table 9.

Table 9 – Summary of protocols tested

Validation study	Protocol	Scope	Enrichment step	FDRS	Lysis step	APF[2]
Initial 2005	Protocol 1	All categories	Half Fraser for 24 h at 30°C ±1°C	No	Standard II	Classic
Extension 2006	Protocol 2		LSB for 22 h at 30°C ±1°C	No	Standard II	Classic
	Protocol 3		LSB for 24 h at 30°C ±1°C	No	Easy II	Classic
Extension 2020	Protocol 4	Environmental samples	LSB for 18 h at 30°C ±1°C	No	Easy II	Classic Fast
	Protocol 5		LSB for 18 h at 30°C ±1°C	Yes	Easy II	Classic Fast

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

> *Confirmation protocol*

During the validation studies, the following protocols were tested:

- Tests described in the ISO method (streaking 10 µl onto AL and Palcam);
- Streaking 100 µl of enriched sample (Half-Fraser broth or LSB broth) onto RAPID'*L. mono* Agar. The presence of typical colonies allows to confirm the positive PCR test but during the validation study, the typical colonies were confirmed by the tests described in the ISO method.

For the extension study performed in 2020, for negative PCR samples, the enriched LSB broth was sub-cultured in Fraser broth for 24 h ± 2 h at 37°C ± 1°C in order to have the total duration of time equivalent to the ISO method before streaking onto O&A and Palcam plates (ISO 16140-2 requirements).

[2] Application Protocol File

> ***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. This concerns Protocols 2, 3, 4 and 5.

3.1.1.4 *Test results*

Raw data are given in **Appendix 4**. The results are given in **Tables 10** to **12**.

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

Results associated to Protocol 1

Category		Protocol	APF	PA	NA*	PD	ND**	PPND	PPNA	Total
1	Meat products	Protocol 1	Classic	29	44	1	1	0	1	**76**
2	Dairy products	Protocol 1	Classic	34	37	0	0	0	1	**72**
3	Seafood products	Protocol 1	Classic	33	34	0	3	0	3	**73**
4	Vegetable products	Protocol 1	Classic	35	28	0	1	0	2	**66**
5	RTE-RTRH	Protocol 1	Classic	34	28	0	0	0	2	**64**
6	Environmental samples	Protocol 1	Classic	31	42	0	1	0	0	**74**
		Protocol 4	Classic	15	29	8	6	1	1	**60**
		Protocol 5	Classic	16	29	8	6	0	1	**60**
		Protocol 4	Fast	15	30	8	7	0	0	**60**
		Protocol 5	Fast	16	30	8	6	0	0	**60**
All categories		**A1: Protocol 1 – APF Classic**		**196**	**213**	**1**	**6**	**0**	**9**	**425**
		B1: Protocol 1 + Protocol 4 - APF Classic		**180**	**200**	**9**	**11**	**1**	**10**	**411**
		C1: Protocol 1 + Protocol 5 - APF Classic		**181**	**200**	**9**	**11**	**0**	**10**	**411**
		D1: Protocol 1 + Protocol 4 - APF Fast		**180**	**201**	**9**	**12**	**0**	**9**	**411**
		E1: Protocol 1 + Protocol 5 - APF Fast		**181**	**201**	**9**	**11**	**0**	**9**	**411**

* PPNA not included ** PPND not included

Table 11 – Interpretation of sample results between the reference and alternative method (based on the confirmed alternative method results)
Results associated to Protocol 2

Category		Protocol	APF	PA	NA*	PD	ND**	PPND	PPNA	Total
1	Meat products	Protocol 2	Classic	27	29	10	4	0	2	**72**
2	Dairy products	Protocol 2	Classic	36	39	4	0	0	1	**80**
3	Seafood products	Protocol 2	Classic	29	29	4	0	0	1	**63**
4	Vegetable products	Protocol 2	Classic	30	31	0	3	0	0	**64**
5	RTE-RTRH	Protocol 2	Classic	29	31	3	2	0	1	**66**
6	Environmental samples	Protocol 2	Classic	37	34	0	1	1	4	**77**
		Protocol 4	Classic	15	29	8	6	1	1	**60**
		Protocol 5	Classic	16	29	8	6	0	1	**60**
		Protocol 4	Fast	15	30	8	7	0	0	**60**
		Protocol 5	Fast	16	30	8	6	0	0	**60**
All categories		**A2: Protocol 2 – APF Classic**		**188**	**193**	**21**	**10**	**1**	**9**	**422**
		B2: Protocol 2 + Protocol 4 – APF Classic		**166**	**188**	**29**	**15**	**1**	**6**	**405**
		C2: Protocol 2 + Protocol 5 – APF Classic		**167**	**188**	**29**	**15**	**0**	**6**	**405**
		D2: Protocol 2 + Protocol 4 – APF Fast		**166**	**189**	**29**	**16**	**0**	**5**	**405**
		E2: Protocol 2 + Protocol 5 – APF Fast		**167**	**189**	**29**	**15**	**0**	**5**	**405**

* PPNA not included ** PPND not included

Table 12 – Interpretation of sample results between the reference and alternative method (based on the confirmed alternative method results)
Results associated to Protocol 3

Category		Protocol	APF	PA	NA*	PD	ND**	PPND	PPNA	Total
1	Meat products	Protocol 3	Classic	27	31	9	4	0	1	**72**
2	Dairy products	Protocol 3	Classic	34	39	4	2	0	1	**80**
3	Seafood products	Protocol 3	Classic	28	29	4	1	0	1	**63**
4	Vegetable products	Protocol 3	Classic	30	30	0	3	0	1	**64**
5	RTE-RTRH	Protocol 3	Classic	29	31	3	2	0	1	**66**
6	Environmental samples	Protocol 3	Classic	36	36	3	0	0	2	**77**
		Protocol 4	Classic	15	29	8	6	1	1	**60**
		Protocol 5	Classic	16	29	8	6	0	1	**60**
		Protocol 4	Fast	15	30	8	7	0	0	**60**
		Protocol 5	Fast	16	30	8	6	0	0	**60**
All categories		**A3: Protocol 3 – APF Classic**		**184**	**196**	**20**	**12**	**0**	**7**	**419**
		B3: Protocol 3 + Protocol 4 – APF Classic		**163**	**189**	**28**	**18**	**1**	**6**	**405**
		C3: Protocol 3 + Protocol 5 – APF Classic		**164**	**189**	**28**	**18**	**0**	**6**	**405**
		D3: Protocol 3 + Protocol 4 – APF Fast		**163**	**190**	**28**	**19**	**0**	**5**	**405**
		E3: Protocol 3 + Protocol 5 – APF Fast		**164**	**190**	**28**	**18**	**0**	**5**	**405**

* PPNA not included ** PPND not included

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

The calculations are presented in **Tables 13** to **15**. A summary of the results is given in **Tables 16** to **18**.

Table 13 – Calculation of the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR) – Results associated to Protocol 1

Category		Type		Protocol	APF	PA	NA*	PD	ND**	PPND	PPNA	Se_{alt}	Se_{ref}	RT	FPR
1	Meat products	a	Raw products (including deep-frozen, fresh, seasoned)	Protocol 1	Classic	9	20	0	1	0	0	90,0%	100,0%	96,7%	0,0%
		b	RTE and processed meat products	Protocol 1	Classic	7	14	0	0	0	1	100,0%	100,0%	100,0%	6,7%
		c	Fermented or dried meats products (raw and cooked)	Protocol 1	Classic	13	10	1	0	0	0	100,0%	92,9%	95,8%	0,0%
		Total				**29**	**44**	**1**	**1**	**0**	**1**	**96,8%**	**96,8%**	**97,4%**	**2,2%**
2	Dairy products	a	Raw milk cheese	Protocol 1	Classic	9	11	0	0	0	1	100,0%	100,0%	100,0%	8,3%
		b	Other raw milk products	Protocol 1	Classic	13	10	0	0	0	0	100,0%	100,0%	100,0%	0,0%
		c	Heat processed milk and dairy products	Protocol 1	Classic	12	16	0	0	0	0	100,0%	100,0%	100,0%	0,0%
		Total				**34**	**37**	**0**	**0**	**0**	**1**	**100,0%**	**100,0%**	**100,0%**	**2,6%**
3	Seafood products	a	Raw products	Protocol 1	Classic	9	13	0	1	0	1	90,0%	100,0%	95,8%	7,1%
		b	Smoked, marinated products	Protocol 1	Classic	14	13	0	1	0	0	93,3%	100,0%	96,4%	0,0%
		c	Processed products	Protocol 1	Classic	10	8	0	1	0	2	90,9%	100,0%	95,2%	20,0%
		Total				**33**	**34**	**0**	**3**	**0**	**3**	**91,7%**	**100,0%**	**95,9%**	**8,1%**
4	Vegetable products	a	Raw vegetal products	Protocol 1	Classic	12	9	0	0	0	1	100,0%	100,0%	100,0%	10,0%
		b	RTE and RTC raw vegetal products, precooked vegetal products	Protocol 1	Classic	12	10	0	1	0	0	92,3%	100,0%	95,7%	0,0%
		c	Processed vegetal products	Protocol 1	Classic	11	9	0	0	0	1	100,0%	100,0%	100,0%	10,0%
		Total				**35**	**28**	**0**	**1**	**0**	**2**	**97,2%**	**100,0%**	**98,5%**	**6,7%**
5	RTE-RTRH	a	RTE foods	Protocol 1	Classic	11	8	0	0	0	1	100,0%	100,0%	100,0%	11,1%
		b	RTRH foods	Protocol 1	Classic	11	11	0	0	0	0	100,0%	100,0%	100,0%	0,0%
		c	Pastries, egg products	Protocol 1	Classic	12	9	0	0	0	1	100,0%	100,0%	100,0%	10,0%
		Total				**34**	**28**	**0**	**0**	**0**	**2**	**100,0%**	**100,0%**	**100,0%**	**6,7%**

Category		Type		Protocol	APF	PA	NA*	PD	ND**	PPND	PPNA	Se_{alt}	Se_{ref}	RT	FPR
6	Environmental samples	a	Process waters	Protocol 1	Classic	9	10	0	1	0	0	90,0%	100,0%	95,0%	0,0%
		b	Surface sample	Protocol 1	Classic	15	17	0	0	0	0	100,0%	100,0%	100,0%	0,0%
		c	Dusts and residues	Protocol 1	Classic	7	15	0	0	0	0	100,0%	100,0%	100,0%	0,0%
		Total				**31**	**42**	**0**	**1**	**0**	**0**	**96,9%**	**100,0%**	**98,6%**	**0,0%**
		a	Process waters	Protocol 4	Classic	8	9	2	1	0	0	90,9%	81,8%	85,0%	0,0%
		b	Surface sample	Protocol 4	Classic	5	9	3	2	0	1	80,0%	70,0%	75,0%	10,0%
		c	Dusts and residues	Protocol 4	Classic	2	11	3	3	1	0	55,6%	66,7%	65,0%	9,1%
		Total				**15**	**29**	**8**	**6**	**1**	**1**	**76,7%**	**73,3%**	**75,0%**	**6,7%**
		a	Process waters	Protocol 5	Classic	8	9	2	1	0	0	90,9%	81,8%	85,0%	0,0%
		b	Surface sample	Protocol 5	Classic	6	9	3	1	0	1	90,0%	70,0%	80,0%	10,0%
		c	Dusts and residues	Protocol 5	Classic	2	11	3	4	0	0	55,6%	66,7%	65,0%	0,0%
		Total				**16**	**29**	**8**	**6**	**0**	**1**	**80,0%**	**73,3%**	**76,7%**	**3,3%**
		a	Process waters	Protocol 4	Fast	8	9	2	1	0	0	90,9%	81,8%	85,0%	0,0%
		b	Surface sample	Protocol 4	Fast	5	10	3	2	0	0	80,0%	70,0%	75,0%	0,0%
		c	Dusts and residues	Protocol 4	Fast	2	11	3	4	0	0	50,0%	75,0%	70,0%	0,0%
		Total				**15**	**30**	**8**	**7**	**0**	**0**	**76,7%**	**73,3%**	**75,0%**	**0,0%**
		a	Process waters	Protocol 5	Fast	8	9	2	1	0	0	90,9%	81,8%	85,0%	0,0%
		b	Surface sample	Protocol 5	Fast	6	10	3	1	0	0	90,0%	70,0%	80,0%	0,0%
		c	Dusts and residues	Protocol 5	Fast	2	11	3	4	0	0	55,6%	66,7%	65,0%	0,0%
		Total				**16**	**30**	**8**	**6**	**0**	**0**	**80,0%**	**73,3%**	**76,7%**	**0,0%**
All categories		**A1: Protocol 1 - APF Classic**				**196**	**213**	**1**	**6**	**0**	**9**	**97,0%**	**99,5%**	**98,4%**	**4,1%**
		B1: Protocol 1 + Protocol 4 - APF Classic				**180**	**200**	**9**	**11**	**1**	**10**	**94,0%**	**95,5%**	**94,9%**	**5,2%**
		C1: Protocol 1 + Protocol 5 - APF Classic				**181**	**201**	**9**	**11**	**0**	**10**	**94,5%**	**95,5%**	**95,1%**	**4,8%**
		D1: Protocol 1 + Protocol 4 - APF Fast				**180**	**201**	**9**	**12**	**0**	**9**	**94,0%**	**95,5%**	**94,9%**	**4,3%**
		E1: Protocol 1 + Protocol 5 - APF Fast				**181**	**201**	**9**	**11**	**0**	**9**	**94,5%**	**95,5%**	**95,1%**	**4,3%**

* PPNA not included ** PPND not included

Table 14 – Calculation of the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR) – Results associated to Protocol 2

Category		Type		Protocol	APF	PA	NA*	PD	ND**	PPND	PPNA	Se_{alt}	Se_{ref}	RT	FPR
1	Meat products	a	Raw products (including deep-frozen, fresh, seasoned)	Protocol 2	Classic	10	8	1	2	0	1	84,6%	92,3%	86,4%	11,1%
		b	RTE and processed meat products	Protocol 2	Classic	11	11	5	2	0	0	88,9%	72,2%	75,9%	0,0%
		c	Fermented or dried meats products (raw and cooked)	Protocol 2	Classic	6	10	4	0	0	1	100,0%	60,0%	81,0%	9,1%
		Total				**27**	**29**	**10**	**4**	**0**	**2**	**90,2%**	**75,6%**	**80,6%**	**6,5%**
2	Dairy products	a	Raw milk cheese	Protocol 2	Classic	11	11	1	0	0	0	100,0%	91,7%	95,7%	0,0%
		b	Other raw milk products	Protocol 2	Classic	12	9	1	0	0	1	100,0%	92,3%	95,7%	10,0%
		c	Heat processed milk and dairy products	Protocol 2	Classic	13	19	2	0	0	0	100,0%	86,7%	94,1%	0,0%
		Total				**36**	**39**	**4**	**0**	**0**	**1**	**100,0%**	**90,0%**	**95,0%**	**2,5%**
3	Seafood products	a	Raw products	Protocol 2	Classic	9	10	1	0	0	0	100,0%	90,0%	95,0%	0,0%
		b	Smoked, marinated products	Protocol 2	Classic	9	10	3	0	0	0	100,0%	75,0%	86,4%	0,0%
		c	Processed products	Protocol 2	Classic	11	9	0	0	0	1	100,0%	100,0%	100,0%	10,0%
		Total				**29**	**29**	**4**	**0**	**0**	**1**	**100,0%**	**87,9%**	**93,7%**	**3,3%**
4	Vegetable products	a	Raw vegetal products	Protocol 2	Classic	11	10	0	1	0	0	91,7%	100,0%	95,5%	0,0%
		b	RTE and RTC raw vegetal products, precooked vegetal products	Protocol 2	Classic	10	10	0	1	0	0	90,9%	100,0%	95,2%	0,0%
		c	Processed vegetal products	Protocol 2	Classic	9	11	0	1	0	0	90,0%	100,0%	95,2%	0,0%
		Total				**30**	**31**	**0**	**3**	**0**	**0**	**90,9%**	**100,0%**	**95,3%**	**0,0%**
5	RTE-RTRH	a	RTE foods	Protocol 2	Classic	12	11	0	0	0	0	100,0%	100,0%	100,0%	0,0%
		b	RTRH foods	Protocol 2	Classic	8	11	3	0	0	0	100,0%	72,7%	86,4%	0,0%
		c	Pastries, egg products	Protocol 2	Classic	9	9	0	2	0	1	81,8%	100,0%	90,5%	10,0%
		Total				**29**	**31**	**3**	**2**	**0**	**1**	**94,1%**	**91,2%**	**92,4%**	**3,1%**

Category		Type		Protocol	APF	PA	NA*	PD	ND**	PPND	PPNA	Se_{alt}	Se_{ref}	RT	FPR
6	Environmental samples	a	Process waters	Protocol 2	Classic	10	10	0	0	0	0	100,0%	100,0%	100,0%	0,0%
		b	Surface sample	Protocol 2	Classic	17	15	0	1	1	3	89.5%	100,0%	94.6%	22.2%
		c	Dusts and residues	Protocol 2	Classic	10	9	0	0	0	1	100.0%	100,0%	100.0%	10.0%
		Total				**37**	**34**	**0**	**1**	**1**	**4**	**94.9%**	**100,0%**	**97.4%**	**13.2%**
		a	Process waters	Protocol 4	Classic	8	9	2	1	0	0	90,9%	81,8%	85,0%	0,0%
		b	Surface sample	Protocol 4	Classic	5	9	3	2	0	1	80,0%	70,0%	75,0%	10,0%
		c	Dusts and residues	Protocol 4	Classic	2	11	3	3	1	0	55,6%	66,7%	65,0%	9,1%
		Total				**15**	**29**	**8**	**6**	**1**	**1**	**76,7%**	**73,3%**	**75,0%**	**6,7%**
		a	Process waters	Protocol 5	Classic	8	9	2	1	0	0	90,9%	81,8%	85,0%	0,0%
		b	Surface sample	Protocol 5	Classic	6	9	3	1	0	1	90,0%	70,0%	80,0%	10,0%
		c	Dusts and residues	Protocol 5	Classic	2	11	3	4	0	0	55,6%	66,7%	65,0%	0,0%
		Total				**16**	**29**	**8**	**6**	**0**	**1**	**80,0%**	**73,3%**	**76,7%**	**3,3%**
		a	Process waters	Protocol 4	Fast	8	9	2	1	0	0	90,9%	81,8%	85,0%	0,0%
		b	Surface sample	Protocol 4	Fast	5	10	3	2	0	0	80,0%	70,0%	75,0%	0,0%
		c	Dusts and residues	Protocol 4	Fast	2	11	3	4	0	0	55,6%	66,7%	65,0%	0,0%
		Total				**15**	**30**	**8**	**7**	**0**	**0**	**76,7%**	**73,3%**	**75,0%**	**0,0%**
		a	Process waters	Protocol 5	Fast	8	9	2	1	0	0	90,9%	81,8%	85,0%	0,0%
		b	Surface sample	Protocol 5	Fast	6	10	3	1	0	0	90,0%	70,0%	80,0%	0,0%
		c	Dusts and residues	Protocol 5	Fast	2	11	3	4	0	0	55,6%	66,7%	65,0%	0,0%
		Total				**16**	**30**	**8**	**6**	**0**	**0**	**80,0%**	**73,3%**	**76,7%**	**0,0%**
All categories		**A2: Protocol 2 - APF Classic**				**188**	**193**	**21**	**10**	**1**	**9**	**95.0%**	**90,5%**	**92.4%**	**5.0%**
		B2: Protocol 2 + Protocol 4 - APF Classic				**166**	**188**	**29**	**15**	**1**	**6**	**92,4%**	**86,3%**	**88,9%**	**3,6%**
		C2: Protocol 2 + Protocol 5 - APF Classic				**167**	**188**	**29**	**15**	**0**	**6**	**92,9%**	**86,3%**	**89,1%**	**3,1%**
		D2: Protocol 2 + Protocol 4 - APF Fast				**166**	**189**	**29**	**16**	**0**	**5**	**92,4%**	**86,3%**	**88,9%**	**2,6%**
		E2: Protocol 2 + Protocol 5 - APF Fast				**167**	**189**	**29**	**15**	**0**	**6**	**92,9%**	**86,3%**	**89,1%**	**2,6%**

* PPNA not included ** PPND not included

Table 15 – Calculation of the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR) – Results associated to Protocol 3

Category		Type		Protocol	APF	PA	NA*	PD	ND**	PPND	PPNA	Se_{alt}	Se_{ref}	RT	FPR
1	Meat products	a	Raw products (including deep-frozen, fresh, seasoned)	Protocol 3	Classic	10	8	2	2	0	1	85,7%	85,7%	82,6%	11,1%
		b	RTE and processed meat products	Protocol 3	Classic	11	11	5	2	0	0	88,9%	72,2%	75,9%	0,0%
		c	Fermented or dried meats products (raw and cooked)	Protocol 3	Classic	6	12	2	0	0	0	100,0%	75,0%	90,0%	0,0%
		Total				**27**	**31**	**9**	**4**	**0**	**1**	**90,0%**	**77,5%**	**81,9%**	**3,1%**
2	Dairy products	a	Raw milk cheese	Protocol 3	Classic	10	11	1	1	0	0	91,7%	91,7%	91,3%	0,0%
		b	Other raw milk products	Protocol 3	Classic	12	9	1	0	0	1	100,0%	92,3%	95,7%	10,0%
		c	Heat processed milk and dairy products	Protocol 3	Classic	12	19	2	1	0	0	93,3%	86,7%	91,2%	0,0%
		Total				**34**	**39**	**4**	**2**	**0**	**1**	**95,0%**	**90,0%**	**92,5%**	**2,5%**
3	Seafood products	a	Raw products	Protocol 3	Classic	9	10	1	0	0	0	100,0%	90,0%	95,0%	0,0%
		b	Smoked, marinated products	Protocol 3	Classic	8	9	3	1	0	1	91,7%	75,0%	81,8%	10,0%
		c	Processed products	Protocol 3	Classic	11	10	0	0	0	0	100,0%	100,0%	100,0%	0,0%
		Total				**28**	**29**	**4**	**1**	**0**	**1**	**97,0%**	**87,9%**	**92,1%**	**3,3%**
4	Vegetable products	a	Raw vegetal products	Protocol 3	Classic	11	9	0	1	0	1	91,7%	100,0%	95,5%	10,0%
		b	RTE and RTC raw vegetal products, precooked vegetal products	Protocol 3	Classic	9	10	0	1	0	0	90,0%	100,0%	95,0%	0,0%
		c	Processed vegetal products	Protocol 3	Classic	10	11	0	1	0	0	90,9%	100,0%	95,5%	0,0%
		Total				**30**	**30**	**0**	**3**	**0**	**1**	**90,9%**	**100,0%**	**95,3%**	**3,2%**
5	RTE-RTRH	a	RTE foods	Protocol 3	Classic	11	11	0	1	0	0	91,7%	100,0%	95,7%	0,0%
		b	RTRH foods	Protocol 3	Classic	8	11	3	0	0	0	100,0%	72,7%	86,4%	0,0%
		c	Pastries, egg products	Protocol 3	Classic	10	9	0	1	0	1	90,9%	100,0%	95,2%	10,0%
		Total				**29**	**31**	**3**	**2**	**0**	**1**	**94,1%**	**91,2%**	**92,4%**	**3,1%**

Category		Type		Protocol	APF	PA	NA*	PD	ND**	PPND	PPNA	Se_{alt}	Se_{ref}	RT	FPR
6	Environmental samples	a	Process waters	Protocol 3	Classic	9	10	0	1	0	0	90,0%	100,0%	95,0%	0,0%
		b	Surface sample	Protocol 3	Classic	17	17	0	2	0	1	189,5%	100,0%	94,6%	5,6%
		c	Dusts and residues	Protocol 3	Classic	10	9	0	0	0	1	100,0%	100,0%	100,0%	10,0%
		Total				**36**	**36**	**0**	**3**	**0**	**2**	**92,3%**	**100,0%**	**96,1%**	**5,3%**
		a	Process waters	Protocol 4	Classic	8	9	2	1	0	0	90,9%	81,8%	85,0%	0,0%
		b	Surface sample	Protocol 4	Classic	5	9	3	2	0	1	80,0%	70,0%	75,0%	10,0%
		c	Dusts and residues	Protocol 4	Classic	2	11	3	3	1	0	55,6%	66,7%	65,0%	9,1%
		Total				**15**	**29**	**8**	**6**	**1**	**1**	**76,7%**	**73,3%**	**75,0%**	**6,7%**
		a	Process waters	Protocol 5	Classic	8	9	2	1	0	0	90,9%	81,8%	85,0%	0,0%
		b	Surface sample	Protocol 5	Classic	6	9	3	1	0	1	90,0%	70,0%	80,0%	10,0%
		c	Dusts and residues	Protocol 5	Classic	2	11	3	4	0	0	55,6%	66,7%	65,0%	0,0%
		Total				**16**	**29**	**8**	**6**	**0**	**1**	**80,0%**	**73,3%**	**76,7%**	**3,3%**
		a	Process waters	Protocol 4	Fast	8	9	2	1	0	0	90,9%	81,8%	85,0%	0,0%
		b	Surface sample	Protocol 4	Fast	5	10	3	2	0	0	80,0%	70,0%	75,0%	0,0%
		c	Dusts and residues	Protocol 4	Fast	2	11	3	4	0	0	55,6%	66,7%	65,0%	0,0%
		Total				**15**	**30**	**8**	**7**	**0**	**0**	**76,7%**	**73,3%**	**75,0%**	**0,0%**
		a	Process waters	Protocol 5	Fast	8	9	2	1	0	0	90,9%	81,8%	85,0%	0,0%
		b	Surface sample	Protocol 5	Fast	6	10	3	1	0	0	90,0%	70,0%	80,0%	0,0%
		c	Dusts and residues	Protocol 5	Fast	2	11	3	4	0	0	55,6%	66,7%	65,0%	0,0%
		Total				**16**	**30**	**8**	**6**	**0**	**0**	**80,0%**	**73,3%**	**76,7%**	**0,0%**
All categories		**A3: Protocol 3 - APF Classic**				**184**	**196**	**20**	**15**	**0**	**7**	**93,2%**	**90,9%**	**91,7%**	**3,4%**
		B3: Protocol 3 + Protocol 4 - APF Classic				**163**	**189**	**28**	**18**	**1**	**6**	**91,0%**	**86,7%**	**88,4%**	**3,6%**
		C3: Protocol 3 + Protocol 5 - APF Classic				**164**	**189**	**28**	**18**	**0**	**6**	**91,4%**	**86,7%**	**88,6%**	**3,1%**
		D3: Protocol 3 + Protocol 4 - APF Fast				**163**	**190**	**28**	**19**	**0**	**5**	**91,0%**	**86,7%**	**88,4%**	**2,6%**
		E3: Protocol 3 + Protocol 5 - APF Fast				**164**	**190**	**28**	**18**	**0**	**5**	**91,4%**	**86,7%**	**88,6%**	**2,6%**

* PPNA not included ** PPND not included

The two APF (Fast and Classic) have been tested for both extraction protocols (with or without FRDS). One positive presumptive not confirmed samples (PPN) were observed when applying the APF Classic with adding the FDRS step, and 2 without FDRS. When the APF Fast was applied, no PPN sample was observed whatever the extraction protocol used (with or without FDRS step).

Table 16 - Summary of results – Results associated to Protocol 1

		A1	B1	C1	D1	E1
Sensitivity for the alternative method	$SE_{alt} = \frac{(PA+PD)}{(PA+ND+PD)} \times 100\%$	97.0%	94.0%	94.5%	94.0%	94.5%
Sensitivity for the reference method	$SE_{ref} = \frac{(PA+ND)}{(PA+ND+PD)} \ x\ 100\ \%$	99.5%	95.5%	95.5%	95.5%	95.5%
Relative trueness	$RT = \frac{(PA+NA)}{N} \times 100\%$	98.4%	94.9%	95.1%	94.9%	95.1%
False positive ratio for the alternative method* FP = PPNA + PPND	$FPR = \frac{(FP)}{NA} \times 100\%$	4.1%	5.2%	4.8%	4.3%	4.3%

Table 17 - Summary of results – Results associated to Protocol 2

		A2	B2	C2	D2	E2
Sensitivity for the alternative method	$SE_{alt} = \frac{(PA+PD)}{(PA+ND+PD)} \times 100\%$	95.0%	92.4%	92.9%	92.4%	92.9%
Sensitivity for the reference method	$SE_{ref} = \frac{(PA+ND)}{(PA+ND+PD)} \ x\ 100\ \%$	90.5%	86.3%	86.3%	86.3%	86.3%
Relative trueness	$RT = \frac{(PA+NA)}{N} \times 100\%$	92.4%	88.9%	89.1%	88.9%	89.1%
False positive ratio for the alternative method* FP = PPNA + PPND	$FPR = \frac{(FP)}{NA} \times 100\%$	5.0%	3.6%	3.1%	2.6%	2.6%

Table 18 - Summary of results – Results associated to Protocol 3

		A3	B3	C3	D3	E3
Sensitivity for the alternative method	$SE_{alt} = \frac{(PA+PD)}{(PA+ND+PD)} \times 100\%$	93.2%	91.0%	91.4%	91.0%	91.4%
Sensitivity for the reference method	$SE_{ref} = \frac{(PA+ND)}{(PA+ND+PD)} \ x\ 100\ \%$	90.9%	86.7%	86.7%	86.7%	86.7%
Relative trueness	$RT = \frac{(PA+NA)}{N} \times 100\%$	91.7%	88.4%	88.6%	88.4%	88.6%
False positive ratio for the alternative method* FP = PPNA + PPND	$FPR = \frac{(FP)}{NA} \times 100\%$	3.4%	3.6%	3.1%	2.6%	2.6%

With ND = ND + PPND NA = NA + PPNA

3.1.1.6 *Analysis of discordant results*

The negative deviations observed for this extension study are given in **Table 19** and the positive deviations in **Table 20**.

> ***Negative deviations***

- *Protocol 1:*

  Six negative deviations were observed for the categories tested with protocol 1. For theses samples the confirmatory tests of the alternative method concluded to the presence of *Listeria monocytogenes* in the enrichment broth. The detection level of the alternative method was probably not reached in the enrichment broths.

- *Protocol 2:*

  For the categories tested using protocol 2, 11 negative deviations were observed, the presence of *Listeria monocytogenes* was not confirmed in the enrichment broth for 9 samples. The discordant results for these samples could be due to the unpaired study design and the heterogeneity of sampling.

  For five samples the confirmatory tests concluded to the presence of *Listeria monocytogenes* in the enrichment broths. The PCR tests were applied twice, and the second PCR test gave a positive result, the contamination level was probably just at the detection limit of the iQ-Check method.

- *Protocol 3:*

  15 negative deviations were observed for the categories tested with protocol 3. For 9 samples, the presence of *Listeria monocytogenes* was not confirmed in the enrichment broth. This could be due to the unpaired study design.

  For 6 samples, the presence of *Listeria monocytogenes* was confirmed in the enrichment broth, the detection limit of the alternative method was probably not reached in these cases.

- *Protocols 4 and 5:*

  For environmental samples tested for the extension study performed in 2019, seven negative deviations were observed without using the FDRS protocol (Protocol 4) and six using the FDRS (Protocol 5). Sample 5084 was tested twice, and 2 PCR results were observed for Protocol 4 (APF Classic). The contamination level was probably just at the limit of detection of the method. Note that the

presence of *Listeria monocytogenes* was confirmed in the enrichment broth for this sample.

For sample 5085, a positive PCR result with a late Ct value (40.02) was obtained with Protocol 4 (APF Classic) but it was impossible to confirm the presence of *Listeria monocytogenes* in the enrichment broth for this sample.

> *Positive deviations*

- *Protocol1:*

  One positive deviation was observed for a naturally contaminated sample.

- *Protocol2:*

  Twenty-one positive deviations were observed, they concern 2 artificially contaminated samples and 19 naturally contaminated samples.

- *Protocol 3:*

  Twenty positive deviations were observed, they concern 2 artificially contaminated samples and 18 naturally contaminated samples.

- *Protocols 4 and 5:*

  Eight positive deviations were observed whatever the extraction protocol (with or without FDRS) or APF file applied.; all concern naturally contaminated samples.

As requested in the ISO 16140-2 (2016), the samples in negative agreement were tested using the same incubation time as the reference method (subculture of LSB in Fraser broth for 24 h at 37°C before streaking onto selective agar plates); all the results were negative.

Table 19 - Negative deviations

Category	Type	N° Sample	Sample	Inoculated strain	Level of contamination (CFU/sample)	PCR	Confirmation	Agreement	Protocol
Meat products	a	I5	Chicken breast	/	/	-	+	ND	1
Sea food products	a	O44	Salmon tartare	/	/	-	+	ND	1
	b	O57	Smoked salmon	/	/	-	+	ND	1
	c	H2	Salmon paupiette	/	/	-	+	ND	1
Vegetal products	b	135	Grated carrot	/	/	-	+	ND	1
Environmental sample	a	193	Process water 8	/	/	-	+	ND	1
Meat products	a	C5	Ground beef	/	/	-	+	ND	2
	a	N3	Frozen chopped steak	/	/	-	-	ND	2
	b	A9	sausage meat	/	/	-	-	ND	2
	b	T6	Ground beef to cook	/	/	-	-	ND	2
Vegetal products	a	N14	Frozen mushroom	/	/	-	-	ND	2
	b	O2	Pre-cooked potatoes	/	/	-	-	ND	2
	b	137	Wax bean	*L.m* LIS.4.81	2.6	-	-	ND	2
RTE-RTRH	c	N10	Raspberry pie	/	/	-	-	ND	2
	c	37	Apple pie	*L.m 1/2a* LIS.4.7	2.8	-/+(28.49)	+	ND	2
Environmental samples	c	D7	Surface sample	/	/	+ (36.72)	-	PPND	2
	c	G13	Surface sample of salmon production line	/	/	-	-	ND	2
Meat products	a	C5	Ground beef	/	/	-	+	ND	3
	a	N3	Frozen chopped steak	/	/	-	-	ND	3
	b	A9	sausage meat	/	/	-	-	ND	3
	b	T6	Ground beef and pork patty to cook	/	/	-	-	ND	3
Dairy products	a	67	Reblochon raw milk	*L.m* LIS.4.56	1.8	-	+	ND	3
	c	Q15	Brie of Meaux	/	/	-	+	ND	3
Seafoods products	b	A14	Smoked salmon	/	/	-	+	ND	3
Vegetal products	a	N14	Frozen mushroom	/	/	-	-	ND	3
	b	O2	Pre-cooked potatoes	/	/	-	-	ND	3
	c	159	Wax bean	*L.m* LIS.4.81	2.6	-	-	ND	3
RTE-RTRH	c	N10	Raspberry pie	/	/	-	-	ND	3
	c	37	Apple pie	*L.m 1/2a* LIS.4.7	2.8	-	+	ND	3
Environmental samples	a	185	Processed water 4	*L.m 3a* LIS.4.44	3.0	-	+	ND	3
	b	D7	Surface sample	/	/	-	-	ND	3
	b	G13	Surface sample of salmon production line	/	/	-	-	ND	3

Date of analysis	Réf	Product	Artificial contaminations		ISO 11290-1♦	Alternative method: iQ Check™ *Listeria monocytogenes* (Extension study 2020) LSB for 18 h at 30°C																	Type
			Strain	Inoculation level (CFU/sample)		Simplified lysis				FDRS Simplified lysis				Confirmation	Final result Simplified lysis		Final result FDRS Simplified lysis		Agreement Simplified lysis		Agreement FDRS Simplified lysis		
						APF Classic		APF Fast		APF Classic		APF Fast											
						Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Ct FAM	Result		APF Classic	APF Fast	APF Classic	APF Fast	APF Classic P4	APF Fast P4	APF Classic P5	APF Fast P5	
2019	**4686**	**Rinsing water (seafood environment)**	*L.monocytogenes* AOOE035	2,0	+	-	-	-	-	-	-	-	-	/	-	-	-	-	**ND**	**ND**	**ND**	**ND**	a
2019	**5078**	**Sponge (dairy environment)**	*L.monocytogenes* Ad550	2,2	+	-	-	-	-	-	-	-	-	*L.innocua*	-	-	-	-	**ND**	**ND**	**ND**	**ND**	b
2019	**5084**	**Wipe (vegetable environment)**	*L.monocytogenes* Ad2503	2,6	+	-/39,29/ 37,16	-/+/+	-/-/-	-/-/-	40,90	+	39,34	+	*L.monocytogenes*	-	-	+	+	**ND**	**ND**	**PA**	**PA**	b
2019	**4047**	**Residues (seafood environment)**	*L.monocytogenes* A00E008	0,8	+	-	-	-	-	-	-	-	-	/	-	-	-	-	**ND**	**ND**	**ND**	**ND**	c
2019	**4689**	**Residues (seafood environment)**	*L.monocytogenes* AOOE035	2,0	+	-	-	-	-	-	-	-	-	/	-	-	-	-	**ND**	**ND**	**ND**	**ND**	c
2019	**4690**	**Residues (seafood environment)**	*L.monocytogenes* Ad548	1,0	+	-	-	-	-	-	-	-	-	/	-	-	-	-	**ND**	**ND**	**ND**	**ND**	c
2019	**5085**	**Residues (vegetable environment)**	*L.monocytogenes* Ad2503	2,6	+	40,02/-/-	+/-/-	-	-	-	-	-	-	5x(AL/Pal/F)-	-	-	-	-	**PPND**	**ND**	**ND**	**ND**	c

♦ Analyses performed according to the COFRAC accreditation

Table 20 - Positive deviations

Category	Type	N° Sample	Sample	Inoculated strain	Level of contamination (CFU/sample)	PCR	Confirmation	Agreement	Protocol
Meat products	c	A8	Ham	/	/	+ (41.8)	+	PD	1
Meat products	a	O12	Poultry cutlet	/	/	+(24.41)	+	PD	2
	a	173	Cooked and derinded ham high quality	*L.m 1/2a* LIS.4.26	2.4	+ (21.74)	+	PD	2
	b	B6	Fired pork	/	/	+ (26.36)	+	PD	2
	b	N1	Chipolata	/	/	+ (34.80	+	PD	2
	b	O4	Merguez	/	/	+ (27.84)	+	PD	2
	b	O15	Veal sausages	/	/	+ (27.76)	+	PD	2
	b	O17	Chicken wings marinated with curry	/	/	+ (21.24)	+	PD	2
	c	M7	Smoked ham	/	/	+ (27.55)	+	PD	2
	c	M13	Chorizo	/	/	+ (34.40)	+	PD	2
	c	N24	Roast veal	/	/	+ (36.01)	+	PD	2
Dairy products	a	63	Comté raw milk	*L.m* LIS.4.56	1.8	+ (28.19)	+	PD	2
	b	E7	Raw milk	/	/	+ (16.11)	+	PD	2
	c	B3	Reblochon	/	/	+ (25.03)	+	PD	2
	c	N18	NeufChâtel	/	/	+ (22,64)	+	PD	2
Seafoods products	a	E3	Herrings	/	/	+ (32.72)	+	PD	2
	b	L8	Smoked salmon	/	/	+ (25.20)	+	PD	2
	b	R20	Smoked salmon of Norway	/	/	+ (38.50)	+	PD	2
	b	S5	Smoked haddock	/	/	+ (27.26)	+	PD	2
RTE-RTRH	b	S10	Tomato-cups ready to be cooked	/	/	+ (24.92)	+	PD	2
	b	R16	"Crépinette" with white wine	/	/	+(26.62)	+	PD	2
	b	B13	Fried potatoes	/	/	+(26.09)	+	PD	2
Meat products	a	O12	Poultry cutlet	/	/	+ (30.12)	+	PD	3
	a	173	Cooked and derinded ham high quality	*L.m 1/2a* LIS.4.26	2.4	+ (26.18)	+	PD	3
	b	B6	Fired pork	/	/	+ (32.85)	+	PD	3
	b	N1	Chipolata	/	/	+ (38.55)	+	PD	3
	b	O4	Merguez	/	/	+ (35.32	+	PD	3
	b	O15	Veal sausages	/	/	+ (32.89)	+	PD	3
	b	O17	Chicken wings marinated with curry	/	/	+ (25.29)	+	PD	3
	c	M7	Smoked ham	/	/	+ (31.34)	+	PD	3
	c	M13	Chorizo	/	/	+ (36.58)	+	PD	3
Dairy products	a	63	Comté raw milk	*L.m* LIS.4.56	1.8	+ (26.30)	+	PD	3
	b	E7	Raw milk	/	/	+ (20.33)	+	PD	3
	c	B3	Reblochon	/	/	+ (37.14)	+	PD	3
	c	N18	NeufChâtel	/	/	+ (24.92)	+	PD	3
Sea foods products	a	E3	Herrings	/	/	+ (37.20)	+	PD	3
	b	L8	Smoked salmon	/	/	+ (24.68)	+	PD	3
	b	R20	Smoked salmon of Norway	/	/	+ (45.12)	+	PD	3
	b	S5	Smoked haddock	/	/	+ (27.61)	+	PD	3
RTE-RTRH	b	S10	Tomato-cups ready to be cooked	/	/	+ (28.68)	+	PD	3
	b	R16	"Crépinette" with white wine	/	/	+ (30.47)	+	PD	3
	b	B13	Fried potatoes	/	/	+ (30.36)	+	PD	3

Date of analysis	Réf	Product	Artificial contaminations		ISO 11290-1♦	Alternative method: iQ Check™ *Listeria monocytogenes* (Extension study 2020																	Type
						LSB for 18 h at 30°C																	
			Strain	Inoculation level (CFU/sample		Simplified lysis				FDRS Simplified lysi				Confirmation	Final result Simplified lysis		Final result FDRS Simplified lysis		Agreement Simplified lysis		Agreement FDRS Simplified lysis		
						APF Classic		APF Fast		APF Classic		APF Fast											
				Mean		Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Ct FAM	Result		APF Classic	APF Fast	APF Classic	APF Fast	APF Classic P4	APF Fast P4	APF Classic P5	APF Fast P5	
2019	**4684**	**Rinsing water (seafood environment)**	*L. monocytogenes* Ad548	1,0	-	35,12	+	35,60	+	35,60	+	35,99	+	*L.monocytogenes/ L.innocua L.innocua*	+	+	+	+	**PD**	**PD**	**PD**	**PD**	a
2019	**5081**	**Rinsing water (dairy environment)**	*L. monocytogenes* Ad550	0,2	-	33,08	+	33,30	+	33,35	+	32,96	+	*L.monocytogenes/L.innocua L.innocua*	+	+	+	+	**PD**	**PD**	**PD**	**PD**	a
2019	**5077**	**Sponge (dairy environment)**	*L. monocytogenes* Ad550	0,2	-	32,19	+	32,08	+	32,29	+	32,23	+	*L.monocytogenes/L.innocua L.innocua*	+	+	+	+	**PD**	**PD**	**PD**	**PD**	b
2019	**5087**	**Sponge (poultry environment)**	*L. monocytogenes* Ad1272	0,2	-	31,06	+	30,93	+	30,78	+	30,68	+	*L.monocytogenes*	+	+	+	+	**PD**	**PD**	**PD**	**PD**	b
2019	**5089**	**Wipe (meat environment)**	*L. monocytogenes* Ad1272	1,4	-	30,56	+	30,33	+	30,02	+	29,91	+	*L.monocytogenes*	+	+	+	+	**PD**	**PD**	**PD**	**PD**	b
2019	**4046**	**Residues (seafood environment)**	*L. monocytogenes* A00E008	0,8	-	41,57	+	42,61	+	37,68	+	36,71	+	*L.monocytogenes*	+	-	+	+	**PD**	**PD**	**PD**	**PD**	c
2019	**4050**	**Residues (dairy environment)**	*L. monocytogenes* Ad627	1,6	-	32,32	+	33,38	+	32,26	+	33,37	+	*L.monocytogenes*	+	+	+	+	**PD**	**PD**	**PD**	**PD**	c
2019	**4051**	**Residues (dairy environment)**	*L. monocytogenes* Ad627	1,6	-	37,51	+	38,14	+	36,24	+	39,36	+	*L.monocytogenes/ L.innocua*	+	+	+	+	**PD**	**PD**	**PD**	**PD**	c

The analyses of discordant results according to the EN ISO 16140-2:2016 is the following (See **Tables 21** to **23**):

Table 21 - Analyses of discordant results – Results associated to Protocol 1

Category		Type		Protocol	APF	PA	ND*	PPND	PD	PAIRED N+	PAIRED (ND+PPND) -PD	PAIRED AL	PAIRED (ND+PPND) +PD	PAIRED AL	UNPAIRED N+	UNPAIRED (ND+PPND) -PD	UNPAIRED AL	COMBINED N+	COMBINED (ND+PPND) -PD	COMBINED AL
1	Meat products	a	Raw products (including deep-frozen, fresh, seasoned)	Protocol 1	Classic	9	1	0	0	10	1		1					10	1	
		b	RTE and processed meat products	Protocol 1	Classic	7	0	0	0	7	0		0					7	0	
		c	Fermented or dried meats products (raw and cooked)	Protocol 1	Classic	13	0	0	1	14	-1		1					14	-1	
		Total				**29**	**1**	**0**	**1**	**31**	**0**	**3**	**2**	**6**				**31**	**0**	**3**
2	Dairy products	a	Raw milk cheese	Protocol 1	Classic	9	0	0	0	9	0		0					9	0	
		b	Other raw milk products	Protocol 1	Classic	13	0	0	0	13	0		0					13	0	
		c	Heat processed milk and dairy products	Protocol 1	Classic	12	0	0	0	12	0		0					12	0	
		Total				**34**	**0**	**0**	**0**	**34**	**0**	**3**	**0**	**6**				**34**	**0**	**3**
3	Seafood products	a	Raw products	Protocol 1	Classic	9	1	0	0	10	1		1					10	1	
		b	Smoked, marinated products	Protocol 1	Classic	14	1	0	0	15	1		1					15	1	
		c	Processed products	Protocol 1	Classic	10	1	0	0	11	1		1					11	1	
		Total				**33**	**3**	**0**	**0**	**36**	**3**	**3**	**3**	**6**				**36**	**3**	**3**
4	Vegetal products	a	Raw vegetal products	Protocol 1	Classic	12	0	0	0	12	0		0					12	0	
		b	RTE and RTC raw vegetal products, precooked vegetal products	Protocol 1	Classic	12	1	0	0	13	1		1					13	1	
		c	Processed vegetal products	Protocol 1	Classic	11	0	0	0	11	0		0					11	0	
		Total				**35**	**1**	**0**	**0**	**36**	**1**	**3**	**1**	**6**				**36**	**1**	**3**
5	RTE-RTRH	a	RTE foods	Protocol 1	Classic	11	0	0	0	11	0		0					11	0	
		b	RTRH foods	Protocol 1	Classic	11	0	0	0	11	0		0					11	0	
		c	Pastries, egg products	Protocol 1	Classic	12	0	0	0	12	0		0					12	0	
		Total				**34**	**0**	**0**	**0**	**34**	**0**	**3**	**0**	**6**				**34**	**0**	**3**
6	Environmental samples	a	Process waters	Protocol 1	Classic	9	1	0	0	10	1		1					10	1	
		b	Surface sample	Protocol 1	Classic	15	0	0	0	14	0		0					14	0	
		c	Dusts and residues	Protocol 1	Classic	7	0	0	0	7	0		0					7	0	
		Total				**31**	**1**	**0**	**0**	**31**	**1**	**3**	**1**	**6**				**31**	**1**	**3**
		a	Process waters	Protocol 4	Classic	8	1	0	2						11	-1		11	-1	
		b	Surface sample	Protocol 4	Classic	5	2	0	3						10	-1		10	-1	
		c	Dusts and residues	Protocol 4	Classic	2	3	1	3						9	1		9	1	
		Total				**15**	**6**	**1**	**8**						**30**	**-1**	**3**	**30**	**-1**	**3**
		a	Process waters	Protocol 5	Classic	8	1	0	2						11	-1		11	-1	
		b	Surface sample	Protocol 5	Classic	6	1	0	3						10	-2		10	-2	
		c	Dusts and residues	Protocol 5	Classic	2	4	0	3						9	1		9	1	
		Total				**16**	**6**	**0**	**8**						**30**	**-2**	**3**	**30**	**-2**	**3**
		a	Process waters	Protocol 4	Fast	8	1	0	2						11	-1		11	-1	
		b	Surface sample	Protocol 4	Fast	5	2	0	3						10	-1		10	-1	
		c	Dusts and residues	Protocol 4	Fast	2	4	0	3						9	1		9	1	
		Total				**15**	**7**	**0**	**8**						**30**	**-1**	**3**	**30**	**-1**	**3**
		a	Process waters	Protocol 5	Fast	8	1	0	2						11	-1		11	-1	
		b	Surface sample	Protocol 5	Fast	6	1	0	3						10	-2		10	-2	
		c	Dusts and residues	Protocol 5	Fast	2	4	0	3						9	1		9	1	
		Total				**16**	**6**	**0**	**8**						**30**	**-2**	**3**	**30**	**-2**	**3**
All categories		**A1: Protocol 1 APF Classic**				**196**	**6**	**0**	**1**	**203**	**5**	**6**	**7**	**16**	**0**	**/**	**/**	**203**	**5**	**6**
		B1: Protocol 1 + Protocol 4- APF Classic				**180**	**11**	**1**	**9**	**171**	**4**	**6**	**6**	**16**	**30**	**-1**	**3**	**201**	**3**	**6**
		C1: Protocol 1 + Protocol 5-APF Classic				**181**	**11**	**0**	**9**	**171**	**4**	**6**	**6**	**16**	**30**	**-2**	**3**	**201**	**2**	**6**
		D1: Protocol 1 + Protocol 4- APF Fast				**180**	**11**	**0**	**9**	**171**	**4**	**6**	**6**	**16**	**30**	**-1**	**3**	**201**	**3**	**6**
		E1: Protocol 1 + Protocol 5-APF Fast				**181**	**11**	**0**	**9**	**171**	**4**	**6**	**6**	**16**	**30**	**-2**	**3**	**201**	**2**	**6**

* PPND not included

Table 22 - Analyses of discordant results – Results associated to Protocol 2

Category		Type		Protocol	APF	PA	ND*	PPND	PD	UNPAIRED N+	UNPAIRED (ND+PPND)-PD	UNPAIRED AL
1	Meat products	a	Raw products (including deep-frozen, fresh, seasoned)	Protocol 2	Classic	10	2	0	1	13	1	
		b	RTE and processed meat products	Protocol 2	Classic	11	2	0	5	18	-3	
		c	Fermented or dried meats products (raw and cooked)	Protocol 2	Classic	6	0	0	4	10	-4	
		Total				**27**	**4**	**0**	**10**	**41**	**-6**	**3**
2	Dairy products	a	Raw milk cheese	Protocol 2	Classic	11	0	0	1	12	-1	
		b	Other raw milk products	Protocol 2	Classic	12	0	0	1	13	-1	
		c	Heat processed milk and dairy products	Protocol 2	Classic	13	0	0	2	15	-2	
		Total				**36**	**0**	**0**	**4**	**40**	**-4**	**3**
3	Seafood products	a	Raw products	Protocol 2	Classic	9	0	0	1	10	-1	
		b	Smoked, marinated products	Protocol 2	Classic	9	0	0	3	12	-3	
		c	Processed products	Protocol 2	Classic	11	0	0	0	11	0	
		Total				**29**	**0**	**0**	**4**	**33**	**-4**	**3**
4	Vegetal products	a	Raw vegetal products	Protocol 2	Classic	11	1	0	0	12	1	
		b	RTE and RTC raw vegetal products, precooked vegetal products	Protocol 2	Classic	10	1	0	0	11	1	
		c	Processed vegetal products	Protocol 2	Classic	9	1	0	0	10	1	
		Total				**30**	**3**	**0**	**0**	**33**	**3**	**3**
5	RTE-RTRH	a	RTE foods	Protocol 2	Classic	12	0	0	0	12	0	
		b	RTRH foods	Protocol 2	Classic	8	0	0	3	11	-3	
		c	Pastries, egg products	Protocol 2	Classic	9	2	0	0	11	2	
		Total				**29**	**2**	**0**	**3**	**34**	**-1**	**3**
6	Environmental samples	a	Process waters	Protocol 2	Classic	10	0	0	0	10	0	
		b	Surface sample	Protocol 2	Classic	17	1	1	0	19	2	
		c	Dusts and residues	Protocol 2	Classic	10	0	0	0	10	0	
		Total				**37**	**1**	**1**	**0**	**39**	**2**	**3**
		a	Process waters	Protocol 4	Classic	8	1	0	2	11	-1	
		b	Surface sample	Protocol 4	Classic	5	2	0	3	10	-1	
		c	Dusts and residues	Protocol 4	Classic	2	3	1	3	9	1	
		Total				**15**	**6**	**1**	**8**	**30**	**-1**	**3**
		a	Process waters	Protocol 5	Classic	8	1	0	2	11	-1	
		b	Surface sample	Protocol 5	Classic	6	1	0	3	10	-2	
		c	Dusts and residues	Protocol 5	Classic	2	4	0	3	9	1	
		Total				**16**	**6**	**0**	**8**	**30**	**-2**	**3**
		a	Process waters	Protocol 4	Fast	8	1	0	2	11	-1	
		b	Surface sample	Protocol 4	Fast	5	2	0	3	10	-1	
		c	Dusts and residues	Protocol 4	Fast	2	4	0	3	9	1	
		Total				**15**	**7**	**0**	**8**	**30**	**-1**	**3**
		a	Process waters	Protocol 5	Fast	8	1	0	2	11	-1	
		b	Surface sample	Protocol 5	Fast	6	1	0	3	10	-2	
		c	Dusts and residues	Protocol 5	Fast	2	4	0	3	9	1	
		Total				**16**	**6**	**0**	**8**	**30**	**-2**	**3**
All categories		**A2: Protocol 2 APF Classic**				**188**	**10**	**1**	**21**	**220**	**-10**	**6**
		B2: Protocol 2 + Protocol 4- APF Classic				**166**	**15**	**1**	**29**	**211**	**-13**	**6**
		C2: Protocol 2 + Protocol 5-APF Classic				**167**	**15**	**0**	**29**	**211**	**-14**	**6**
		D2: Protocol 2 + Protocol 4- APF Fast				**166**	**16**	**0**	**29**	**211**	**-13**	**6**
		E2: Protocol 2 + Protocol 5-APF Fast				**167**	**15**	**0**	**29**	**211**	**-14**	**6**

* PPND not included

Table 23 - Analyses of discordant results – Results associated to Protocol 3

Category		Type		Protocol	APF	PA	ND*	PPND	PD	UNPAIRED N+	UNPAIRED (ND+PPND)-PD	UNPAIRED AL
1	Meat products	a	Raw products (including deep-frozen, fresh, seasoned)	Protocol 3	Classic	10	2	0	2	14	0	
		b	RTE and processed meat products	Protocol 3	Classic	11	2	0	5	18	-3	
		c	Fermented or dried meats products (raw and cooked)	Protocol 3	Classic	6	0	0	2	9	-3	
		Total				**27**	**4**	**0**	**9**	**40**	**-5**	**3**
2	Dairy products	a	Raw milk cheese	Protocol 3	Classic	10	1	0	1	12	0	
		b	Other raw milk products	Protocol 3	Classic	12	0	0	1	13	-1	
		c	Heat processed milk and dairy products	Protocol 3	Classic	12	1	0	2	15	-1	
		Total				**34**	**2**	**0**	**4**	**40**	**-2**	**3**
3	Seafood products	a	Raw products	Protocol 3	Classic	9	0	0	1	10	-1	
		b	Smoked, marinated products	Protocol 3	Classic	8	1	0	3	12	-2	
		c	Processed products	Protocol 3	Classic	11	0	0	0	11	0	
		Total				**28**	**1**	**0**	**4**	**33**	**-3**	**3**
4	Vegetal products	a	Raw vegetal products	Protocol 3	Classic	11	1	0	0	12	1	
		b	RTE and RTC raw vegetal products, precooked vegetal products	Protocol 3	Classic	9	1	0	0	10	1	
		c	Processed vegetal products	Protocol 3	Classic	10	1	0	0	11	1	
		Total				**30**	**3**	**0**	**0**	**33**	**3**	**3**
5	RTE-RTRH	a	RTE foods	Protocol 3	Classic	11	1	0	0	12	1	
		b	RTRH foods	Protocol 3	Classic	8	0	0	3	11	-3	
		c	Pastries, egg products	Protocol 3	Classic	10	1	0	0	11	1	
		Total				**29**	**2**	**0**	**3**	**34**	**-1**	**3**
6	Environmental samples	a	Process waters	Protocol 3	Classic	9	1	0	1	10	1	
		b	Surface sample	Protocol 3	Classic	17	2	0	2	19	2	
		c	Dusts and residues	Protocol 3	Classic	10	0	0	0	10	0	
		Total				**36**	**3**	**0**	**3**	**39**	**3**	**3**
		a	Process waters	Protocol 4	Classic	8	1	0	2	11	-1	
		b	Surface sample	Protocol 4	Classic	5	2	0	3	10	-1	
		c	Dusts and residues	Protocol 4	Classic	2	3	1	3	9	1	
		Total				**15**	**6**	**1**	**8**	**30**	**-1**	**3**
		a	Process waters	Protocol 5	Classic	8	1	0	2	11	-1	
		b	Surface sample	Protocol 5	Classic	6	1	0	3	10	-2	
		c	Dusts and residues	Protocol 5	Classic	2	4	0	3	9	1	
		Total				**16**	**6**	**0**	**8**	**30**	**-2**	**3**
		a	Process waters	Protocol 4	Fast	8	1	0	2	11	-1	
		b	Surface sample	Protocol 4	Fast	5	2	0	3	10	-1	
		c	Dusts and residues	Protocol 4	Fast	2	4	0	3	9	1	
		Total				**15**	**7**	**0**	**8**	**30**	**-1**	**3**
		a	Process waters	Protocol 5	Fast	8	1	0	2	11	-1	
		b	Surface sample	Protocol 5	Fast	6	1	0	3	10	-2	
		c	Dusts and residues	Protocol 5	Fast	2	4	0	3	9	1	
		Total				**16**	**6**	**0**	**8**	**30**	**-2**	**3**
All categories		**A3: Protocol 3 APF Classic**				**184**	**12**	**0**	**20**	**216**	**-5**	**6**
		B3: Protocol 3 + Protocol 4- APF Classic				**163**	**18**	**1**	**28**	**210**	**-9**	**6**
		C3: Protocol 3 + Protocol 5-APF Classic				**164**	**18**	**0**	**28**	**210**	**-10**	**6**
		D3: Protocol 3 + Protocol 4- APF Fast				**163**	**19**	**0**	**28**	**210**	**-9**	**6**
		E3: Protocol 3 + Protocol 5-APF Fast				**164**	**18**	**0**	**28**	**210**	**-10**	**6**

* PPND not included

The observed values for ((ND+PPND) – PD) and ND+PPND + PD meet the acceptability limit for each individual category and for all the combined categories (calculated values ≤ AL) for all the protocols tested.

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

The enrichment broth storage has been tested only for Protocols 2, 3, 4 and 5. Four changes were observed (See **Table 24**).

The analyses of discordant become (See **Tables 25** and **26**).

Table 24 - Enrichment broth storage

Date of analysis	Sample N°	Product	Agreement before storage					Agreement after storage					Category	Type
			Protocol 2 Standard II lysis	**Protocol 4** Easy II lysis		**Protocol 5** FDRS + Easy II lysis		**Protocol 2** Standard II lysis	**Protocol 4** Easy II lysis		**Protocol 5** FDRS + Easy II lysis			
			APF Classic	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Classic	APF Fast	APF Classic	APF Fast		
2006	**N24**	**Roast veal**	/	**NA**	/	/	/		**PD**	/	/	/	1	c
2006	**O24**	**Raw milk cheese**	**PA**	/	/	/	/	**ND**	/	/	/	/	2	c
2006	**A14**	**Smoked salmon**	**PA**	/	/	/	/	**ND**	/	/	/	/	3	b
2019	**5084**	**Wipe**	/	**ND**	**ND**	**PA**	**PA**	/	**PA**	**PA**	**PA**	**PA**	6	b

Table 25 - Analysis of discordant after storage 72 h at 5 ± 3°C – Results associated to Protocol 2

Category		Type		Protocol	APF	ND*	PPND	PD	UNPAIRED (ND+PPND)-PD	AL
1	Meat products	a	Raw products (including deep-frozen, fresh, seasoned)	Protocol 2	Classic	2	0	2	0	
		b	RTE and processed meat products	Protocol 2	Classic	2	0	5	-3	
		c	Fermented or dried meats products (raw and cooked)	Protocol 2	Classic	0	0	3	-3	
		Total				**4**	**0**	**10**	**-6**	**3**
2	Dairy products	a	Raw milk cheese	Protocol 2	Classic	0	0	1	-1	
		b	Other raw milk products	Protocol 2	Classic	0	0	1	-1	
		c	Heat processed milk and dairy products	Protocol 2	Classic	1	0	2	-1	
		Total				**2**	**0**	**4**	**-3**	**3**
3	Seafood products	a	Raw products	Protocol 2	Classic	0	0	1	-1	
		b	Smoked, marinated products	Protocol 2	Classic	1	0	3	-2	
		c	Processed products	Protocol 2	Classic	0	0	0	0	
		Total				**2**	**/**	**4**	**-3**	**3**
4	Vegetal products	a	Raw vegetal products	Protocol 2	Classic	1	0	0	1	
		b	RTE and RTC raw vegetal products, precooked vegetal products	Protocol 2	Classic	1	0	0	1	
		c	Processed vegetal products	Protocol 2	Classic	1	0	0	1	
		Total				**3**	**/**	**0**	**3**	**3**
5	RTE-RTRH	a	RTE foods	Protocol 2	Classic	0	0	0	0	
		b	RTRH foods	Protocol 2	Classic	0	0	3	-3	
		c	Pastries, egg products	Protocol 2	Classic	2	0	0	2	
		Total				**2**	**0**	**3**	**-1**	**3**
6	Environmental samples	a	Process waters	Protocol 2	Classic	0	0	0	0	
		b	Surface sample	Protocol 2	Classic	2	0	0	2	
		c	Dusts and residues	Protocol 2	Classic	0	0	0	0	
		Total				**2**	**0**	**0**	**2**	**3**
		a	Process waters2	Protocol 4	Classic	1	0	2	-1	
		b	Surface sample	Protocol 4	Classic	1	0	3	-2	
		c	Dusts and residues	Protocol 4	Classic	4	0	3	1	
		Total				**6**	**0**	**8**	**-2**	**3**
		a	Process waters	Protocol 5	Classic	1	0	2	-1	
		b	Surface sample	Protocol 5	Classic	0	1	3	-2	
		c	Dusts and residues	Protocol 5	Classic	4	0	3	1	
		Total				**5**	**1**	**8**	**-2**	**3**
		a	Process waters	Protocol 4	Fast	1	0	2	-1	
		b	Surface sample	Protocol 4	Fast	1	0	3	-2	
		c	Dusts and residues	Protocol 4	Fast	4	0	3	1	
		Total				**6**	**0**	**8**	**-2**	**3**
		a	Process waters	1Protocol 5	Fast	21	0	2	-1	
		b	Surface sample	1Protocol 5	Fast	1	0	3	-2	
		c	Dusts and residues	4Protocol 5	Fast	4	0	3	1	
		Total				**6**	**0**	**8**	**-2**	**3**
All categories		**A2: Protocol 2 - APF Classic**				**13**	**0**	**21**	**-8**	**6**
		B2: Protocol 2 + Protocol 4 - APF Classic				**17**	**0**	**29**	**-12**	**6**
		C2: Protocol 2 + Protocol 5 - APF Classic				**16**	**1**	**29**	**-12**	**6**
		D2: Protocol 2 + Protocol 4 - APF Fast				**17**	**0**	**29**	**-12**	**6**
		E2: Protocol 2 + Protocol 5 - APF Fast				**17**	**0**	**29**	**-12**	**6**

* PPND not included

Table 26 - Analysis of discordant after storage 72 h at 5 ± 3°C – Results associated to Protocol 3

Category		Type		Protocol	APF	ND*	PPND	PD	UNPAIRED (ND+PPND)-PD	AL
1	Meat products	a	Raw products (including deep-frozen, fresh, seasoned)	Protocol 3	Classic	2	0	2	0	
		b	RTE and processed meat products	Protocol 3	Classic	2	0	5	-3	
		c	Fermented or dried meats products (raw and cooked)	Protocol 3	Classic	0	0	3	-3	
		Total				**4**	**0**	**10**	**-6**	**3**
2	Dairy products	a	Raw milk cheese	Protocol 3	Classic	0	0	1	-1	
		b	Other raw milk products	Protocol 3	Classic	0	0	1	-1	
		c	Heat processed milk and dairy products	Protocol 3	Classic	1	0	2	-1	
		Total				**3**	**0**	**4**	**-3**	**3**
3	Seafood products	a	Raw products	Protocol 3	Classic	0	0	1	-1	
		b	Smoked, marinated products	Protocol 3	Classic	1	0	3	-2	
		c	Processed products	Protocol 3	Classic	0	0	0	0	
		Total				**3**	**0**	**4**	**-3**	**3**
4	Vegetal products	a	Raw vegetal products	Protocol 3	Classic	1	0	0	1	
		b	RTE and RTC raw vegetal products, precooked vegetal products	Protocol 3	Classic	1	0	0	1	
		c	Processed vegetal products	Protocol 3	Classic	1	0	0	1	
		Total				**3**	**0**	**0**	**3**	**3**
5	RTE-RTRH	a	RTE foods	Protocol 3	Classic	0	0	0	0	
		b	RTRH foods	Protocol 3	Classic	0	0	3	-3	
		c	Pastries, egg products	Protocol 3	Classic	2	0	0	2	
		Total				**2**	**0**	**3**	**-1**	**3**
6	Environmental samples	a	Process waters	Protocol 3	Classic	1	0	0	1	
		b	Surface sample	Protocol 3	Classic	2	0	0	2	
		c	Dusts and residues	Protocol 3	Classic	0	0	0	0	
		Total				**3**	**0**	**0**	**3**	**3**
		a	Process waters	Protocol 4	Classic	1	0	2	-1	
		b	Surface sample	Protocol 4	Classic	1	0	3	-2	
		c	Dusts and residues	Protocol 4	Classic	4	0	3	1	
		Total				**6**	**0**	**8**	**-2**	**3**
		a	Process waters	Protocol 5	Classic	1	0	2	-1	
		b	Surface sample	Protocol 5	Classic	0	1	3	-2	
		c	Dusts and residues	Protocol 5	Classic	4	0	3	1	
		Total				**5**	**1**	**8**	**-2**	**3**
		a	Process waters	Protocol 4	Fast	1	0	2	-1	
		b	Surface sample	Protocol 4	Fast	1	0	3	-2	
		c	Dusts and residues	Protocol 4	Fast	4	0	3	1	
		Total				**6**	**0**	**8**	**-2**	**3**
		a	Process waters	Protocol 5	Fast	1	0	2	-1	
		b	Surface sample	Protocol 5	Fast	1	0	3	-2	
		c	Dusts and residues	Protocol 5	Fast	4	0	3	1	
		Total				**6**	**0**	**8**	**-2**	**3**
All categories		**A3: Protocol 3 - APF Classic**				**14**	**0**	**21**	**-7**	**6**
		B3: Protocol 3 + Protocol 4 - APF Classic				**17**	**0**	**29**	**-12**	**6**
		C3: Protocol 3 + Protocol 5 - APF Classic				**16**	**1**	**29**	**-12**	**6**
		D3: Protocol 3 + Protocol 4 - APF Fast				**17**	**0**	**29**	**-12**	**6**
		E3: Protocol 3 + Protocol 5 - APF Fast				**17**	**0**	**29**	**-12**	**6**

* PPND not included

The observed values for ND - PD and ND + PD meet the acceptability limit for each individual category and for all the combined categories (calculated values ≤ AL) for all the protocols tested.

3.1.1.8 *Confirmation*

Four selective agar plates were tested for the extension study: AL, Palcam, RAPID'*L.mono* and RAPID'*Listeria* spp. When the presence of *Listeria monocytogenes* was confirmed in the enrichment broth, typical colonies were present on the four plates except in one case: for sample 5579, no typical colony was observed on RAPID.

It was impossible to confirm the presence of *Listeria monocytogenes* in the enrichment broth after incubation time for two samples (5079, 5085) and for 3 samples after enrichment broth storage (4052, 4060, 5078) even if 5 Fraser broths, 5 AL and 5 Palcam were tested.

3.1.1.9 *PCR inhibition*

For protocol 1, 425 DNA extracts were tested, two inhibitions were observed, they are listed in **Table 27**.

Table 27 - PCR inhibitions and invalid results (Protocol 1)

RM : reference method
RLM: RAPID'*L.mono*
AM: alternative method
AL: Agar Listeria

SN	Time	Sample	RM	AM: iQ-Check Half Fraser - Standard II lysis								Agreement RM/AM
			Final result	iQ-check			Conf a	Conf b			Final result	
				Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identif.		
117	T0	Plums red	+	36,44 34,39	N/A- 23,74	IV +**	2h+Ø	4h-Ø	2h+Ø	*L.m*	+	PA
135	T0	Grated carrot	+	33,67 33,82 34,15	N/A N/A N/A	IV IV -**	2h+L	4h-L	2h+L	*L.m*	-	ND

Manipulation applied	Number of PCR results obtained after analysis
* Dilution 1/10	0
** Retest without dilution	2

For protocol 2, 422 DNA extracts were tested, four inhibitions were observed, they are listed in **Table 28**.

Table 28 - PCR inhibitions and invalid results (Protocol 2)

RM : reference method
RLM: RAPID'*L.mono*
AM: alternative method
AL: Agar Listeria

SN	Time	Sample	RM	AM: iQ-Check Half Fraser - Standard II ysis								Agree-ment RM/AM
			Final result	iQ-check			Conf a	Conf b			Final result	
				Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identif.		
57	T0	Neuf châtel raw milk	+	N/A 37,8	N/A-18,97	IH +*	4h+Ø	4h+ Ø	4h+ Ø	L.m	+	PA
59	T0	Camembert of normandie raw milk	+	N/A-37,77	N/A-23,48	IH +*	4h+Ø	3h+ M	4h+ Ø	L.m	+	PA
67	T0	Morbier raw milk	+	34,53-37,25	N/A-20,27	IV +**	3h+L	3h+ L	3h+ L	L.m	+	PA
85	T72h	Raw milk	+	N/A-32,41	N/A-21,58	IH +*	3h+L	3h+ L	3h+ L	L.m	+	PA

Manipulation applied	Number of PCR results obtained after analysis
* Dilution 1/10	3
** Retest without dilution	1

For protocol 3, 422 DNA extracts were tested, two inhibitions were observed, they are listed in **Table 29**.

Table 29 - PCR inhibitions and invalid results (Protocol 3)

RM : reference method
RLM: RAPID'*L.mono*
AM: alternative method
AL: Agar Listeria

SN	Time	Sample	RM	AM: iQ-Check Half Fraser - Standard II lysis								Agree-ment RM/AM
			Final result	iQ-Check			Conf a	Conf b			Final result	
				Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identif.		
59	T0	Camembert of Normandie raw milk	+	N/A-32,99	N/A-21,52	IH +*	4h+Ø	3h+M	4h+Ø	L.m	+	PA
49	T0	Savarin with rum and pastry cream	+	36,79/33,56	N/A/24,99	IV +**	3h+Ø	3h+Ø	3h+Ø	L.m	+	PA
59	T72h	Camembert of Normandie raw milk	+	N/A-31,09	N/A-18,12	IH +*	4h+Ø	3h+L	4h+Ø	L.m	+	PA

Manipulation applied	Number of PCR results obtained after analysis
* Dilution 1/10	2
** Retest without dilution	1

For protocols 4 and 5, no inhibition was observed among the 424 lysates tested.

3.1.2 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.

3.1.2.1 Experimental design

Seven (matrix/strain) pair were analyzed by the reference method and by the alternative method (See **Table 30**).

Table 30 - Defined matrix/strain pair for the RLOD determination

Category	Type	Strain	Origin	Inoculation protocol prior analysis	Analysis protocol
Meat products	Ground beef (15 % of fat)	*Listeria monocytogenes* 1/2a LIS.4.26	Ham	/	P1 P2 P3
Dairy products	Raw milk	*Listeria monocytogenes* 1/2b LIS.4.32	Raw milk	/	
Sea food products	Cod filet	*Listeria monocytogenes* 1/2a LIS.4.32	Fish with lemon sauce and rice	/	
Vegetable products	Salad	*Listeria monocytogenes* 1/2c LIS.4.35	Chef sandwich salad	/	
RTE-RTRH	Pasta salad	*Listeria monocytogenes* 3a LIS.4.29	Goat cheese sandwich	/	
Environmental samples	Process water	*Listeria monocytogenes* 4b LIS.4.30	Surface control on salmon	/	
Environmental samples	Process water	*Listeria monocytogenes* Ad2503	Vegetable industry	Seeding for 48 h at 3°C ± 2°C	P4 P5

The following protocol was applied:

- 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 the matrix was performed to estimate the total microbial load on the day of analysis.

The analyses were performed with and without applying the FDRS protocol and with the two APF (Classic and Fast) for the process water tested in 2019.

3.1.2.2 *Calculation and interpretation of the RLOD*

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 (clause 5-1-4-2 Calculation and interpretation of RLOD) version 15.08.2015. The RLOD are given **Tables 31** to **34**.

Table 31 – Presentation of RLOD before and after confirmation of the alternative method results (Protocol 1)

Sample (Category)	RLOD	RLODL	RLODU	b=ln (RLOD)	sd(b)	z-Test statistic	p-value	Acceptability limit
Ground beef (Meat products)	1.000	0.478	2.092	0.000	0.369	0.000	1.000	RLOD ≤ 1.5
Raw milk (Dairy products)	0.868	0.392	1.926	-0.141	0.398	0.354	1.227	
Cod filet (Sea food products)	1.000	0.457	2.187	0.000	0.391	0.000	1.000	
Salad (Vegetal products)	1.000	0.466	2.145	0.000	0.382	0.000	1.000	
Pasta salad (RTE-RTRH)	1.000	0.478	2.092	0.000	0.369	0.000	1.000	
Processed water (Environmental samples)	1.000	0.457	2.187	0.000	0.391	0.000	1.000	
Combined	**0.977**	**0.702**	**1.360**	**-0.023**	**0.165**	**0.138**	**1.110**	

Table 32 – Presentation of RLOD before and after confirmation of the alternative method results (Protocol 2)

Sample (Category)	RLOD	RLODL	RLODU	b=ln (RLOD)	sd(b)	z-Test statistic	p-value	Acceptability limit
Ground beef (Meat products)	1.000	0.478	2.092	0.000	0.369	0.000	1.000	RLOD ≤ 2.5
Raw milk (Dairy products)	1.508	0.651	3.492	0.411	0.420	0.978	0.328	
Cod filet (Sea food products)	1.148	0.485	2.713	0.138	0.430	0.320	0.749	
Salad (Vegetal products)	1.315	0.563	3.072	0.274	0.424	0.645	0.519	
Pasta salad (RTE-RTRH)	1.151	0.519	2.553	0.141	0.398	0.354	0.723	
Processed water (Environmental samples)	1.322	0.549	3.186	0.279	0.440	0.635	0.526	
Combined	**1.227**	**0.875**	**1.720**	**0.204**	**0.169**	**1.208**	**0.227**	

Table 33 – Presentation of RLOD before and after confirmation of the alternative method results (Protocol 3)

Sample (Category)	RLOD	RLODL	RLODU	b=ln (RLOD)	sd(b)	z-Test statistic	p-value	Acceptability limit
Ground beef (Meat products)	1.000	0.478	2.092	0.000	0.369	0.000	1.000	RLOD ≤ 2.5
Raw milk (Dairy products)	1.508	0.651	3.492	0.411	0.420	0.978	0.328	
Cod filet (Sea food products)	1.148	0.485	2.713	0.138	0.430	0.320	0.749	
Salad (Vegetal products)	1.515	0.636	3.608	0.415	0.434	0.957	0.339	
Pasta salad (RTE-RTRH)	1.151	0.519	2.553	0.141	0.398	0.354	0.723	
Processed water (Environmental samples)	1.322	0.549	3.186	0.279	0.440	0.635	0.526	
Combined	**1.255**	**0.894**	**1.761**	**0.227**	**0.170**	**1.339**	**0.181**	

Table 34 – Presentation of RLOD before and after confirmation of the alternative method results (Protocols 4 and 5)

Name	RLOD	RLODL	RLODU	b=ln(RLOD)	sd(b)	z-Test statistic	p-value	Acceptability limit
Process water / *L. monocytogenes* Ad2503 with or without FDRS (APF Classic)	1,435	0,614	3,349	0,361	0,424	0,851	0,395	RLOD ≤ 2.5
Process water / *L. monocytogenes* Ad2503 with or without FDRS (APF Fast)	1,273	0,556	2,915	0,242	0,414	0,584	0,559	
Combined	**1,351**	**0,747**	**2,442**	**0,301**	**0,296**	**1,015**	**0,310**	

The $LOD_{50\,\%}$ calculations according to Wilrich & Wilrich POD-LOD calculation program - version 11, 2022.10.12 test are given in **Tables 35** to **38**.

Table 35 – Presentation of RLOD before and after confirmation of the alternative method results (Protocol 1)

Category	(Strain / matrix) pair	Level of detection at 50% (CFU / sample size) according to Wilrich & Wilrich[3]	
		Reference method	Alternative method
Meat products	Ground beef / *Listeria monocytogenes* 1/2a LIS.4.26	0,573 [0,341;0,963]	0,573 [0,341;0,963]
Dairy products	Raw milk / *Listeria monocytogenes* 1/2b LIS.4.32	0,507 [0,295;0,870]	0,507 [0,295;0,870]
Seafood products	Cod filet / *Listeria monocytogenes* 1/2a LIS.4.32	0,510 [0,293;0,887]	0,510 [0,293;0,887]
Vegetable products	*Listeria monocytogenes* 1/2c LIS.4.35	0,631 [0,370;1,078]	0,631 [0,370;1,078]
RTE - RTRH	Pasta salad / *Listeria monocytogenes* 3a LIS.4.29	0,396 [0,230;0,681]	0,396 [0,230;0,681]
Environmental products	Processed water / *Listeria monocytogenes* 4b LIS.4.30	0,716 [0,416;1,232]	0,716 [0,416;1,232]
Combined		**0,552 [0,443;0,688]**	**0,552 [0,443;0,688**

[3] Wilrich, C., and P.-Th. Wilrich: Estimation of the POD function and the LOD of a qualitative microbiological measurement method. AOAC International **92** (2009) 1763 - 1772.

Table 36 – Presentation of RLOD before and after confirmation of the alternative method results (Protocol 2)

Category	(Strain / matrix) pair	Level of detection at 50% (CFU / sample size) according to Wilrich & Wilrich	
		Reference method	Alternative method
Meat products	Ground beef / *Listeria monocytogenes* 1/2a LIS.4.26	0,573 [0,341;0,963]	0,573 [0,341;0,963]
Dairy products	Raw milk / *Listeria monocytogenes* 1/2b LIS.4.32	0,507 [0,295;0,870]	0,728 [0,419;1,264]
Seafood products	Cod filet / *Listeria monocytogenes* 1/2a LIS.4.32	0,510 [0,293;0,887]	0,575 [0,3281,006]
Vegetable products	*Listeria monocytogenes* 1/2c LIS.4.35	0,631 [0,370;1,078]	0,798 [0,462;1,375]
RTE - RTRH	Pasta salad / *Listeria monocytogenes* 3a LIS.4.29	0,396 [0,230;0,681]	0,452 [0,263;0,778]
Environmental products	Processed water / *Listeria monocytogenes* 4b LIS.4.30	0,716 [0,416;1,232]	0,902 [0,517;1,574]
Combined		**0,552 [0,443;0,688]**	**0,660 [0,529;0,824]**

Table 37 – Presentation of RLOD before and after confirmation of the alternative method results (Protocol 3)

Category	(Strain / matrix) pair	Level of detection at 50% (CFU / sample size) according to Wilrich & Wilrich	
		Reference method	Alternative method
Meat products	Ground beef / *Listeria monocytogenes* 1/2a LIS.4.26	0,573 [0,341;0,963]	0,573 [0,341;0,963]
Dairy products	Raw milk / *Listeria monocytogenes* 1/2b LIS.4.32	0,507 [0,295;0,870]	0,728 [0,419;1,264]
Seafood products	Cod filet / *Listeria monocytogenes* 1/2a LIS.4.32	0,510 [0,293;0,887]	0,575 [0,3281,006]
Vegetable products	*Listeria monocytogenes* 1/2c LIS.4.35	0,631 [0,370;1,078]	0,798 [0,462;1,375]
RTE - RTRH	Pasta salad / *Listeria monocytogenes* 3a LIS.4.29	0,396 [0,230;0,681]	0,452 [0,263;0,778]
Environmental products	Processed water / *Listeria monocytogenes* 4b LIS.4.30	0,716 [0,416;1,232]	0,902 [0,517;1,574]
Combined		**0,552 [0,443;0,688]**	**0,674 [0,539;0,841]**

Table 38 - LOD_{50} results (Protocols 4 and 5)

Category	(Strain / matrix) pair	Level of detection at 50% (CFU / sample size) according to Wilrich & Wilrich[4]	
		Reference method	Alternative method
6	Process water / *L. monocytogenes* Ad2503 Protocols 4 and 5 (APF Classic)	0.7 [0.5; 1.3]	1.0 [0.6; 1.9]
	Process water / *L. monocytogenes* Ad2503 with or without FDRS (APF Fast)		0.9 [0.5; 1.7]

3.1.2.3 *Conclusion*

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

3.1.3 Inclusivity / exclusivity

The inclusivity is the ability of the alternative method to detect the target analyte from a wide range of strains. The exclusivity is the lack of interference from a relevant range of non-target strains of the alternative method.

3.1.3.1 *Test protocols*

> ***Inclusivity***

For the initial validation study performed in 2005, 50 *Listeria monocytogenes* strains were tested using the protocol 1: inoculation between 10 to 100 CFU/225 ml Half Fraser broth and incubation for 24 h at 30°C. The standard II extraction protocol was applied before performing the PCR test.

In 2019, for the extension study, 50 additional *Listeria monocytogenes* strains were tested. They were inoculated between 10 to 100 CFU/225 ml LSB broth incubated for 18 h at 30°C before applying the iQ-Check protocol including the FDRS step (Protocol 5).

[4] Wilrich, C., and P.-Th. Wilrich: Estimation of the POD function and the LOD of a qualitative microbiological measurement method. AOAC International **92** (2009) 1763 - 1772.

> ***Exclusivity***

33 non-target strains were tested in 2005 (16 *Listeria* spp strains different from *Listeria monocytogenes*, and 17 strains not belonging to *Listeria* genus); they were grown in nutrient broth and then inoculated at 10^5 CFU/ml nutrient broth for the non-*Listeria* strains, inoculated at 10 - 100 CFU/225 ml Half Fraser for the *Listeria* spp. strains.
The Standard II extraction protocol and the PCR assay were then carried out on the broths incubated for 24 h ± 2 h at 30°C ± 1°C.

In 2006, 39 non-target strains were tested (22 non-*Listeria monocytogenes* and 17 non-*Listeria* strains). They were inoculated at 10^5 CFU/ml nutrient broth for 24 h at 30°C. The Easy II extraction protocol and the iQ-Check *Listeria monocytogenes* II were performed.

3.1.3.2 *Results*

> ***Inclusivity***

The 50 *Listeria monocytogenes* strains tested with the protocol 1 gave positive PCR results with the iQ-Check *Listeria monocytogenes* II.
For the extension study, the 50 additional target strains tested with the protocol 5 also gave positive PCR results. All the strains gave typical colonies on AL (Agar Listeria) and Palcam plates. Raw data are given in **Appendix 6**.

One strain (*Listeria monocytogenes* Ad274) gave atypical white colonies on RAPID'*L.mono*. Two strains gave typical colonies on RAPID'*Listeria* spp. only after 48 h incubation time of the plates.

> ***Exclusivity***

The 69 non-target strains tested gave negative PCR tests.
A non-repeatable cross-reaction was observed in the initial validation study (2005) with *Enterococcus faecium* grown in nutrient broth but when the strain was grown in Half Fraser broth a negative PCR result was obtained. The same strain was retested in the extension study (2006), with the Easy II lysis protocol, from a nutrient broth and the result was also negative.

3.1.4 Practicability

The practicability of the alternative method was informed according to the criteria defined by the Technical Committee.

Time to results:
Positive results are obtained in 2 to 7 days (depending on the method of confirmation) with the alternative method against 4 to 7 days with the reference method.
The negative results are obtained in 1 day with the alternative method for 2 to 5 days with the reference method.
In the case of presumed positive results by the alternative method. but negative after confirmation. the negative results are obtained in 2 to 4 days depending on the method of confirmation used.

3.2 Extension study for the use of LSB II medium

3.2.1 Sensitivity

3.2.1.1 *Number and nature of samples*

Combining the three categories tested with LSBII broth, 210 samples were tested providing 93 positive and 117 negative results.

The distribution per tested category and type is given in Table 39.

Table 39 – Distribution per tested category and type

Category		Type		Positive samples	Negative samples	Total
1	Composite foods	a	Ready-to-eat	8	14	22
		b	Ready-to-reheat	13	18	31
		c	Confectionaries, pastries and egg products	10	13	23
			Total	**31**	**45**	**76**
2	Production environmental samples	a	Surfaces samples	10	10	20
		b	Dusts and wastes	10	10	20
		c	Process water	10	10	20
			Total	**30**	**30**	**60**
3	Dairy products	a	Raw milk cheese (cow, ewe, goat)	11	13	24
		b	Other raw milk-based products (raw milk, cream, butter, fermented milk)	10	11	21
		c	Pasteurized milk-based products (pasteurized cheese, ice cream, milk)	11	18	29
			Total	**32**	**42**	**74**
All categories				**93**	**117**	**210**

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°C ± 2°C or with lyophilizated strain and storage 2 weeks at ambient temperature 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 40.

Table 40 - Repartition of positive naturally and artificially contaminated samples per inoculation level

Category	Naturally contaminated	Spiking protocol		Seeding protocol		Total positive samples
		≤ 5 CFU	3 < x ≤ 5,6 CFU	≤ 3 CFU	3 < x ≤ 5,6 CFU	
1	18	0	0	10	3	**31**
2	4	0	0	21	5	**30**
3	7	2	0	23	0	**32**
Number of samples	29	2	0	54	8	**93**
%	**31,2**	**2,2**	**0,0**	**58,1**	**8,6**	**100**

Combining all the categories, 31.2 % of the samples were naturally contaminated.

3.2.1.3 *Protocols applied during the validation study*

> *Enrichment broth incubation time*

The minimum incubation time was evaluated for all studies.
A summary of the protocols evaluated during the extension in 2023 is shown in the table below.

Table 41 – Summary of protocols tested

Validation study	Protocol	Scope	Enrichment step	FDRS	Lysis step	APF[5]
Extension 2023	Protocol 6	Composite foods Environmental samples	LSB II for 18 h at 37°C ± 1°C	Optional	Easy II	Fast
	Protocol 7	Dairy products	Pre-warmed LSB II for 20 h at 37°C ± 1°C	Optional	Easy II	Fast

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

> *Instruments*

Two Real-Time PCR instruments were used: CFX96 Deep Well and CFX Opus Deep Well.

> *Confirmation protocols*

The positive PCR tests were confirmed by:

- Streaking **10 µl** of the enriched LSB II broth onto **O&A (AL)** and **PALCAM** plates incubated for 24 to 48 h at 37°C ± 1°C. The typical colonies were confirmed by the tests described in the ISO method (gram, Beta haemolysis and carbohydrates). 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, RAPID'*Listeria* Agar, and RAPID'*L.mono* Agar incubated for 24 h at 37°C ± 1°C. For RAPID'*L.mono* and Agar *Listeria,* the only presence of typical colonies allows to confirm the positive PCR result.

[5] Application Protocol File

- 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 ± 2 h at 37°C) before streaking onto O&A and PALCAM plates.

> ***Enrichment broth storage for 24 h or 72 h at 5°C ± 3°C***

The enrichment broth (LSBII) from positive and discordant samples were stored for 72 h at 5°C ± 3°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 42** (**CFX 96 DW**- without FDRS), **Table 43** (**CFX 96 DW** - with FDRS), **Table 44** (CFX **Opus DW** - without FDRS), **Table 45** (CFX **Opus DW** - with FDRS).

Table 42 – Interpretation of sample results between the reference and alternative method (based on the confirmed alternative method) - CFX 96 DW- Without FDRS

Category		Type		PA	NA*	PD	ND**	PPND	PPNA	Total
1	Composite foods	a	Ready-to-eat	5	14	0	3	0	0	22
		b	Ready-to-reheat	9	17	4	0	0	1	31
		c	Confectionaries, pastries and egg products	9	13	1	0	0	0	23
			Total	**23**	**44**	**5**	**3**	**0**	**1**	**76**
2	Production environmental samples	a	Surfaces samples	7	10	2	1	0	0	20
		b	Dusts and wastes	8	10	1	1	0	0	20
		c	Process water	6	10	2	2	0	0	20
			Total	**21**	**30**	**5**	**4**	**0**	**0**	**60**
3	Dairy products	a	Raw milk cheese (cow, ewe, goat)	6	14	1	3	0	0	24
		b	Other raw milk-based products (raw milk, cream, butter, fermented milk)	5	11	4	1	0	0	21
		c	Pasteurized milk-based products (pasteurized cheese, ice cream, milk)	2	18	3	6	0	0	29
			Total	**13**	**43**	**8**	**10**	**0**	**0**	**74**
All categories				**57**	**117**	**18**	**17**	**0**	**1**	**210**

* PPNA not included ** PPND not included

Table 43 – Interpretation of sample results between the reference and alternative method (based on the confirmed alternative method) - CFX 96 DW - With FDRS

Category		Type		PA	NA*	PD	ND**	PPND	PPNA	Total
1	Composite foods	a	Ready-to-eat	5	14	0	3	0	0	22
		b	Ready-to-reheat	9	18	4	0	0	0	31
		c	Confectionaries, pastries and egg products	9	13	1	0	0	0	23
			Total	**23**	**45**	**5**	**3**	**0**	**0**	**76**
2	Production environmental samples	a	Surfaces samples	6	10	2	2	0	0	20
		b	Dusts and wastes	8	10	1	1	0	0	20
		c	Process water	6	10	2	2	0	0	20
			Total	**20**	**30**	**5**	**5**	**0**	**0**	**60**
3	Dairy products	a	Raw milk cheese (cow, ewe, goat)	7	13	2	2	0	0	24
		b	Other raw milk-based products (raw milk, cream, butter, fermented milk)	5	11	4	1	0	0	21
		c	Pasteurized milk-based products (pasteurized cheese, ice cream, milk)	2	18	3	6	0	0	29
			Total	**14**	**42**	**9**	**9**	**0**	**0**	**74**
All categories				**57**	**117**	**19**	**17**	**0**	**0**	**210**

* PPNA not included ** PPND not included

Table 44 – Interpretation of sample results between the reference and alternative method (based on the confirmed alternative method) - CFX Opus DW - Without FDRS

Category		Type		PA	NA*	PD	ND**	PPND	PPNA	Total
1	Composite foods	a	Ready-to-eat	4	14	0	4	0	0	22
		b	Ready-to-reheat	9	17	4	0	0	1	31
		c	Confectionaries, pastries and egg products	9	13	1	0	0	0	23
			Total	**22**	**44**	**5**	**4**	**0**	**1**	**76**
2	Production environmental samples	a	Surfaces samples	7	10	2	1	0	0	20
		b	Dusts and wastes	8	10	1	1	0	0	20
		c	Process water	6	10	2	1	1	0	20
			Total	**21**	**30**	**5**	**3**	**1**	**0**	**60**
3	Dairy products	a	Raw milk cheese (cow, ewe, goat)	6	14	1	3	0	0	24
		b	Other raw milk-based products (raw milk, cream, butter, fermented milk)	5	11	4	1	0	0	21
		c	Pasteurized milk-based products (pasteurized cheese, ice cream, milk)	2	18	3	6	0	0	29
			Total	**13**	**43**	**8**	**10**	**0**	**0**	**74**
All categories				**56**	**117**	**18**	**17**	**1**	**1**	**210**

* PPNA not included ** PPND not included

Table 45 – Interpretation of sample results between the reference and alternative method (based on the confirmed alternative method) - CFX Opus DW - With FDRS

Category		Type		PA	NA*	PD	ND**	PPND	PPNA	Total
1	Composite foods	a	Ready-to-eat	4	14	0	4	0	0	22
		b	Ready-to-reheat	9	19	3	0	0	0	31
		c	Confectionaries, pastries and egg products	9	13	1	0	0	0	23
			Total	**22**	**46**	**4**	**4**	**0**	**0**	**76**
2	Production environmental samples	a	Surfaces samples	7	10	2	1	0	0	20
		b	Dusts and wastes	8	10	1	1	0	0	20
		c	Process water	6	10	2	2	0	0	20
			Total	**21**	**30**	**5**	**4**	**0**	**0**	**60**
3	Dairy products	a	Raw milk cheese (cow, ewe, goat)	6	13	2	3	0	0	24
		b	Other raw milk-based products (raw milk, cream, butter, fermented milk)	5	11	4	1	0	0	21
		c	Pasteurized milk-based products (pasteurized cheese, ice cream, milk)	2	18	3	6	0	0	29
			Total	**13**	**42**	**9**	**10**	**0**	**0**	**74**
All categories				**56**	**118**	**18**	**18**	**0**	**0**	**210**

* PPNA not included ** PPND not included

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

The calculations are presented in **Table 46** (**CFX 96 DW** -without FDRS), **Table 47** (**CFX 96 DW** -with FDRS), **Table 48** (CFX **Opus DW** -without FDRS), **Table 49** (CFX **Opus DW** -with FDRS).

Table 46 – Calculation of the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR) CFX 96 DW - Without FDRS

Category		Type		PA	NA*	PD	ND**	PPND	PPNA	SE alt %	SE ref %	RT %	FPR %
1	Composite foods	a	Ready-to-eat	5	14	0	3	0	0	62,5	100,0	86,4	0,0
		b	Ready-to-reheat	9	17	4	0	0	1	100,0	69,2	87,1	5,9
		c	Confectionaries, pastries and egg products	9	13	1	0	0	0	100,0	90,0	95,7	0,0
			Total	**23**	**44**	**5**	**3**	**0**	**1**	**90,3**	**83,9**	**89,5**	**2,3**
2	Production environmental samples	a	Surfaces samples	7	10	2	1	0	0	90,0	80,0	85,0	0,0
		b	Dusts and wastes	8	10	1	1	0	0	90,0	90,0	90,0	0,0
		c	Process water	6	10	2	2	0	0	80,0	80,0	80,0	0,0
			Total	**21**	**30**	**5**	**4**	**0**	**0**	**86,7**	**83,3**	**85,0**	**0,0**
3	Dairy products	a	Raw milk cheese (cow, ewe, goat)	6	14	1	3	0	0	70,0	90,0	83,3	0,0
		b	Other raw milk-based products (raw milk, cream, butter, fermented milk)	5	11	4	1	0	0	90,0	60,0	76,2	0,0
		c	Pasteurized milk-based products (pasteurized cheese, ice cream, milk)	2	18	3	6	0	0	45,5	72,7	69,0	0,0
			Total	**13**	**43**	**8**	**10**	**0**	**0**	**67,7**	**74,2**	**75,7**	**0,0**
All categories				**57**	**117**	**18**	**17**	**0**	**1**	**81,5**	**80,4**	**83,3**	**0,9**

* PPNA not included ** PPND not included

Table 47 – Calculation of the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR) CFX 96 DW - With FDRS

Category		Type		PA	NA*	PD	ND**	PPND	PPNA	SE alt %	SE ref %	RT %	FPR %
1	Composite foods	a	Ready-to-eat	5	14	0	3	0	0	62,5	100,0	86,4	0,0
		b	Ready-to-reheat	9	18	4	0	0	0	100,0	69,2	87,1	0,0
		c	Confectionaries, pastries and egg products	9	13	1	0	0	0	100,0	90,0	95,7	0,0
			Total	**23**	**45**	**5**	**3**	**0**	**0**	**90,3**	**83,9**	**89,5**	**0,0**
2	Production environmental samples	a	Surfaces samples	6	10	2	2	0	0	80,0	80,0	80,0	0,0
		b	Dusts and wastes	8	10	1	1	0	0	90,0	90,0	90,0	0,0
		c	Process water	6	10	2	2	0	0	80,0	80,0	80,0	0,0
			Total	**20**	**30**	**5**	**5**	**0**	**0**	**83,3**	**83,3**	**83,3**	**0,0**
3	Dairy products	a	Raw milk cheese (cow, ewe, goat)	7	13	2	2	0	0	81,8	81,8	83,3	0,0
		b	Other raw milk-based products (raw milk, cream, butter, fermented milk)	5	11	4	1	0	0	90,0	60,0	76,2	0,0
		c	Pasteurized milk-based products (pasteurized cheese, ice cream, milk)	2	18	3	6	0	0	45,5	72,7	69,0	0,0
			Total	**14**	**42**	**9**	**9**	**0**	**0**	**71,9**	**71,9**	**75,7**	**0,0**
All categories				**57**	**117**	**19**	**17**	**0**	**0**	**81,7**	**79,6**	**82,9**	**0,0**

* PPNA not included ** PPND not included

Table 48 – Calculation of the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR) CFX Opus DW - Without FDRS

Category		Type		PA	NA*	PD	ND**	PPND	PPNA	SE $_{alt}$ %	SE $_{ref}$ %	RT %	FPR %
1	Composite foods	a	Ready-to-eat	4	14	0	4	0	0	50,0	100,0	81,8	0,0
		b	Ready-to-reheat	9	17	4	0	0	1	100,0	69,2	87,1	5,9
		c	Confectionaries, pastries and egg products	9	13	1	0	0	0	100,0	90,0	95,7	0,0
			Total	**22**	**44**	**5**	**4**	**0**	**1**	**87,1**	**83,9**	**83,9**	**88,2**
2	Production environmental samples	a	Surfaces samples	7	10	2	1	0	0	90,0	80,0	85,0	0,0
		b	Dusts and wastes	8	10	1	1	0	0	90,0	90,0	90,0	0,0
		c	Process water	6	10	2	1	1	0	80,0	80,0	80,0	10,0
			Total	**21**	**30**	**5**	**3**	**1**	**0**	**86,7**	**83,3**	**85,0**	**3,3**
3	Dairy products	a	Raw milk cheese (cow, ewe, goat)	6	14	1	3	0	0	70,0	90,0	83,3	0,0
		b	Other raw milk-based products (raw milk, cream, butter, fermented milk)	5	11	4	1	0	0	90,0	60,0	76,2	0,0
		c	Pasteurized milk-based products (pasteurized cheese, ice cream, milk)	2	18	3	6	0	0	45,5	72,7	69,0	0,0
			Total	**13**	**43**	**8**	**10**	**0**	**0**	**67,7**	**74,2**	**75,7**	**0,0**
All categories				**56**	**117**	**18**	**17**	**1**	**1**	**80,4**	**80,4**	**82,9**	**1,7**

* PPNA not included

** PPND not included

Table 49 – Calculation of the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR) CFX Opus DW - With FDRS

Category		Type		PA	NA*	PD	ND**	PPND	PPNA	SE alt %	SE ref %	RT %	FPR %
1	Composite foods	a	Ready-to-eat	4	14	0	4	0	0	50,0	100,0	81,8	0,0
		b	Ready-to-reheat	9	19	3	0	0	0	100,0	75,0	90,3	0,0
		c	Confectionaries, pastries and egg products	9	13	1	0	0	0	100,0	90,0	95,7	0,0
			Total	**22**	**46**	**4**	**4**	**0**	**0**	**86,7**	**86,7**	**89,5**	**0,0**
2	Production environmental samples	a	Surfaces samples	7	10	2	1	0	0	90,0	80,0	85,0	0,0
		b	Dusts and wastes	8	10	1	1	0	0	90,0	90,0	90,0	0,0
		c	Process water	6	10	2	2	0	0	80,0	80,0	80,0	0,0
			Total	**21**	**30**	**5**	**4**	**0**	**0**	**86,7**	**83,3**	**85,0**	**0,0**
3	Dairy products	a	Raw milk cheese (cow, ewe, goat)	6	13	2	3	0	0	72,7	81,8	79,2	0,0
		b	Other raw milk-based products (raw milk, cream, butter, fermented milk)	5	11	4	1	0	0	90,0	60,0	76,2	0,0
		c	Pasteurized milk-based products (pasteurized cheese, ice cream, milk)	2	18	3	6	0	0	45,5	72,7	69,0	0,0
			Total	**13**	**42**	**9**	**10**	**0**	**0**	**68,8**	**71,9**	**74,3**	**0,0**
All categories				**56**	**118**	**18**	**18**	**0**	**0**	**80,4**	**80,4**	**82,9**	**0,0**

* PPNA not included ** PPND not included

A summary of the results is given in Table 50.

Table 50 - Summary of results

		All categories			
		CFX 96 DW		CFX Opus DW	
		w/o FDRS	w FDRS	w/o FDRS	w FDRS
Sensitivity for the alternative method	$SE_{alt} = \frac{(PA+PD)}{(PA+ND+PD)} \times 100\%$	81,5	81,7	80,4	80,4
Sensitivity for the reference method	$SE_{ref} = \frac{(PA+ND)}{(PA+ND+PD)} x\ 100\ \%$	80,4	79,6	80,4	80,4
Relative trueness	$RT = \frac{(PA+NA)}{N} \times 100\%$	83,3	82,9	82,9	82,9
False positive ratio for the alternative method* FP = PPNA + PPND	$FPR = \frac{(FP)}{NA} \times 100\%$	0,9	0,0	1,7	0,0

With *ND = ND + PPND*
NA = NA + PPNA

3.2.1.6 *Analysis of discordant results*

The negative deviations for all categories are given in Table 51 and the positive deviations in Table 52.

Table 51 - Negative deviations – protocol 6 and 7

Sample N°	Product	Strain inoculated	Inoculation level CFU/test portion	Reference method: ISO 11290-1♦	Alternative method: iQ-Check *Listeria monocytogenes* II- LSB II 20 h at 37°C (pre-warmed)												Confirmation	Agreement				Category	Type
					PCR result																		
					Without FDRS						With FDRS							Without FDRS		With FDRS			
					CFX96 DW			CFX Opus DW			CFX96 DW			CFX Opus DW									
					FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result		CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW		
3302	RTE (Sandwich tuna and crudity)	/	/	*L. monocytogenes* *L. innocua*	N/A	34.16	-	N/A	33.60	-	N/A	34.90	-	N/A	35.35	-	-	**ND**	**ND**	**ND**	**ND**	1	a
749	Potato fritter with cheese	/	/	*L. monocytogenes*	N/A	36.72	-	N/A	36.81	-	N/A	37.20	-	N/A	36.79	-	-	**ND**	**ND**	**ND**	**ND**	1	a
761	RTE (vegetable and cheese)	/	/	*L. monocytogenes*	N/A	36.26	-	N/A	36.95	-	N/A	36.36	-	N/A	36.49	-	-	**ND**	**ND**	**ND**	**ND**	1	a
3305	RTE (Sandwich cheese and ham)	/	/	*L. monocytogenes* *L. innocua*	39.33	34.53	+	N/A 41.58 N/A	34.96 34.02 34.53	- + -	40.59	35.04	+	N/A 41.65 40.21	35.34 34.66 35.51	- + +	*L. monocytogenes* *L. innocua*	**PA**	**ND**	**PA**	**ND**	1	a
733	**Rinsing water**	*Listeria monocytogenes* Ad1679	2,4	*L. monocytogenes*	N/A	33.35	-	32.01 N/A N/A	32.27 35.20 35.04	+ - -	N/A	33.04	-	N/A	32.12	-	-	**ND**	**PPND**	**ND**	**ND**	2	c
824	**Wipe before cleaning process**	*Listeria monocytogenes* Ad2503 *Listeria seeligeri* Ad651	1,2 1,4	*L. monocytogenes*	N/A	33.13	-	N/A	32.70	-	N/A	33.12	-	N/A	32.87	-	*L. seeligeri*	**ND**	**ND**	**ND**	**ND**	2	a
822	**Wipe before cleaning process**	*Listeria monocytogenes* Ad2503 *Listeria seeligeri* Ad651	1,2 1,4	*L. monocytogenes*	37.66	32.74	+	36.90	32.59	+	N/A 35.70 35.88	33.01 32.84 33.13	- + +	40.79	32.68	+	*L. monocytogenes* *L. seeligeri*	**PA**	**PA**	**ND**	**PA**	2	a
961	**Wastes (Salmon)**	*Listeria monocytogenes* Ad549 *Listeria welshimeri* Ad1268	1,0 0,4	*L. monocytogenes* *L. innocua*	N/A	34.67	-	N/A	34.38	-	N/A	38.12	-	N/A	37.05	-	-	**ND**	**ND**	**ND**	**ND**	2	b
829	**Process water**	*Listeria monocytogenes* Ad2503 *Listeria seeligeri* Ad651	1,2 1,4	*L. monocytogenes* *L. seeligeri*	N/A	33.02	-	N/A	32.69	-	N/A	33.30	-	N/A	32.34	-	*L. seeligeri*	**ND**	**ND**	**ND**	**ND**	2	c

♦ Analyses performed according to the COFRAC accreditation

Sample N°	Product	Strain inoculated	Inoculation level CFU/test portion	Reference method: ISO 11290-1♦	Alternative method: iQ-Check *Listeria monocytogenes* II- LSB II 18 h at 37°C (pre-warmed)												Confirmation					Category	Type
					PCR result													Agreement					
					Without FDRS						With FDRS							Without FDRS		With FDRS			
					CFX96 DW			CFX Opus DW			CFX96 DW			CFX Opus DW				CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW		
					FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result							
1732	**Raw ewe milk cheese**	*L. monocytogenes* Ad1784 *L. innocua* Ad658	2,2 1,2	*L. monocytogenes*	N/A N/A 40.57	32,81 37.67 36.78	-/-/+	N/A N/A N/A	34,14 32.43 34.86	-/-/-	N/A N/A 43.39	32,88/ 36.62/ 33.32	-/-/+	N/A N/A 40.07	33,67 34.32 35.00	-/-/+	*L. monocytogenes*	**ND**	**ND**	**ND**	**ND**	3	a
1733	**Raw goat milk cheese**	*L. monocytogenes 910*	1,2	*L. monocytogenes*	N/A 39,32 37,32	34,53 32,68 32,18	- / + / +	N/A 38,08 38,23	32,57 32,66 33,17	- / + / +	N/A N/A N/A	33,26 32,92 33,15	- / - / -	N/A N/A N/A	33,12 32,81 32,81	- / - / -	*L. monocytogenes*	**ND**	**ND**	**ND**	**ND**	3	a
2752	Raw goat milk cheese	/	/	*L. monocytogenes*	41,07	32,82	+	41,98	32,99	+	42,44	33,07	+	N/A N/A N/A	32,94 33,12 32,98	- / - / -	*L. monocytogenes*	**PA**	**PA**	**PA**	**ND**	3	a
2753	Raw goat milk cheese	/	/	*L. monocytogenes*	N/A N/A 41,17	33,08 33,08 32,46	- / - / +	N/A N/A N/A	32,97 32,46 32,78	- / - / -	41,29	32,82	+	42,73	32,91	+	*L. monocytogenes*	**ND**	**ND**	**PA**	**PA**	3	a
2825	**Pasteurized cow milk**	*L. monocytogenes* AOOL099 *L innocua* Ad1788	0,8 0,2	*L. monocytogenes*	N/A	33,07	-	N/A	33,26	-	N/A	32,8	-	N/A	32,9	-		**ND**	**ND**	**ND**	**ND**	3	c
2826	**Pasteurized cow milk**	*L. monocytogenes* 17866 *L innocua* Ad1787	0,6 0,6	*L. monocytogenes*	N/A	32,8	-	N/A	32,92	-	N/A	32,84	-	N/A	33,12	-		**ND**	**ND**	**ND**	**ND**	3	c
2827	**Pasteurized cow milk flavoured**	*L. monocytogenes* AOOL099 *L seeligeri* Ad1237	0,8 0,2	*L. monocytogenes*	N/A	34,03	-	N/A	34,13	-	N/A	34,17	-	N/A	34,13	-	*L. seeligeri*	**ND**	**ND**	**ND**	**ND**	3	c
2831	**Pasteurized goat milk**	*L. monocytogenes* 17866	1,0	*L. monocytogenes*	N/A	32,69	-	N/A	33,48	-	N/A	33,56	-	N/A	33,05	-		**ND**	**ND**	**ND**	**ND**	3	c
2934	Raw cow milk	/	/	*L. monocytogenes*	N/A	33,73	-	N/A	32,76	-	N/A	33,69	-	N/A	33,45	-		**ND**	**ND**	**ND**	**ND**	3	b
3071	**Powdered half-skimmed milk**	*L. monocytogenes* Ad250	0,6	*L. monocytogenes*	N/A	33,01	-	N/A	32,67	-	N/A	33,15	-	N/A	32,8	-		**ND**	**ND**	**ND**	**ND**	3	c
3545	**Pasteurized cow cheese**	*L. monocytogenes* Ad630	5	*L. monocytogenes*	N/A N/A 41,29	33,41 34,44 34,41	- / - / +	N/A N/A N/A	32,99 34,71 33,29	- / - / -	N/A N/A N/A	34,21 35,42 34,39	- / - / -	N/A N/A N/A	34,04 35,26 34,28	- / - / -	*L. monocytogenes*	**ND**	**ND**	**ND**	**ND**	3	c

♦ Analyses performed according to the COFRAC accreditation

Table 52 – Positive deviations – protocols 6 and 7

Sample N°	Product	Strain inoculated	Inoculation level CFU/test portion	Reference method: ISO 11290-1♦	Alternative method: iQ-Check *Listeria monocytogenes* II- LSB II 18 h at 37°C												Confirmation	Agreement				Category	Type
					PCR result																		
					Without FDRS						With FDRS							Without FDRS		With FDRS			
					CFX96 DW			CFX Opus DW			CFX96 DW			CFX Opus DW				CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW		
					FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result							
3310	Salmon nuggets	/	/	-	40.95	32.74	+	38.57	33.24	+	39.77	33.13	+	39.02	33.44	+	*L. monocytogenes*	**PD**	**PD**	**PD**	**PD**	1	b
3469	Chicken wings	/	/	-	38.93	32.10	+	38.12	32.15	+	42.14	32.34	+	N/A 39,62 N/A	31.85 32.93 33.26	- + -	*L. monocytogenes*	**PD**	**PD**	**PD**	**NA**	1	b
3472	RTRH (cheese and vegetable)	/	/	-	31.38	35.12	+	31.26	34.78	+	30.75	33.38	+	30.79	33.33	+	*L. monocytogenes*	**PD**	**PD**	**PD**	**PD**	1	b
3671	RTRH (Ham and cheese escalope)	/	/	*L. welshimeri*	37.98	32.89	+	38.11	32.21	+	37.99	32.58	+	39.15	32.89	+	*L. monocytogenes* *L. welshimeri*	**PD**	**PD**	**PD**	**PD**	1	b
3808	**Onion tortilla**	*Listeria monocytogenes* Ad1757 *Listeria* seeligeri Ad1780	0,8 1,6	-	27.10	33.34	+	27.09	33.46	+	26.41	33.55	+	26.13	32.76	+	*L. monocytogenes* *L. innocua*	**PD**	**PD**	**PD**	**PD**	1	c
3761	**Wipe after cleaning process**	*Listeria innocua* Ad1251	3,0	*L. innocua*	37.33	32.39	+	37.22	32.50	+	36.76	32.57	+	38.48	32.78	+	*L. monocytogenes* *L. innocua*	**PD**	**PD**	**PD**	**PD**	2	a
757	Wipe before cleaning process	/	/	*L. welshimeri*	28.86	31.68	+	32.00	33.01	+	28.86	31.68	+	32.12	33.30	+	*L. monocytogenes* *L. welshimeri*	**PD**	**PD**	**PD**	**PD**	2	a
759	Wastes (Trout)	/	/	-	33.32	33.05	+	33.86	33.21	+	33.32	33.05	+	33.81	33.92	+	*L. monocytogenes*	**PD**	**PD**	**PD**	**PD**	2	b
732	**Process water**	*Listeria monocytogenes* Ad615	5,6	-	34.25	33.19	+	32.56	32.92	+	32.10	33.13	+	33.30	31.86	+	*L. monocytogenes*	**PD**	**PD**	**PD**	**PD**	2	c
966	**Process water**	*Listeria monocytogenes* Ad243 *Listeria innocua* Ad1257	0,6 0,8	-	30.87	32.66	+	30.61	32.21	+	31.01	32.88	+	30.97	32.59	+	*L. monocytogenes*	**PD**	**PD**	**PD**	**PD**	2	c

Sample N°	Product	Strain inoculated	Inoculation level CFU/test portion	Reference method: ISO 11290-1♦	Alternative method: iQ-Check *Listeria monocytogenes* II- LSB II 20 h at 37°C (prewarmed)												Confirmation	Agreement				Category	Type
					PCR result																		
					Without FDRS						With FDRS							Without FDRS		With FDRS			
					CFX96 DW			CFX Opus DW			CFX96 DW			CFX Opus DW				CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW		
					FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result							
1722	**Raw cow milk**	*L. monocytogenes 17501*	1,2	-	32,5	33,1	+	32,21	33,16	+	32,33	34,03	+	32,99	33,66	+	*L. monocytogenes*	**PD**	**PD**	**PD**	**PD**	3	b
1726	**Raw goat milk**	*L. monocytogenes 909* *L. innocua* Ad*1771*	0,8 2,4	*L innocua*	29,48	32,36	+	30,13	32,55	+	29,74	32,39	+	30,77	32,59	+	*L. monocytogenes* *L innocua*	**PD**	**PD**	**PD**	**PD**	3	b
1735	**Raw goat milk cheese**	*L. monocytogenes 909* *L. welshimeri Ad1667*	0,8 0,8	*L welshimeri*	N/A 40,27 40,23	37,1 32,88 33,1	- / + / +	N/A N/A 39,18	37,9 32,77 32,41	- / - / +	38,15	34,04	+	42,08	34,57	+	*L. monocytogenes*	**NA**	**NA**	**PD**	**PD**	3	a
2742	Raw cow milk cheese	/	/	-	32,65	34,49	+	32,94	35,85	+	33,23	36,21	+	32,86	35,06	+	*L. monocytogenes*	**PD**	**PD**	**PD**	**PD**	3	a
2828	**Pasteurized cow cheese**	*L. monocytogenes* Ad629 *L seeligeri* Ad674	1,0 0,8	*L grayi*	32,94	35,32	+	33,28	36,07	+	30,38	33,22	+	30,54	32,94	+	*L. monocytogenes*	**PD**	**PD**	**PD**	**PD**	3	c
2829	**Pasteurized ewe cheese**	*L. monocytogenes* Ad630 *L innocua* Ad661	0,6 0,2	-	38,38	32,87	+	38,3	33,09	+	38,52	32,81	+	39,22	32,99	+	*L. monocytogenes*	**PD**	**PD**	**PD**	**PD**	3	c
3543	**Pasteurized ewe cheese**	*L. monocytogenes* Ad630	5	-	33,13	32,94	+	33,01	32,71	+	33,37	32,74	+	33,09	32,65	+	*L. monocytogenes*	**PD**	**PD**	**PD**	**PD**	3	c
3701	**Butter raw milk**	*L.monocytogenes* Ad3119 *L. innocua*	0,4 0,6	-	31,41	33,78	+	31,32	34,33	+	31,14	33,86	+	31,04	33,46	+	*L.monocytogenes /* *L. innocua*	**PD**	**PD**	**PD**	**PD**	3	b
3702	**Butter raw milk**	*L.monocytogenes* Ad3119 *L. innocua*	0,4 0,6	*L innocua*	26,75	33,12	+	26,33	32,47	+	26,28	32,38	+	26,06	32,72	+	*L.monocytogenes /* *L. innocua*	**PD**	**PD**	**PD**	**PD**	3	b

♦ Analyses performed according to the COFRAC accreditation

Negative deviations

The number of negative deviations varies from 17 to 18 and concerns 13 artificially contaminated samples and 7 naturally contaminated samples. The presence of *Listeria monocytogenes* was confirmed in the enrichment broth for 7 samples (3305: sandwich; 822: wipe; 1732: raw ewe milk cheese; 1733, 2752 & 2753: raw goat milk cheese; 3545: pasteurized cow cheese). For some samples with negative PCR results and positive confirmation results, several PCR tests were performed. The late Cq values obtained show that the contamination level was just at the limit of detection of the method. This explains the fact that in some conditions, positive results were observed while negative results were obtained in the other conditions.

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 *Listeria monocytogenes* strain was detected in the enriched LSB II broths for one sample (3670: Sandwich).

Positive deviations

The number of positive deviations varies from 18 to 19.They concern 12 artificially contaminated samples and 7 naturally contaminated samples.

The analyses of discordant results according to the EN ISO 16140-2:2016 for all the categories is the following (See Tables 53 to 56).

Table 53 - Analyses of discordant results CFX96 DW - Without FDRS

Category		Type	N+	ND**	PPND	PD	Unpaired (ND+PPND)-PD	Unpaired AL
1	Composite foods	a	8	3	0	0		
		b	13	0	0	4		
		c	10	0	0	1		
		Total	31	3	0	5	-2	3
2	Production environmental samples	a	10	1	0	2		
		b	10	1	0	1		
		c	10	2	0	2		
		Total	30	4	0	5	-1	3
3	Dairy products	a	10	3	0	1		
		b	10	1	0	4		
		c	11	6	0	3		
		Total	31	10	0	8	2	3
All categories			92	17	0	18	-1	5

** PPND not included

Table 54 - Analyses of discordant results- CFX96 DW - With FDRS

Category		Type	N+	ND**	PPND	PD	Unpaired (ND+PPND)-PD	Unpaired AL
1	Composite foods	a	8	3	0	0		
		b	13	0	0	4		
		c	10	0	0	1		
		Total	31	3	0	5	-2	3
2	Production environmental samples	a	10	2	0	2		
		b	10	1	0	1		
		c	10	2	0	2		
		Total	30	4	0	5	0	3
3	Dairy products	a	11	2	0	2		
		b	10	1	0	4		
		c	11	6	0	3		
		Total	32	9	0	9	0	3
All categories			93	17	0	19	-2	5

** PPND not included

Table 55 - Analyses of discordant results- CFX Opus DW - Without FDRS

Category		Type	N+	ND**	PPND	PD	Unpaired (ND+PPND)-PD	Unpaired AL
1	Composite foods	a	8	4	0	0		
		b	13	0	0	4		
		c	10	0	0	1		
		Total	31	4	0	5	-1	3
2	Production environmental samples	a	10	1	0	2		
		b	10	1	0	1		
		c	10	1	1	2		
		Total	30	3	1	5	-1	3
3	Dairy products	a	10	3	0	1		
		b	10	1	0	4		
		c	11	6	0	3		
		Total	31	10	0	8	2	3
All categories			92	17	1	18	0	5

** PPND not included

Table 56 - Analyses of discordant results- CFX Opus DW - With FDRS

Category		Type	N+	ND**	PPND	PD	Unpaired (ND+PPND)-PD	Unpaired AL
1	Composite foods	a	8	4	0	0		
		b	12	0	0	3		
		c	10	0	0	1		
		Total	**30**	**4**	**0**	**4**	**0**	**3**
2	Production environmental samples	a	10	1	0	2		
		b	10	1	0	1		
		c	10	2	0	2		
		Total	**30**	**4**	**0**	**5**	**-1**	**3**
3	Dairy products	a	11	3	0	2		
		b	10	1	0	4		
		c	11	6	0	3		
		Total	**32**	**10**	**0**	**9**	**1**	**3**
All categories			**92**	**18**	**0**	**18**	**0**	**5**

** PPND not included

The observed values for ND+ PPND - PD meet the acceptability limit for the two individual categories tested as well as for the combined categories (calculated values ≤ AL) for both extraction protocols (with or without the optional FDRS step), and both Real-Time PCR instruments (CFX 96 Deep Well or CFX Opus Deep Well).

3.2.1.7 *Enrichment broth storage at 5 ± 3 °C for 24 h or 72 h*

98 enriched samples were tested again after storage of the enriched LSB II broths for 72h at 5°C ± 3°C with both extraction protocol and thermocyclers

The following changes were observed (see Table 57).

Table 57 - Enrichment broth storage

Sample N°	Product	Alternative method : iQ-Check *Listeria monocytogenes* II								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		
3305	RTE (Sandwich cheese and ham)	PA	ND	PA	ND	PA	PA	PA	PA	1	a
3670	RTE (Sandwich ham and cheese)	NA	NA	NA	NA	PD	PD	PD	PD	1	a
3469	Chicken wings	PD	PD	PD	NA	PD	PD	PD	PD	1	b
3308	Salmon nuggets	PA	PA	PA	PA	PA	PA	ND	ND	1	b
822	**Wipe before cleaning process**	PA	PA	ND	PA	PA	PA	PA	PA	2	a
1732	**Raw ewe milk cheese**	ND	ND	ND	ND	PA	PA	ND	ND	3	a
1733	**Raw goat milk cheese**	ND	ND	ND	ND	PA	PA	PA	PA	3	a
1735	**Raw goat milk cheese**	NA	NA	PD	PD	PD	PD	PD	PD	3	a
2752	Raw goat milk cheese	PA	PA	PA	ND	PA	PA	PA	PA	3	a
2753	Raw goat milk cheese	ND	ND	PA	PA	PA	PA	PA	PA	3	a
3545	**Pasteurized cow cheese**	ND	ND	ND	ND	PA	PA	PA	PA	3	c

The analyses of discordant results become (See Tables 57 to 60).

Table 58 - Analysis of discordant results after storage for 72 h at 5 ± 3°C-

CFX96 DW - Without FDRS

Category		Type	N+	ND**	PPND	PD	Unpaired (ND+PPND)-PD	Unpaired AL
1	Composite foods	a	9	3	0	1		
		b	13	0	0	4		
		c	10	0	0	1		
		Total	32	3	0	6	-3	3
2	Production environmental samples	a	10	1	0	2		
		b	10	1	0	1		
		c	10	2	0	2		
		Total	30	4	0	5	-1	3
3	Dairy products	a	11	0	0	2		
		b	10	1	0	4		
		c	11	5	0	3		
		Total	32	6	0	9	-3	3
All categories			**94**	**13**	**0**	**20**	**-7**	**5**

** PPND not included

Table 59 - Analysis of discordant results after storage for 72 h at 5 ± 3°C-

CFX96 DW - With FDRS

Category		Type	N+	ND**	PPND	PD	Unpaired (ND+PPND)-PD	Unpaired AL
1	Composite foods	a	9	3	0	1		
		b	13	1	0	4		
		c	10	0	0	1		
		Total	32	4	0	6	-2	3
2	Production environmental samples	a	10	1	0	2		
		b	10	1	0	1		
		c	10	2	0	2		
		Total	30	4	0	5	-1	3
3	Dairy products	a	11	1	0	2		
		b	10	1	0	4		
		c	11	5	0	3		
		Total	32	7	0	9	-2	3
All categories			**94**	**15**	**0**	**20**	**-5**	**5**

** PPND not included

Table 60 - Analysis of discordant results after storage for 72 h at 5 ± 3°C-

CFX Opus DW - Without FDRS

Category		Type	N+	ND**	PPND	PD	Unpaired (ND+PPND)-PD	AL
1	Composite foods	a	9	3	0	1		
		b	13	0	0	4		
		c	10	0	0	1		
		Total	32	3	0	6	-3	3
2	Production environmental samples	a	10	1	0	2		
		b	10	1	0	1		
		c	10	2	0	2		
		Total	30	4	0	5	-1	3
3	Dairy products	a	11	0	0	2		
		b	10	1	0	4		
		c	11	5	0	3		
		Total	32	6	0	9	-3	3
All categories			94	13	0	20	-7	5

** PPND not included

Table 61 - Analysis of discordant results after storage for 72 h at 5 ± 3°C-

CFX Opus DW - With FDRS

Category		Type	N+	ND**	PPND	PD	Unpaired (ND+PPND)-PD	AL
1	Composite foods	a	9	3	0	1		
		b	13	1	0	4		
		c	10	0	0	1		
		Total	32	4	0	6	-2	3
2	Production environmental samples	a	10	1	0	2		
		b	10	1	0	1		
		c	10	2	0	2		
		Total	30	4	0	5	-1	3
3	Dairy products	a	11	1	0	2		
		b	10	1	0	4		
		c	11	5	0	3		
		Total	32	7	0	9	-2	3
All categories			94	15	0	20	-5	5

** PPND not included

The observed values for ND+ PPND - PD meet the acceptability limit for the two individual categories tested as well as for the combined categories (calculated values ≤ AL) for both extraction protocols (with or without the optional FDRS step), and both Real-Time PCR instruments (CFX 96 Deep Well or CFX Opus Deep Well).

3.2.1.8 *Confirmation*

- **Protocol 6**

After 18 h incubation time of the LSB II broth, 3 positive PCR results (for sample 3317, 3300, 733) were not confirmed by cultural method even if additional confirmation were carried out (5 Fraser broths, 5 AL and 5 Palcam). The samples concerned as well as the PCR results observed are given in Table 62.

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.

- **Protocol 7**

All positive PCR results were confirmed by cultural method. For one sample (1732: raw ewe milk cheese); five repetitions of the RAPID'*L.mono* plate were carried out to recover the *Listeria monocytogenes* strain.

Table 62 - Number of samples unconfirmed by cultural methods

Sample N°	Product	Reference method : ISO 11290-1♦	Alternative method: iQ-Check *Listeria monocytogenes* II- LSB II 18 h at 37°C												Confirmation	Agreement				Category	Type
			PCR result																		
			Without FDRS						With FDRS							Without FDRS		With FDRS			
			CXF 96 DW			CFX Opus DW			CFX96 DW			CFX Opus DW				CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW		
			FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result							
3317	RTH (Puff ham, cheese)	*L. innocua*	35.31 N/A N/A	34.80 34.03 33.86	+ - -	N/A	34.30	-	N/A	34.78	-	N/A	34.32	-	*L. innocua*	**PPNA**	**NA**	**NA**	**NA**	1	b
3300	RTRH (Paella)	-	N/A	33.11	-	31.32 N/A N/A	33.74 33.39 32.90	+ - -	N/A	33.09	-	N/A	33.13	-	*L. innocua*	**NA**	**PPNA**	**NA**	**NA**	1	b
733	**Rinsing water**	*L. monocytogenes*	N/A	33.35	-	32.01 N/A N/A	32.27 35.20 35.04	+ - -	N/A	33.04	-	N/A	32.12	-	-	**ND**	**PPND**	**ND**	**ND**	2	c

♦ Analyses performed according to the COFRAC accreditation

3.2.1.9 *PCR inhibition*

420 DNA extracts prepared with and without applying the FDRS protocol were tested after incubation time and 134 after enrichment broths storage with both thermocyclers (CFX96 Deep Well and CFX Opus Deep Well), 13 PCR inhibitions were observed and concerns only 4 samples (see Table 63). A 1/10 dilution in sterile water allowed to obtain a result.

Table 63 Samples with PCR inhibitions

Sample N°	Product	Incubation time	Without FDRS						With DFRS						Category	Type
			CFX96 DW			CFX Opus DW			CFX96 DW			CFX Opus DW				
			FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result		
118	**Chocolate mousse**	18 h	N/A N/A*	N/A 33.00	i/-*	N/A N/A*	N/A 32.35	i/-*	N/A N/A*	N/A 32.81	i/-*	N/A N/A*	N/A 33.29	i/-*	1	c
725	**Wastes (Meat)**	18 h + 72 h	N/A 34.46	N/A 33.33	i/+*	N/A 33.63	N/A 33.04	i/+*	N/A 39.20	N/A 38.04	i/+*	N/A 36.41	N/A 34.39	i/+*	2	b
1729	Raw cow milk cheese	20 h	N/A	33,37	-	N/A N/A*	N/A 32,99*	i / -*	N/A	34,27	-	N/A	33,12	-	3	a
2747	Raw goat milk cheese	20 h	N/A N/A*	N/A 33,21*	i / -*	N/A N/A*	N/A 32,89*	i / -*	N/A N/A*	N/A 33,48*	i / -*	N/A N/A*	N/A 32,95*	i / -*	3	a

* Testing after 1/10 dilution of the extract

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

Two 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 64.

Table 64 - Defined (matrix/strain) pairs for the RLOD determination

Category		Matrix	Strain	Origin	Inoculation and storage condition
1	Composite food	Deli salad: piémontaise	*Listeria monocytogenes* Ad1719	Vegetables mix	48-72 h at 3°C ± 2°C
2	Production environmental samples	Process water	*Listeria monocytogenes* Ad2503	Environment from vegetables production site	48-72 h at 3°C ± 2°C
3	Dairy products	Raw cow milk	*Listeria monocytogenes* Ad2858	Raw milk	48-72 h at 3°C ± 2°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 (clause 5-1-4-2 Calculation and interpretation of RLOD) version 15.08.2015. The RLOD are given in Tables 65 to 68.

Table 65 – Presentation of RLOD before and after confirmation of the alternative method results - CFX96 DW- Without FDRS

Category		Matrix / strain pair	RLOD	RLODL	RLODU	b=ln (RLOD)	sd(b)	z-Test statistic	p-value	AL
1	Composite food	Deli salad *Listeria monocytogenes* Ad1719	0,389	0,141	1,075	-0,944	0,508	1,858	1,937	2.5
2	Production environmental samples	Process water *Listeria monocytogenes* Ad2503	2,175	0,968	4,890	0,777	0,405	1,918	0,055	
3	Dairy products	Raw milk *Listeria monocytogenes* Ad2858	1,315	0,563	3,072	0,274	0,424	0,645	0,519	
Combined			**1,147**	**0,718**	**1,831**	**0,137**	**0,234**	**0,585**	**0,559**	

Table 66 – Presentation of RLOD before and after confirmation of the alternative method results - CFX96 DW- With FDRS

Category		Matrix / strain pair	RLOD	RLODL	RLODU	b=ln (RLOD)	sd(b)	z-Test statistic	p-value	AL
1	Composite food	Deli salad *Listeria monocytogenes* Ad1719	0,389	0,141	1,075	-0,944	0,508	1,858	1,937	2,5
2	Production environmental samples	Process water *Listeria monocytogenes* Ad2503	2,499	1,075	5,809	0,916	0,422	2,171	0,030	
3	Dairy products	Raw milk *Listeria monocytogenes* Ad2858	1,146	0,498	2,636	0,136	0,417	0,327	0,744	
Combined			**1,147**	**0,718**	**1,831**	**0,137**	**0,234**	**0,585**	**0,559**	**/**

Table 67 – Presentation of RLOD before and after confirmation of the alternative method results - CFX Opus DW- Without FDRS

Category		Matrix / strain pair	RLOD	RLODL	RLODU	b=ln (RLOD)	sd(b)	z-Test statistic	p-value	AL
1	Composite food	Deli salad *Listeria monocytogenes* Ad1719	0,389	0,141	1,075	-0,944	0,508	1,858	1,937	2,5
2	Production environmental samples	Process water *Listeria monocytogenes* Ad2503	2,175	0,968	4,890	0,777	0,405	1,918	0,055	
3	Dairy products	Raw milk *Listeria monocytogenes* Ad2858	1,194	0,571	2,498	0,177	0,369	0,480	0,631	
Combined			**1,119**	**0,713**	**1,756**	**0,112**	**0,226**	**0,497**	**0,619**	/

Table 68 – Presentation of RLOD before and after confirmation of the alternative method results - CFX Opus DW- With FDRS

Category		Matrix / strain pair	RLOD	RLODL	RLODU	b=ln (RLOD)	sd(b)	z-Test statistic	p-value	AL
1	Composite foods	Deli salad *Listeria monocytogenes* Ad1719	0,389	0,141	1,075	-0,944	0,508	1,858	1,937	2,5
2	Production environmental samples	Process water *Listeria monocytogenes* Ad2503	2,499	1,075	5,809	0,916	0,422	2,171	0,030	
3	Dairy products	Raw milk *Listeria monocytogenes* Ad2858	1,194	0,571	2,498	0,177	0,369	0,480	0,631	
Combined			**1,164**	**0,739**	**1,833**	**0,152**	**0,227**	**0,669**	**0,504**	/

The $LOD_{50\,\%}$ calculations according to Wilrich & Wilrich POD-LOD calculation program - version 11, 2022-10-12 test are given in Table 69.

Table 69 – LOD_{50} results

Category		Food item	Strain	Level of detection at 50% (CFU / sample size) according to Wilrich & Wilrich[6]				
				Reference method	Alternative method			
					CFX96 DW		CFX Opus DW	
					Without FDRS	With FDRS	Without FDRS	With DRS
1	Composite foods	Piemontaise	*Listeria monocytogenes* Ad1719	0,9 [0,5-1,7]	0,4 [0,3-0,8]	0,4 [0,3-0,8]	0,4 [0,3-0,8]	0,4 [0,3-0,8]
2	Production environmental samples	Process water	*Listeria monocytogenes* Ad2503	0,5 [0,3-0,8]	1,1 [0,6-2,0]	1,2 [0,7-2,3]	1,1 [0,6-2,0]	1,2 [0,7-2,3]
3	Dairy products	Raw milk	*Listeria monocytogenes* Ad2858	0,6 [0,4-1,1]	0,8 [0,5-1,5]	0,7 [0,4-1,3]	0,9 [0,5-1,6	0,9 [0,5-1,6]
Combined				**0,6 [0,5-0,9]**	**0,8 [0,5-1,1]**	**0,7 [0,5-1,1]**	**0,8 [0,6-1,1]**	**0,8 [0,6-1,1]**

3.2.3 Conclusion

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 LOD_{50} is 0.6 CFU/test portion for the reference method and from 0.7 to 0.8 CFU/test portion for the alternative method depending on the protocol tested (without or with FDRS) and thermocycler used (CFX96 Deep Well or CFX Opus Deep Well).

4 INTER-LABORATORY STUDY

4.1 Study organization

The inter-laboratory study was performed in April 2004 according to the EN ISO 16140:2003 standard.

The participating laboratories carried out the analysis according to the method iQ-Check *Listeria monocytogenes* (protocol 1: half-Fraser broth and Standard II lysis) and the reference method (ISO 6579).

[6] Wilrich, C., and P.-Th. Wilrich: Estimation of the POD function and the LOD of a qualitative microbiological measurement method. AOAC International **92** (2009) 1763 - 1772.

The interlaboratory study was carried out by the expert laboratory and 15 collaborators.

Pasteurised milk inoculated with of a *Listeria monocytogenes* strain isolated from "raw milk cheese" was used for the interlaboratory study. The natural flora present in the matrix was around 41 CFU/mL.

24 samples per laboratory were prepared. divided into 3 levels. with 8 samples per level.

Due to the conditions of transport and organization, 14 laboratories were able to carry out the analyses.

4.2 Experimental parameter controls

The levels of contamination obtained are shown in the Table 70:

Table 70 - Target level. real level and total viable count of the matrix

Matrix	Total viable count (UFC/g)	Target level (cells / 25 g)	Real level (cells / 25 g)
Pasteurized milk	41	0	0
		3	4.4
		30	42.4

4.3 Result analysis

4.3.1 Expert laboratory results

The results obtained by the expert laboratory are given in Table 71.

Table 71 – Results obtained by the expert Lab.

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

Sample 19 (Level 0) gave a positive PCR test with a higher Ct value than the inoculated samples (37,2), a second test was performed, and a negative result was obtained. The presence of *Listeria monocytogenes* was not confirmed in the enrichment broth for this sample.

All the spiked samples gave a positive result by both methods.

4.3.2 Results observed by the collaborative laboratories

Positive results obtained after confirmation by the reference method and the alternative method are presented in Tables 72 and 73 respectively.

Table 72 - Reference method positive results for all laboratories

Collaborators	Contamination level		
	L0	*L1*	*L2*
A	0	8	8
B	0	8	8
C	0	8	8
D	0	8	8
E	0	8	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	8	8
M	1	7	8
N	0	8	8
Total	**P_0 = 1**	**P_1 =111**	**P_2 =112**

Table 73 - Alternative method positive results for all laboratories

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	0	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	7	8	7	8	8	8
F	1	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	0	/	0	8	8	8	8	8	8
K	0	0	0	8	8	8	8	8	8
L	1	0	0	8	8	8	8	8	8
M	1	1	1	7	7	7	8	8	8
N	**2**	0	0	8	8	8	8	8	8
Total	**P_0=6**	**C_0=1**	**CP_0=1**	**P_1=110**	**C_1=111**	**CP_1=110**	**P_2=112**	**C_2=112**	**CP_2=112**

One positive PCR result was observed on unspiked samples for collaborators A, F, and L, and two positive PCR results for collaborator N. For Lab M, one confirmed positive unspiked sample (N°10) was found positive by both methods.

According to the AFNOR technical rules, it is possible to include the results from a collaborator with maximum one presumptive positive or confirmed positive sample at level 0.
This means that the results from collaborator N need to be removed for interpretation.

Lab E found one negative PCR result for Level 1 (sample N°2), the presence of Listeria monocytogenes was confirmed in the enrichment broth by the tests of the reference method. The DNA extract was tested again, and a positive result was observed (Ct 21,2).
Lab M found a negative result for sample N°8 (Level 1) by both methods.
An inversion with sample N°10 is possible for this lab.

4.3.3 Results of the collaborators retained for interpretation

The results obtained with the 13 labs kept for interpretation are presented in Table 74 (reference method) and Table 75 (alternative method).

Table 74 - Positive results by the reference method (Without Lab N)

Collaborators	Contamination level		
	L0	*L1*	*L2*
A	0	8	8
B	0	8	8
C	0	8	8
D	0	8	8
E	0	8	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	8	8
M	1	7	8
Total	**P_0 = 1**	**P_1 = 103**	**P_2 = 104**

Table 75 - Positive results (before and after confirmation) by the alternative method (Without Lab N)

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	0	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	7	8	7	8	8	8
F	1	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	0	/	0	8	8	8	8	8	8
K	0	0	0	8	8	8	8	8	8
L	1	0	0	8	8	8	8	8	8
M	1	1	1	7	7	7	8	8	8
Total	**P_0=4**	**C_0=1**	**CP_0=1**	**P_1=102**	**C_1=103**	**CP_1=102**	**P_2=104**	**C_2=104**	**CP_2= 104**

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 76).

Table 76 - Percentage specificity

Specificity for the reference method	$SP_{ref} = \left(1 - \left(\frac{P_0}{N\_}\right)\right) x\ 100\ \% =$	99.1 %
Specificity for the alternative method	$SP_{alt} = \left(1 - \left(\frac{CP_0}{N\_}\right)\right) x\ 100\ \% =$	99.1 %

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) and the false positive ratio for the alternative method (FPR)

A summary of the results of the collaborators retained for interpretation and obtained with the reference and the alternative methods for Level 0, Level 1 and Level 2 is provided in Table 77.

Table 77 - Summary of the obtained results with the reference method and the alternative method for Level 0, Level 1 and Level 2

Level	Response	Reference method positive (R+)	Reference method negative (R-)
0	Alternative method positive (A+)	Positive agreement (A+/R+) **PA = 1**	Positive deviation (R-/A+) **PD = 0**
	Alternative method negative (A-)	Negative deviation (A-/R+) **ND = 0 (PPND=0)**	Negative agreement (A-/R-) **NA = 111 (PPNA=5)**
1	Alternative method positive (A+)	Positive agreement (A+/R+) **PA = 110**	Positive deviation (R-/A+) **PD = 0**
	Alternative method negative (A-)	Negative deviation (A-/R+) **ND = 1 (PPND=0)**	Negative agreement (A-/R-) **NA = 1 (PPNA=0)**
2	Alternative method positive (A+)	Positive agreement (A+/R+) **PA = 112**	Positive deviation (R-/A+) **PD = 0**
	Alternative method negative (A-)	Negative deviation (A-/R+) **ND = 0 (PPND=0)**	Negative agreement (A-/R-) **NA = 0 (PPNA=0)**

Fractional positive results were obtained for the low inoculation level (L1). This inoculation level was retained for calculation.

Based on the data summarized in Table 77, the values of sensitivity of the alternative and reference methods, as well as the relative trueness and false positive ratio for the alternative method taking account the confirmations, are the following (See Table 78).

Table 78 - Sensitivity, relative trueness and false positive ratio percentages

		Level 1
Sensitivity for the alternative method:	$SE_{alt} = \frac{(PA+PD)}{(PA+PD+ND)} x\ 100\% =$	99.1%
Sensitivity for the reference method:	$SE_{ref} = \frac{(PA+ND)}{(PA+PD+ND)} x\ 100\% =$	100%
Relative trueness	$RT = \frac{(PA+NA)}{N} x\ 100\% =$	99.1%
False positive ratio for the alternative method	$FPR = \frac{FP}{NA} x\ 100\% =$	0.0%

4.4.3 Interpretation of data

For a **paired study design**, the difference between (ND – PD) and the addition (ND + PD) are calculated for the level(s) where fractional recovery is obtained (L_1). The observed value found for (ND – PD) and (ND + PD) shall not be higher than the AL.

For 13 Labs, the calculated values and the acceptability limits are the following:

Table 79 – Calculations

	Calculated values	AL	Conclusion
ND - PD	1	4	ND-PD<AL
ND + PD	1	5	ND+PD<AL

The ISO 16140-2 (2016) requirements are fulfilled as ND - PD and ND + PD meet the acceptability limits defined in the EN ISO 16140-2:2016.

4.4.4 Evaluation of the LOD $_{50\%}$, LOD $_{95\%}$ and RLOD between laboratories

The RLOD was calculated using the EN ISO 16140-2:2016 Excel spreadsheet available at https://standards.iso.org/iso/16140/-5/ed-1/en/RLOD_inter-lab-study_16140-2_AnnexF_ver1_28-06-2017.xls. The results are used only for information (see Table 80).

Table 80 - LOD $_{50\%}$, LOD $_{95\%}$ and RLOD

Method	LOD 50%	LOD 95%	RLOD
Reference	Every inoculated sample is positive except for Lab M, calculation is impossible		Value not available as there is no result for the reference method
Alternative	0.67 [0.43;1.03]	2.89 [1.87;4.47]	

5 CONCLUSION

The **method comparison study conclusions** are:

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

- ☒ The study scheme corresponds to PAIRED STUDY design for protocol 1 and to an UNPAIRED STUDY design for protocols 2, 3, 4 and 5.
- ☒ In the sensitivity study, 6 categories were tested: 5 food categories and environmental samples. The ND – PD (paired and unpaired study) and ND+ PD (paired study) meet the acceptability limits (AL) whatever the category and protocol tested.
- ☒ The Relative Levels of Detection (RLOD) are all below the AL fixed at 1, 5 for the paired data study and at 2.5 for the unpaired data study for all the protocols tested.
- ☒ The inclusivity and exclusivity testing gave the expected results whatever the protocol tested.
- ☒ It is possible to store the primary enrichment broth for 72 h at 5 ± 3°C.
- ☒ The alternative method fulfils all the EN ISO 16140-2:2016 and AFNOR technical rules (PR revision 7).

For the extension study for the use of LSB II medium (2023)

☒ The extension study scheme corresponds to an UNPAIRED study design as the alternative and reference methods have different enrichment procedure.

☒ In the sensitivity study, 3 categories were tested: two food category and the production environmental samples.

☒ The calculated values for ND+ PPND - PD meet the acceptability limits (AL) for composite food and environmental categories for all conditions tested.

☒ The calculated values for ND+ PPND - PD meet the acceptability limits (AL) for for each of the individual category, and as well for the 3 categories tested with LSBII whatever the protocols tested (without or with FDRS) and thermocycler used (CFX96 Deep Well or CFX Opus Deep Well).

☒ The number of positive presumptive non-confirmed samples (PPNA and PPND) was significantly reduced by applying the FDRS protocol.

☒ 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) are all below the AL fixed at 2.5 for the unpaired data study whatever the matrix/strain pairs.

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

☒ The data and interpretations comply with the EN ISO 16140-2:2016 requirements. **The iQ-Check *Listeria monocytogenes* II is considered equivalent to the ISO standard.**

Quimper, 16 November 2023

Florian QUERO
Technical Study Manager
Validation of Alternative methods

I hereby attest to the validation of the results of the analyses carried out under the COFRAC accreditation.

Maryse RANNOU
Project Manager
Validation of Alternative methods

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

Appendix 1 – Flow diagram of the alternative method: iQ-Check *Listeria monocytogenes*

Initial validation - Protocol 1

25 g of sample + 225 ml of Fraser 1/2 broth
↓
25 h ± 1 h at 30°C
↓
Standard II lysis
Centrifugation of 1.5 ml to obtain bacterial pellet
↓
5 min > at 10 000 g
↓
Discard the supernatant
↓
Addition of 250 µl of lysis solution
↓
Suction - Discharge
↓
Agitation of 3 min ± 1 min with agitator with vibration
↓
Centrifugation to obtain DNA extract
↓
5 min > at 10 000 g
↓
Transfer of 5 µl of culture supernatant into PCR tube with 45 µl of reaction mixture (primers + fluorescent probes)
↓
Real Time PCR with the thermocycler iCycler iQ™ or Chromo4 and measurement of the fluorescence
↓
Results interpretation
↓
Confirmation of positive PCR results

Reference method protocol
Streaking 10 µl onto
O&A and Palcam plates

Typical colonies are confirmed by the tests described in the ISO method

Streaking
0.1 ml onto RAPID'*L.mono* Agar
or 0.1ml onto Agar *Listeria*,
or 0.1ml onto RAPID'*Listeria* spp Agar
↓
Incubation for 24 - 48 h at 37°C ± 1°C
↓
Presence of typical colonies allows to confirm the positive PCR results [7]
except for RAPID'*Listeria* spp for which additional confirmatory tests are required
to confirm the presence of *Listeria monocytogenes*

[7] *During the validation study, the typical colonies were confirmed using the tests described in the reference method (Catalase, β haemolysis, Rhamnose, Xylose). One colony was identified per sample using mini-biochemical galleries.*

Enrichment in LSB broth

Extension study (2006) - Protocols 2 and 3

25 g of sample + 225 ml of LSB broth

↓

Protocol 2: Standard II lysis

24 h ± 2 h at 30°C
↓
Centrifugation of 1.5 ml to obtain bacterial pellet
↓
5 min at > 10 000 g
↓
Discard the supernatant
↓
Addition of 250 µl of lysis solution
↓
Suction - Discharge
↓
Agitation of 3 min ± 1 min with the Disruptor Cell
↓
Centrifugation to obtain DNA extract

Protocol 3: Easy II lysis

25 h ± 1 h at 30°C
↓
Collect 100 µl of sample
↓
Addition of 100 µl of lysis solution
↓
Agitation of 3 min ± 1 min with the Disruptor Cell
↓
Centrifugation to obtain DNA extract

15 min at 95 - 100°C

5 min at > 10 000 g

Transfer of 5 µl of culture supernatant into PCR tube with 45 µl (primers + fluorescent probes)
↓
Real Time PCR with the real-time thermal cycler and measurement of the fluorescence
↓
Results interpretation
↓
Confirmation of positive PCR results

Reference method protocol

Streaking 10 µl onto O&A and Palcam plates

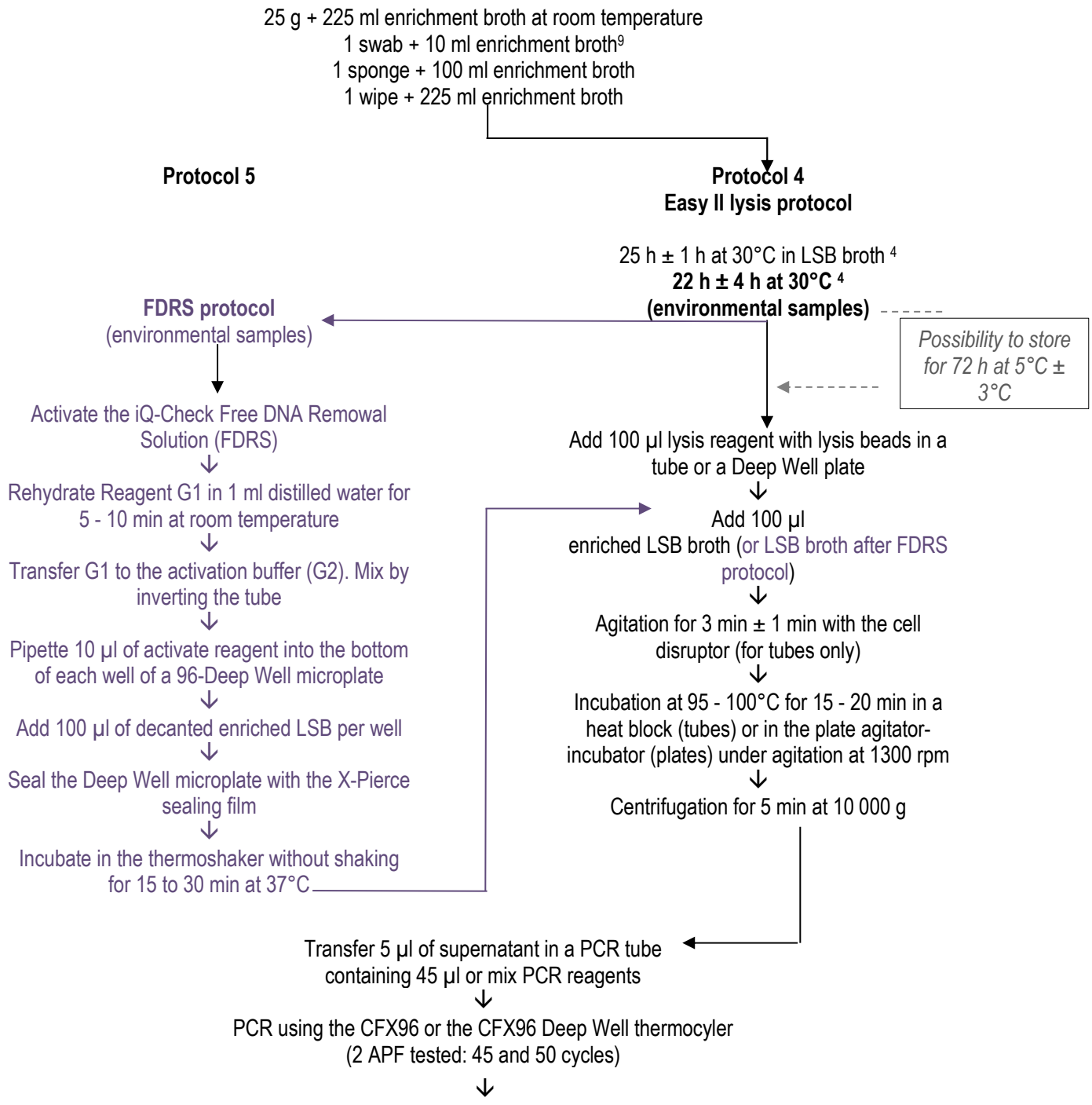
Typical colonies are confirmed by the tests described in the ISO method

Streaking
0.1 ml onto RAPID'*L.mono* Agar
or 0.1 ml onto Agar *Listeria*,
or 0.1ml onto RAPID'*Listeria* spp Agar
↓
Incubation for 24 - 48 h at 37°C ± 1°C
↓
Presence of typical colonies allows to confirm the positive PCR results [8]
except for RAPID'*Listeria* spp for which additional confirmatory tests are required
to confirm the presence of *Listeria monocytogenes*

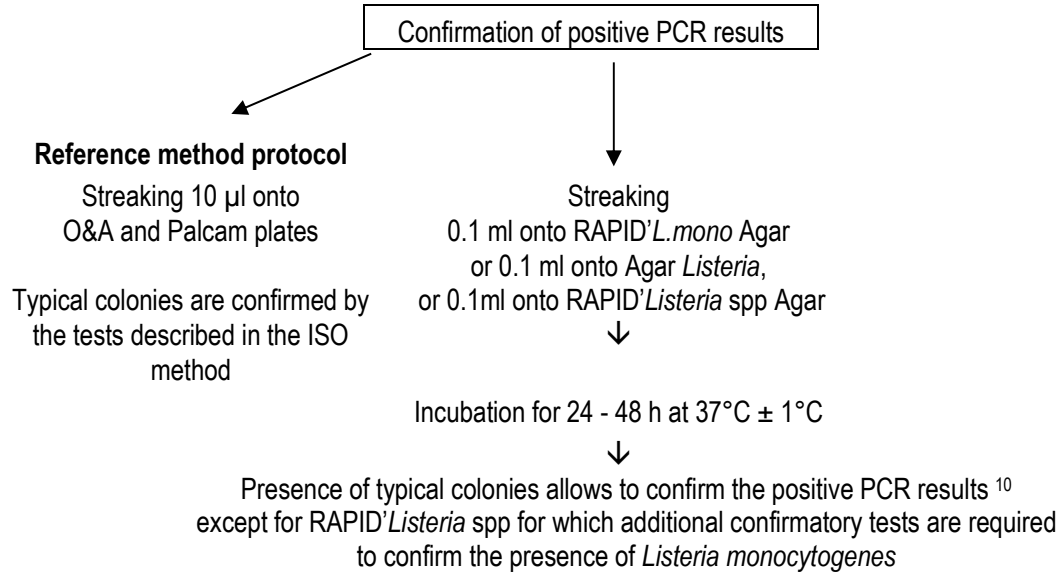
[8] *During the validation study, the typical colonies were confirmed using the tests described in the reference method (Catalase, β haemolysis, Rhamnose, Xylose). One colony was identified per sample using mini-biochemical galleries.*

Extension study (2019) - ADRIA Devéloppement

Protocols 4 and 5 (Environmental samples)



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



[10] *During the validation study, the typical colonies were confirmed using the tests described in the reference method (Catalase, β haemolysis, Rhamnose, Xylose). One colony was identified per sample using mini-biochemical galleries.*

Enrichment in LSB II broth

For food products:
25 g + 225 ml LSB II broth at room temperature (composite food) incubation
or prewarmed (Dairy products)

For environmental samples:
25 g + 225 ml LSB II broth at room temperature
1 swab + 10 ml LSB II broth[11] 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 h - 26 h at 37°C (composite and environment samples)
Incubation 20 h - 28 h at 37°C (Dairy products)
Possibility to store the enriched samples
for 72 h at 5°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°C ± 1°C

11 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°C ± 1°C
↓
Presence of typical colonies allows to confirm the positive PCR results
for Agar *Listeria* and RAPID'*L.mono* 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 (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

Test portion (25 g or 25 mL) + 225 mL Half Fraser broth
1 swab + 10 mL Half Fraser broth[12]
1 sponge + 100 mL Half Fraser broth
1 wipe + 225 mL Half Fraser broth

↓

Primary enrichment medium (Half Fraser broth)

↓

Incubation at 30°C ± 1°C 24 h to 26 h

0.1 ml of culture
in 10 ml of secondary
enrichment medium (Fraser broth)

↓

Incubation at 37°C ± 1°C
for 24 h ± 2 h

Plating out on Agar *Listeria* according to
Ottaviani and Agosti and second selective medium

↓

Incubation of Agar *Listeria* according to
Ottaviani and Agosti for 24 h ± 2 h and an additional 24 h ± 2 h at 37°C ± 1°C
Incubation of second selective medium according to the chosen medium
as specified by the manufacturer

↓

Confirmation

Target	Gram	Catalase	Beta hemolysis	CAMP test	Carbohydrates
Listeria monocytogenes	x	Optional	x	Optional	x

[12] 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 samples (Initial validation study, IPL (2005 - 2006) - Extension study, ISHA (2017) - Extension study, ADRIA (2019))

Artificial contamination (IPL 2005-2006)									
Code	**Sample**	**Category**	**Code strain**	**Strain**	**Origin**	**Spiking used**	**Stress evaluation**	**Level of contamination (CFU/25g)**	**Result**
O23	Goat cheese	d3	L7	*Listeria monocytogenes 1/2a*	Munster	45 minutes at 50 °C and 30 minutes at - 80°C	0.4	5,4	+
O24	Crottin de Chavignol	d3	L7	*Listeria monocytogenes 1/2a*	Munster	46 minutes at 50 °C and 30 minutes at - 80°C	0.4	10,8	+
O27	Raw milk	d2	L7	*Listeria monocytogenes 1/2a*	Munster	47 minutes at 50 °C and 30 minutes at - 80°C	0.4	10,8	+
O28	Raw milk	d2	L7	*Listeria monocytogenes 1/2a*	Munster	48 minutes at 50 °C and 30 minutes at - 80°C	0.4	13,5	+
P9	"Poêlée" Roman	v2	L47	*Listeria monocytogenes 1/2a*	Roasted potatoes	49 minutes at 50 °C and 30 minutes at - 80°C	2,1	16,0	+
P10	Cauli flower puree	v3	L48	*Listeria monocytogenes 1/2a*	Roasted potatoes	50 minutes at 50 °C and 30 minutes at - 80°C	2,1	16,0	+
P20	Saint Paulin	d3	L37	*Listeria monocytogenes 1/2b*	Maroilles with raw milk	51 minutes at 50 °C and 30 minutes at - 80°C	0,5	6,0	+
P21	Goat cheese	d3	L37	*Listeria monocytogenes 1/2b*	Maroilles with raw milk	52 minutes at 50 °C and 30 minutes at - 80°C	0,5	9,0	+
Q1	Prepared salad	v2	L58	*Listeria monocytogenes 4b*	Salad	53 minutes at 50 °C and 30 minutes at - 80°C	1,2	10,0	+
Q2	Rice and mixed vegetables	v3	L58	*Listeria monocytogenes 4b*	Salad	54 minutes at 50 °C and 30 minutes at - 80°C	1,2	15,0	+
Q4	Celery cake	c2	L58	*Listeria monocytogenes 4b*	Salad	55 minutes at 50 °C and 30 minutes at - 80°C	1,2	25,0	+
Q6	Gratin of cauli flower	v3	L125	*Listeria monocytogenes*	Mix cooked vegetables	56 minutes at 50 °C and 30 minutes at - 80°C	ND	3,9	+
Q7	Grated carrot	v1	L125	*Listeria monocytogenes*	Mix cooked vegetables	57 minutes at 50 °C and 30 minutes at - 80°C	ND	5,2	+
Q8	Mixed vegetables	v2	L125	*Listeria monocytogenes*	Mix cooked vegetables	58 minutes at 50 °C and 30 minutes at - 80°C	ND	6,5	+

Artificial contamination (IPL 2005-2006)									
Code	**Sample**	**Category**	**Code strain**	**Strain**	**Origin**	**Spiking used**	**Stress evaluation**	**Level of contamination (CFU/25g)**	**Result**
Q9	Goat cheese	d3	L51	*Listeria monocytogenes 1/2b*	Ripened Germain	59 minutes at 50 °C and 30 minutes at - 80°C	0,4	8,8	+
Q13	Chocolate ice cream	d3	L63	*Listeria monocytogenes 4e*	Munster	60 minutes at 50 °C and 30 minutes at - 80°C	1,1	3,6	+
Q15	Brie of Meaux	d1	L63	*Listeria monocytogenes 4e*	Munster	61 minutes at 50 °C and 30 minutes at - 80°C	1,1	5,4	+
Q24	Rocamadour with raw milk	d1	L63	*Listeria monocytogenes 4e*	Munster	62 minutes at 50 °C and 30 minutes at - 80°C	1,1	7,2	+

Artificial contamination (ISHA, 2017)								
Category	**Sample number**	**Sample**	**Code strain**	**Strain**	**Origin**	**Protocol of seeding**	**Inoculation level (CFU/25g)**	**Global result**
RTE-RTRH	1	Tabbouleh with chicken	LIS.4.6	*Listeria monocytogenes 1/2a*	Sandwich with ham and Emmental	48 h at 5±3 °C	2.2	+
	3	Strabourgeoise salad	LIS.4.6	*Listeria monocytogenes 1/2a*	Sandwich with ham and Emmental	48 h at 5±3 °C	2.2	+
	5	Pièmontaise with ham	LIS.4.6	*Listeria monocytogenes 1/2a*	Sandwich with ham and Emmental	48 h at 5±3 °C	2.2	+
	7	Sandwich with salmon and chives	LIS.4.24	*Listeria monocytogenes 1/2a*	Dairy meal	48 h at 5±3 °C	2.8	+
	9	Sandwich with ham and Emmental	LIS.4.24	*Listeria monocytogenes 1/2a*	Dairy meal	48 h at 5±3 °C	2.8	+
	11	Sandwich with tuna and crudities	LIS.4.24	*Listeria monocytogenes 1/2a*	Dairy meal	48 h at 5±3 °C	2.8	+
	13	Sandwich with ham and butter	LIS.4.86	*Listeria monocytogenes*	Lorraine quiche	48 h at 5±3 °C	1.8	+
	15	Sandwich with rosette and butter	LIS.4.86	*Listeria monocytogenes*	Lorraine quiche	48 h at 5±3 °C	1.8	+
	17	Sandwich with chicken and crudities	LIS.4.86	*Listeria monocytogenes*	Lorraine quiche	48 h at 5±3 °C	1.8	+
	19	Sandwich with ham and cheddar	LIS.4.88	*Listeria monocytogenes*	Chocolate cake	48 h at 5±3 °C	2.2	+
	21	Sandwich with ham and cheddar	LIS.4.88	*Listeria monocytogenes*	Chocolate cake	48 h at 5±3 °C	2.2	+
	23	Pizza with three cheeses	LIS.4.88	*Listeria monocytogenes*	Chocolate cake	48 h at 5±3 °C	2.2	+
	25	Pizza with ham and cheese	LIS.4.89	*Listeria monocytogenes*	Lemon pie	48 h at 5±3 °C	2.6	+
	27	Pizza with three melting cheeses	LIS.4.89	*Listeria monocytogenes*	Lemon pie	48 h at 5±3 °C	2.6	+
	29	Pizza with Comté, Emmental and lardons	LIS.4.89	*Listeria monocytogenes*	Lemon pie	48 h at 5±3 °C	2.6	+
	31	Pizza with ham and mushroom	LIS.4.46	*Listeria monocytogenes 3a*	Goat cheese sandwich	48 h at 5±3 °C	2	+
	33	Flammekueche with smoked lardons	LIS.4.46	*Listeria monocytogenes 3a*	Goat cheese sandwich	48 h at 5±3 °C	2	+
	35	Raspberries tart	LIS.4.46	*Listeria monocytogenes 3a*	Goat cheese sandwich	48 h at 5±3 °C	2	+
	37	Apples tart	LIS.4.7	*Listeria monocytogenes 1/2a*	Ham and Emmental sandwich	48 h at 5±3 °C	2.8	+
	39	Mille-feuilles	LIS.4.7	*Listeria monocytogenes 1/2a*	Ham and Emmental sandwich	48 h at 5±3 °C	2.8	+
	41	Savarin with rum and pastry cream	LIS.4.7	*Listeria monocytogenes 1/2a*	Ham and Emmental sandwich	48 h at 5±3 °C	2.8	+
	43	Pudding	LIS.4.93	*Listeria monocytogenes*	Coconut pearls	48 h at 5±3 °C	3.2	+
	45	Choux with pastry cream	LIS.4.93	*Listeria monocytogenes*	Coconut pearls	48 h at 5±3 °C	3.2	+
	47	Strawberries tart	LIS.4.93	*Listeria monocytogenes*	Coconut pearls	48 h at 5±3 °C	3.2	+
	49	Savarin with rum and pastry cream	LIS.4.91	*Listeria monocytogenes*	Ground beef sandwich	48 h at 5±3 °C	1.6	+
	51	Choux with pastry cream	LIS.4.91	*Listeria monocytogenes*	Ground beef sandwich	48 h at 5±3 °C	1.6	+
	53	Pudding	LIS.4.91	*Listeria monocytogenes*	Ground beef sandwich	48 h at 5±3 °C	1.6	+
Dairy products	57	Neufchâtel raw milk	LIS.4.60	*Listeria monocytogenes*	Raw milk cheese	48 h at 5±3 °C	2.2	+
	59	Camembert of Normandie raw milk	LIS.4.60	*Listeria monocytogenes*	Raw milk cheese	48 h at 5±3 °C	2.2	+
	61	Coulommiers raw milk	LIS.4.60	*Listeria monocytogenes*	Raw milk cheese	48 h at 5±3 °C	2.2	+
	63	Comté raw milk	LIS.4.56	*Listeria monocytogenes*	Raw milk cheese	48 h at 5±3 °C	1.8	+
	65	Comté raw milk	LIS.4.56	*Listeria monocytogenes*	Raw milk cheese	48 h at 5±3 °C	1.8	+
	67	Morbier raw milk	LIS.4.56	*Listeria monocytogenes*	Raw milk cheese	48 h at 5±3 °C	1.8	+
	69	Reblochon raw milk	LIS.4.32	*Listeria monocytogenes 1/2b*	Raw milk	48 h at 5±3 °C	3.0	+
	71	Mountain tome cheese raw milk	LIS.4.32	*Listeria monocytogenes 1/2b*	Raw milk	48 h at 5±3 °C	3.0	+
	73	Raclette raw milk	LIS.4.32	*Listeria monocytogenes 1/2b*	Raw milk	48 h at 5±3 °C	3.0	+
	75	Raw milk	LIS.4.59	*Listeria monocytogenes*	Goat raw milk	48 h at 5±3 °C	2.4	+
	77	Raw milk	LIS.4.59	*Listeria monocytogenes*	Goat raw milk	48 h at 5±3 °C	2.4	+
	79	Raw milk	LIS.4.59	*Listeria monocytogenes*	Goat raw milk	48 h at 5±3 °C	2.4	+
	81	Raw milk	LIS.4.23	*Listeria monocytogenes*	Fresh cheese	48 h at 5±3 °C	3.2	+
	83	Raw milk	LIS.4.23	*Listeria monocytogenes*	Fresh cheese	48 h at 5±3 °C	3.2	+

Artificial contamination (ISHA, 2017)								
Category	**Sample number**	**Sample**	**Code strain**	**Strain**	**Origin**	**Protocol of seeding**	**Inoculation level (CFU/25g)**	**Global result**
	85	Raw milk	LIS.4.23	*Listeria monocytogenes*	Fresh cheese	48 h at 5±3 °C	3.2	+
	87	Raw milk butter	LIS.4.62	*Listeria monocytogenes*	Ewe raw milk	48 h at 5±3 °C	2.6	+
	89	Raw milk butter	LIS.4.62	*Listeria monocytogenes*	Ewe raw milk	48 h at 5±3 °C	2.6	+
	91	Raw milk	LIS.4.62	*Listeria monocytogenes*	Ewe raw milk	48 h at 5±3 °C	2.6	+
	93	Raw milk	LIS.4.65	*Listeria monocytogenes 1/2a*	Raw milk from AFSSA	48 h at 5±3 °C	2.2	+
	95	Raw milk	LIS.4.65	*Listeria monocytogenes 1/2a*	Raw milk from AFSSA	48 h at 5±3 °C	2.2	+
	97	Raw milk	LIS.4.65	*Listeria monocytogenes 1/2a*	Raw milk from AFSSA	48 h at 5±3 °C	2.2	+
	99	Raw milk	LIS.4.61	*Listeria monocytogenes*	Buffalo raw milk cheese	48 h at 5±3 °C	2.4	+
Sea food	101	Stick with crab flavour	LIS.4.83	*Listeria monocytogenes*	Fish with lemon sauce and rice	48 h at 5±3 °C	2.8	+
	103	Rillette of sardines	LIS.4.83	*Listeria monocytogenes*	Fish with lemon sauce and rice	48 h at 5±3 °C	2.8	+
	105	Tarama with cod eggs	LIS.4.83	*Listeria monocytogenes*	Fish with lemon sauce and rice	48 h at 5±3 °C	2.8	+
	107	Rillette of salmon with garlic and sweet herbs	LIS.4.15	*Listeria monocytogenes 1/2a*	Salmon tartare	48 h at 5±3 °C	2.2	+
	109	Rillette of St Jacques	LIS.4.15	*Listeria monocytogenes 1/2a*	Salmon tartare	48 h at 5±3 °C	2.2	+
Vegetal products	111	Banana	LIS.4.10	*Listeria monocytogenes 1/2a*	Salad	48 h at 5±3 °C	1.6	+
	113	Grape	LIS.4.10	*Listeria monocytogenes 1/2a*	Salad	48 h at 5±3 °C	1.6	+
	115	Tomato	LIS.4.10	*Listeria monocytogenes 1/2a*	Salad	48 h at 5±3 °C	1.6	+
	117	Plums red	LIS.4.35	*Listeria monocytogenes 1/2c*	Sandwich chef salad	48 h at 5±3 °C	2.0	+
	119	Pear	LIS.4.35	*Listeria monocytogenes 1/2c*	Sandwich chef salad	48 h at 5±3 °C	2.0	+
	121	Yellow plum	LIS.4.35	*Listeria monocytogenes 1/2c*	Sandwich chef salad	48 h at 5±3 °C	2.0	+
	123	Estar apple	LIS.4.17	*Listeria monocytogenes 1/2a*	Crudeness	48 h at 5±3 °C	1.8	+
	125	Canada grey apple	LIS.4.17	*Listeria monocytogenes 1/2a*	Crudeness	48 h at 5±3 °C	1.8	+
	127	Granny apple	LIS.4.17	*Listeria monocytogenes 1/2a*	Crudeness	48 h at 5±3 °C	1.8	+
	129	Reine Claude plum	LIS.4.80	*Listeria monocytogenes*	Potatoes and grated carrot salad	48 h at 5±3 °C	3.0	+
	131	Golden apple	LIS.4.80	*Listeria monocytogenes*	Potatoes and grated carrot salad	48 h at 5±3 °C	3.0	+
	133	Julienne of vegetables	LIS.4.80	*Listeria monocytogenes*	Potatoes and grated carrot salad	48 h at 5±3 °C	3.0	+
	135	Grated carrot	LIS.4.81	*Listeria monocytogenes*	Mixed vegetables	48 h at 5±3 °C	2.6	+
	137	Sliced cucumber	LIS.4.81	*Listeria monocytogenes*	Mixed vegetables	48 h at 5±3 °C	2.6	+
	139	Prepared lettuce heart	LIS.4.81	*Listeria monocytogenes*	Mixed vegetables	48 h at 5±3 °C	2.6	+
	141	Mix of young sprouts	LIS.4.20	*Listeria monocytogenes 1/2a*	Sandwich with bacon and crudeness	48 h at 5±3 °C	1.8	+
	143	Sliced leek	LIS.4.20	*Listeria monocytogenes 1/2a*	Sandwich with bacon and crudeness	48 h at 5±3 °C	1.8	+
	145	Grated carrot	LIS.4.20	*Listeria monocytogenes 1/2a*	Sandwich with bacon and crudeness	48 h at 5±3 °C	1.8	+
	147	White cabbage	LIS.4.5	*Listeria monocytogenes 1/2a*	Ham with crudeness	48 h at 5±3 °C	2.2	+
	149	Red cabbage	LIS.4.5	*Listeria monocytogenes 1/2a*	Ham with crudeness	48 h at 5±3 °C	2.2	+
	151	White cabbage	LIS.4.5	*Listeria monocytogenes 1/2a*	Ham with crudeness	48 h at 5±3 °C	2.2	+
	153	Red cabbage	LIS.4.18	*Listeria monocytogenes 1/2a*	Salad of vegetable	48 h at 5±3 °C	2.0	+
	155	Batavia salad	LIS.4.18	*Listeria monocytogenes 1/2a*	Salad of vegetable	48 h at 5±3 °C	2.0	+
	157	Frisée salad	LIS.4.18	*Listeria monocytogenes 1/2a*	Salad of vegetable	48 h at 5±3 °C	2.0	+
	159	Wax bean	LIS.4.78	*Listeria monocytogenes*	Frozen bean	48 h at 5±3 °C	3.2	+
	161	peas steamed	LIS.4.78	*Listeria monocytogenes*	Frozen bean	48 h at 5±3 °C	3.2	+
	163	Green lentils cooked	LIS.4.78	*Listeria monocytogenes*	Frozen bean	48 h at 5±3 °C	3.2	+
	165	Green beans	LIS.4.79	*Listeria monocytogenes*	Frozen bean	48 h at 5±3 °C	2.6	+

Artificial contamination (ISHA, 2017)								
Category	**Sample number**	**Sample**	**Code strain**	**Strain**	**Origin**	**Protocol of seeding**	**Inoculation level (CFU/25g)**	**Global result**
Meat products	167	Pork muzzle with mayonnaise	LIS.4.30	*Listeria monocytogenes 1/2b*	Rolled turkey raw	48 h at 5±3 °C	3.2	+
	169	Cooked ham high quality	LIS.4.26	*Listeria monocytogenes 1/2a*	Ham	48 h at 5±3 °C	2.4	+
	171	Auvergne Ham	LIS.4.26	*Listeria monocytogenes 1/2a*	Ham	48 h at 5±3 °C	2.4	+
	173	Cooked and derinded ham high quality	LIS.4.26	*Listeria monocytogenes 1/2a*	Ham	48 h at 5±3 °C	2.4	+
	175	Cooked ham	LIS.4.27	*Listeria monocytogenes 1/2a*	Ground beef	48 h at 5±3 °C	2.8	+
	177	Serrano ham	LIS.4.27	*Listeria monocytogenes 1/2a*	Ground beef	48 h at 5±3 °C	2.8	+
Environmental sample	179	Processed water 1	LIS.4.2	*Listeria monocytogenes*	Environment	48 h at 5±3 °C	2.4	+
	181	Processed water 2	LIS.4.2	*Listeria monocytogenes*	Environment	48 h at 5±3 °C	2.4	+
	183	Processed water 3	LIS.4.2	*Listeria monocytogenes*	Environment	48 h at 5±3 °C	2.4	+
	185	Processed water 4	LIS.4.44	*Listeria monocytogenes 3a*	Surface control	48 h at 5±3 °C	3.0	+
	187	Processed water 5	LIS.4.44	*Listeria monocytogenes 3a*	Surface control	48 h at 5±3 °C	3.0	+
	189	Processed water 6	LIS.4.44	*Listeria monocytogenes 3a*	Surface control	48 h at 5±3 °C	3.0	+
	191	Processed water 7	LIS.4.50	*Listeria monocytogenes 4b*	Surface control on salmon	48 h at 5±3 °C	1.8	+
	193	Processed water 8	LIS.4.50	*Listeria monocytogenes 4b*	Surface control on salmon	48 h at 5±3 °C	1.8	+
	195	Residue	LIS.4.50	*Listeria monocytogenes 4b*	Surface control on salmon	48 h at 5±3 °C	1.8	+

Date of analysis	Réf	Product (French name)	Product	Artificial contaminations (ADRIA Développement, Extension study 2019)						Global result				Type
				Strain	Origin	Injury protocol	Injuryy measu-rement	Inoculation level (CFU/sample) Enumeration	Inoculation level (CFU/sample) Mean	Simplified lysis APF Classic	Simplified lysis APF Fast	Simplified lysis FDRS APF Classic	Simplified lysis FDRS APF Fast	
2019	**4045**	**Eau de rinçage (environnement mer)**	**Rinsing water (seafood environment)**	*L.monocytogenes* A00E008	Environment	Seeding 48 h 3°C±2°C	/	1-0-1-2-0	0,8	-	-	-	-	a
2019	**4681**	**Eau process (bœuf)**	**Process water (beef environment)**	*L.monocytogenes* Ad1255	Environment+ Environment	Seeding 48 h 3°C±2°C	/	4-3-5-1-1	2,8	+	+	+	+	a
2019	**4682**	**Eau de rinçage (jambon végétal)**	**Rinsing water (vegetable environment)**	*L.monocytogenes* Ad1255	Environment	Seeding 48 h 3°C±2°C	/	2-2-2-0-2	1,6	+	+	+	+	a
2019	**4683**	**Eau rinçage (thon)**	**Rinsing water (seafood environment)**	*L.monocytogenes* AOOE035	Environment	Seeding 48 h 3°C±2°C	/	2-2-4-1-1	2,0	+	+	+	+	a
2019	**4684**	**Eau rinçage (saumon)**	**Rinsing water (seafood environment)**	*L.monocytogenes* Ad548	Environment	Seeding 48 h 3°C±2°C	/	1-0-1-1-2	1,0	+	+	+	+	a
2019	**4685**	**Eau rinçage (saumon)**	**Rinsing water (seafood environment)**	*L.monocytogenes* AOOE035	Environment	Seeding 48 h 3°C±2°C	/	2-2-4-1-1	2,0	+	+	+	+	a
2019	**4686**	**Eau rinçage (thon)**	**Rinsing water (seafood environment)**	*L.monocytogenes* AOOE035	Environment	Seeding 48 h 3°C±2°C	/	2-2-4-1-1	2,0	+	+	+	+	a
2019	**4687**	**Eau rinçage (thon)**	**Rinsing water (seafood environment)**	*L.monocytogenes* Ad548	Environment	Seeding 48 h 3°C±2°C	/	1-0-1-1-2	1,0	+	+	+	+	a
2019	**4688**	**Eau rinçage (environnement mer)**	**Rinsing water (seafood environment)**	*L.monocytogenes* AOOE035	Environment	Seeding 48 h 3°C±2°C	/	2-2-4-1-1	2,0	+	+	+	+	a
2019	**5081**	**Eau rinçage bol (environnement laitier)**	**Rinsing water (dairy environment)**	*L.monocytogenes* Ad550	Environment	Seeding 48 h 3°C±2°C	/	0-0-0-1-0	0,2	+	+	+	+	a
2019	**5086**	**Eau rinçage (environnement végétaux)**	**Rinsing water (vegetable environment)**	*L.monocytogenes* Ad2503	Environment	Seeding 48 h 3°C±2°C	/	3-2-2-2-4	2,6	+	+	+	+	a
2019	**5091**	**Eau rinçage (environnement vollaile)**	**Rinsing water (poultry environment)**	*L.monocytogenes* Ad1272	Environment+ Environment	Seeding 48 h 3°C±2°C	/	0-1-0-0-0	0,2	+	+	+	+	a
2019	**5077**	**Eponge lame cutter (environnement laitier)**	**Sponge (dairy environment)**	*L.monocytogenes* Ad550	Environment	Seeding 48 h 3°C±2°C	/	0-0-0-1-0	0,2	+	+	+	+	b
2019	**5078**	**Eponge paillasse découpe fromage**	**Sponge (dairy environment)**	*L.monocytogenes* Ad550	Environment	Seeding 48 h 3°C±2°C	/	2-3-2-3-1	2,2	+	+	+	+	b
2019	**5082**	**Eponge cutter (environnement végétaux)**	**Sponge (vegetable environment)**	*L.monocytogenes* Ad2503	Environment	Seeding 48 h 3°C±2°C	/	3-2-2-2-4	2,6	+	+	+	+	b
2019	**5083**	**Eponge balance (environnement végétaux)**	**Sponge (vegetable environment)**	*L.monocytogenes* Ad2503	Environment	Seeding 48 h 3°C±2°C	/	3-2-2-2-4	2,6	+	+	+	+	b
2019	**5084**	**Chiffonnette outils découpe végétaux**	**Wipe (vegetable environment)**	*L.monocytogenes* Ad2503	Environment	Seeding 48 h 3°C±2°C	/	3-2-2-2-4	2,6	+	+	+	+	b
2019	**5087**	**Eponge cutter (environnement volaille)**	**Sponge (poultry environment)**	*L.monocytogenes* Ad1272	Environment+ Environment	Seeding 48 h 3°C±2°C	/	0-1-0-0-0	0,2	+	+	+	+	b
2019	**5089**	**Chiffonnette balance (environnement carné)**	**Wipe (meat environment)**	*L.monocytogenes* Ad1272	Environment	Seeding 48 h 3°C±2°C	/	1-1-3-2-0	1,4	+	+	+	+	b
2019	**5578**	**Chiffonnette paillasse découpe végétaux**	**Wipe after cleaning process (vegetable environment)**	*L.monocytogenes* Ad2600	Environment	Seeding 48 h 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)**	*L.monocytogenes* Ad2600	Environment	Seeding 48 h 3°C±2°C	/	1-3-3-2-4	2,6	+	+	+	+	b
2019	**5580**	**Chiffonnette cutter (environnement végétaux)**	**Wipe (vegetable environment)**	*L.monocytogenes* Ad2600	Environment	Seeding 48 h 3°C±2°C	/	1-3-3-2-4	2,6	-	-	-	-	b

Date of analysis	Réf	Product (French name)	Product	Artificial contaminations (ADRIA Développement, Extension study 2019)						Global result				Type
				Strain	Origin	Injury protocol	Injuryy measu-rement	Inoculation level (CFU/sample)		Simplified lysis APF Classic	Simplified lysis APF Fast	Simplified lysis FDRS APF Classic	Simplified lysis FDRS APF Fast	
								Enumeration	Mean					
2019	**4046**	**Déchets saumon**	**Residues (seafood environment)**	*L.monocytogenes* A00E008	Environment	Seeding 48 h 3°C±2°C	/	1-0-1-2-0	0,8	+	-	+	+	c
2019	**4047**	**Déchets poissons**	**Residues (seafood environment)**	*L.monocytogenes* A00E008	Environment	Seeding 48 h 3°C±2°C	/	1-0-1-2-0	0,8	+	+	+	+	c
2019	**4048**	**Déchets pareuse**	**Residues (seafood environment)**	*L.monocytogenes* A00E008	Environment	Seeding 48 h 3°C±2°C	/	1-0-1-2-0	0,8	+	+	+	+	c
2019	**4050**	**Déchets chantilly**	**Residues (dairy environment)**	*L.monocytogenes* Ad627	Environment	Seeding 48 h 3°C±2°C	/	2-0-3-2-1	1,6	+	+	+	+	c
2019	**4051**	**Déchets chantilly**	**Residues (dairy environment)**	*L.monocytogenes* Ad627	Environment	Seeding 48 h 3°C±2°C	/	2-0-3-2-1	1,6	+	+	+	+	c
2019	**4689**	**Déchets saumon**	**Residues (seafood environment)**	*L.monocytogenes* AOOE035	Environment	Seeding 48 h 3°C±2°C	/	2-2-4-1-1	2,0	+	+	+	+	c
2019	**4690**	**Déchets saumon herbes**	**Residues (seafood environment)**	*L.monocytogenes* Ad548	Environment	Seeding 48 h 3°C±2°C	/	1-0-1-1-2	1,0	+	+	+	+	c
2019	**5085**	**Déchets végétaux 4è gamme**	**Residues (vegetable environment)**	*L.monocytogenes* Ad2503	Environment	Seeding 48 h 3°C±2°C	/	3-2-2-2-4	2,6	+	+	+	+	c
2019	**5090**	**Déchets viande veau**	**Residues (veal environment)**	*L.monocytogenes* Ad1272	Environment+ Environment	Seeding 48 h 3°C±2°C	/	0-1-0-0-0	0,2	+	+	+	+	c

Appendix 4 – Sensitivity study: raw data (Initial validation study, IPL (2005 - 2006) - Extension study, ISHA (2017) - Extension study, ADRIA (2019))

IPL (2005-2006)

AC: artificial contamination

Amount of flora: ∅: no colonies
L: low
M: medium
H: high

Flora repartition: A: pure culture of expected colonies
B: mix with majority of expected colonies and a minority of expected colonies
C: mix with a minority of expected colonies
D: mix with rare expected colonies
E: no expected colonies
(x): x characteristic colonies of *Listeria* if x ≤ 5
*: presence of 2 kinds of characteristic colonies (*Listeria monocytogenes* + others)

ISHA (2017)

RM:	reference method
AM:	alternative method
ST:	sample type
SN:	sample number
se:	seeding
+:	positive result
-:	negative result
/:	test not realised
O&A:	Ottaviani and Agosti
∅:	absence of colonies
PA:	positive agreement
NA:	negative agreement
PD:	positive deviation
ND:	negative deviation
FN:	false negative result
FP:	false positive result
A:	absence
P:	presence
0/1/2/3/4:	level of typical flora, from absence to high
∅/L/M/H:	level of annex flora, from absence to high
L.m.:	*Listeria monocytogenes*
L.w:	*Listeria welshimeri*
L.in:	*Listeria innocua*
L.iv:	*Listeria ivanovii*

ADRIA(2019)

(x):	number of colonies in the plate
H+:	Typical colonies of *Listeria* with opaque halo
H-:	Typical colonies of *Listeria spp.* without opaque halo
-:	no typical colonies but presence of background microflora
st:	plate without any colony
d:	doubtful result
PA:	positive agreement
NA:	negative agreement
ND:	negative deviation
PD:	positive deviation
PPNA:	positive presumptive negative agreement
PPND :	positive presumptive negative deviation
w:	weak reaction
NC:	non-characteristic colonies on TSYEA

iQ-Check:

Protocol 1	Ct TX	Ct value for the target DNA amplification
	Ct	Ct value for internal control DNA amplification
Protocols 2 and 3	Ct FAM	Ct value for the target DNA amplification
	Ct C int	Ct value for the control DNA amplification
Protocols 4 and 5	Ct FAM	Ct value for the target DNA amplification

Protocol 1 (Half Fraser - Standard II lysis) - Meat products

Protocol 1 (Half Fraser - Standard II lysis) Initial validation (IPL 2005)																		
MEAT PRODUCTS																		
Type	Ref.	Cat	*CA*	Product (in French)	Reference method								Alternative method					Agreement
					Fraser 1/2 (10µl)			Fraser			*Identifications*	Result	Pure DNA		Result	RLM	*Identifications*	
					P1	A1	AL1	P2	A2	AL2			Ct TEX	Ct FAM				
a	O17	PC	*No*	Bœuf haché	Ø	Ø	Ø	Ø	Ø	Ø		-	N/A	34,0	-	Ø	/	=
a	O21	PC	*No*	Steak de cheval	Ø	Ø	Ø	Ø	Ø	Ø		-	N/A	35,4	-	Ø	/	=
a	O35	PC	*No*	Bœuf haché	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	34,9	-	Ø	/	=
a	O35	PC	*No*	Bœuf haché	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	35,1	-	Ø	/	=
a	O54	PC	*No*	Escalope de poulet	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	33,7	-	Ø	/	=
a	O58	PC	*No*	Bœuf haché	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,0	-	Ø	/	=
a	A12	PC	*No*	Steak haché surgelé	Ø	Ø	Ø	-HE	Ø	-LE	/	-	N/A	32,1	-	/	/	=
a	A13	PC	*No*	Viande hachée	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,1	-	/	/	=
a	B9	PC	*No*	Viande de bœuf	-LE	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,1	-	/	/	=
a	C12	PC	*No*	Cuisses de poulet	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	31,5	-	/	/	=
a	C14	PC	*No*	Pavé haché	+LA	+LA	+LB	+HA	+HA	+HA	*L.ivanovii*	-	N/A	32,7	-	-LB	*L.ivanovii*	=
a	E18	PC	*No*	Steaks hachés surgelés	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	34,9	-	/	/	=
a	I3	PC	*No*	Steak haché surgelé	-LE	Ø	Ø	-HE	-ME	-ME	/	-	N/A	36,2	-	-LE	/	=
a	I8	PC	*No*	Viande de cheval	Ø	Ø	Ø	Ø	-LE	-LE	/	-	N/A	33,8	-	/	/	=
a	I11	PC	*No*	Viande hachée	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	36,8	-	/	/	=
a	I13	PC	*No*	Viande hachée de cheval	Ø	-LE	-LE	Ø	Ø	Ø	/	-	N/A	34,2	-	/	/	=
a	J3	PC	*No*	Viande de bœuf	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	36,4	-	/	/	=
a	J23	PC	*No*	Cuisses de poulet	+MA	-ME	-ME	+HA	-HE	-HE	/	-	N/A	34,8	-	/	/	=
a	L2	PC	*No*	Magrets de canard	-LE	-LE	-LE	-HE	-HE	-HE	/	-	N/A	34,3	-	-LE		=
a	B3	PC	*No*	Haché tartare	-LE	Ø	-LE	Ø	Ø	Ø	/	-	N/A	32,7	-	/	/	=
a	O7	PC	*No*	Viande de bœuf	+LA	+LB	-LE	+MA	+MC	+MC	*L.monocytogenes*	+	34,3	32,5	+	+MC	*L.monocytogenes*	=
a	O20	PC	*No*	Cuisse de poulet	+LA	Ø	+LA	+HA	+MA	+MA	*L.monocytogenes*	+	32,5	34,7	+	+LA	*L.monocytogenes*	=
a	O28	PC	*No*	Cuisse de poulet	+LA	+LA	+LA	+MA	+MA	+MA	*L.monocytogenes*	+	24,5	31,9	+	+MA	*L.monocytogenes*	=
a	B8	PC	*No*	Filet de poulet	+MB	+MB	+MB	+HB	+MC	+HC*	*L.monocytogenes*	+	28,9	32,1	+	+MB	*L.monocytogenes*	=
a	I5	PC	*No*	Filet de poulet	-La*	+LC	+LC	+HA	-HE	+HC	*L.monocytogenes* **L.innocua(5)*	+	N/A	33,9	-	+MC	*L.monocytogenes*	ND
a	I14	PC	*No*	Viande hachée de cheval	+LA	+LA	+LA	+HA	+HA	+HA	*L.monocytogenes*	+	31,8	33,7	+	+LA	*L.monocytogenes*	=
a	J4	PC	*No*	Viande de porc	+LB	+LA	+LA	+HB	+HA	+HA	*L.monocytogenes*	+	25,6	35,7	+	+MA	*L.monocytogenes*	=
a	J5	PC	*No*	Viande de porc	+MB	+MB	+MB	+HB	+HB	+HB	*L.monocytogenes*	+	24,1	38,0	+	+HA	*L.monocytogenes*	=
a	L3	PC	*No*	Magrets de canard	+MB	+MB	+MB	+HB	+MB	+MB	*L.monocytogenes*	+	25,2	34,6	+	+MB	*L.monocytogenes*	=
a	L18	PC	*No*	Magrets de canard	+HB	+HB	+HB	+HB	+HB	+HB	*L.monocytogenes*	+	21,8	35,4	+	+LB	*L.monocytogenes*	=
b	A11	PC	*No*	Rissolette de veau	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,6	-	/	/	=
b	E17	PC	*No*	Rissolette de veau surgelée	Ø	Ø	Ø	Ø	Ø	Ø	/	-	42,4 40,8 N/A	34,7 34,1 34,4	+ + -	Ø	/	PPNA
b	E20	PC	*No*	Rissolette de veau surgelée	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	34,9	-	/	/	=
b	O18	PC	*No*	Veau pâné	+MA	-ME	-ME	+HA	-ME	-ME	*L.innocua*	-	N/A	37,3	-	-ME	*L.innocua*	=
b	O37	PC	*No*	Saucisse au thym	Ø	Ø	-LE	Ø	Ø	Ø	/	-	N/A	35,1	-	Ø	/	=
b	O51	PC	*No*	Veau pâné	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,2	-	-LE	/	=
b	A14	PC	*No*	Nuggets de poulet surgelés	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,8	-	/	/	=
b	B5	PC	*No*	Merguez	Ø	-LE	-LE	Ø	Ø	Ø	/	-	N/A	32,0	-	/	/	=
b	B7	PC	*No*	Chair à saucisse	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	31,4	-	/	/	=
b	B10	PC	*No*	Haché bolognaise	-LE	-LE	-LE	-ME	-LE	-LE	/	-	N/A	32,5	-	/	/	=
b	B11	PC	*No*	Burger oignons	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,8	-	/	/	=
b	D18	PC	*No*	Burger tomates	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,7	-	/	/	=

Protocol 1 (Half Fraser - Standard II lysis) Initial validation (IPL 2005)																			
MEAT PRODUCTS																			
Type	Ref.	Cat	*CA*	Product (in French)	Reference method								Alternative method					Agreement
					Fraser 1/2 (10µl)			Fraser			*Identifications*	Result	Pure DNA		Result	RLM	*Identifications*	
					P1	A1	AL1	P2	A2	AL2			Ct TEX	Ct FAM				
b	E19	PC	*No*	Boulettes crues de bœuf, façon tunisienne	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	36,7	-	/	/	=
b	I9	PC	*No*	Haché bolognaise	+LA	-LE	-LE	+HA	-ME	-ME	*L.welshimeri*	-	N/A	34,0	-	/	/	=
b	J24	PC	*No*	Haché bolognaise	+LA	-LE	-LE	+HB	-HE	-HE	*L.welshimeri*	-	N/A	35,3	-	/	/	=
b	I2	PC	*No*	Saucisses de Toulouse	+HA	+MA	+MA	+HA	+MA	+HA	*L.monocytogenes*	+	17,3	N/A	+	+HA	*L.monocytogenes*	=
b	O29	PC	*No*	Paupiettes de dindonneau	-La*	-LE	-LE	+MA	-Mc*	+MD	*L.monocytogenes* **L.welshimeri (5)*	+	37,1	32,8	+	+MD	*L.monocytogenes*	=
b	O55	PC	*No*	Paupiettes de dindonneau	+LC	Ø	+LA	+MA	+MA	+MA	*L.monocytogenes*	+	32,7	33,6	+	+LB	*L.monocytogenes*	=
b	I6	PC	*No*	Merguez et chipolatas	-La*	+LC	+LB(3)	+HB	+MC	+MC	*L.monocytogenes* **L.innocua(5)*	+	34,7	33,9	+	+LC	*L.monocytogenes*	=
b	I10	PC	*No*	Saucisses de Morteau	+MA	+MA	+MA	+HA	+HB	+HB	*L.monocytogenes*	+	20,8	34,7	+	+MA	*L.monocytogenes*	=
b	B6	PC	*No*	Langue cuite	+MA	+MA	+MA	+MB	+HA	+HA	*L.monocytogenes*	+	27,9	32,7	+	+MA	*L.monocytogenes*	=
c	O2	PC	*No*	Pâté	-LE	/	Ø	Ø	/	Ø	/	-	N/A	31,7	-	Ø	/	=
c	O41	PC	*No*	Lardons fumés	-LE	-LE	-LE	+LA	-ME	-ME	*L.welshimeri*	-	N/A	35,3	-	Ø	*L.welshimeri*	=
c	O59	PC	*No*	Pâté de tête	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,3	-	Ø	/	=
c	A9	PC	*No*	Lardons nature	Ø	Ø	Ø	Ø	-LE	-LE	/	-	N/A	32,9	-	/	/	=
c	A10	PC	*No*	Lardons fumés	-LE	-LE	-LE	+HB	-HE	-HE	*L.innocua*	-	N/A	32,2	-	/	*L.innocua*	=
c	B4	PC	*No*	Salami	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	31,8	-	/	/	=
c	E21	PC	*No*	Jambon de Parme	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	34,1	-	/	/	=
c	I1	PC	*No*	Lardons	+LB	-LE	-LE	+HB	-ME	-ME	*L.welshimeri*	-	N/A	33,7	-	/	/	=
c	I4	PC	*No*	Salami	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	33,4	-	/	/	=
c	I15	PC	*No*	Pâté de foie	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	34,0	-	/	/	=
c	J2	PC	*No*	Lard cru salé	+MA	+LA	+LA	+HA	+HA	+HA	*L.monocytogenes*	+	24,2	38,0	+	+MA	*L.monocytogenes*	=
c	J6	PC	*No*	Lard cru salé	+MB	+LB	+LB	+HB	+HB	+HB	*L.monocytogenes* *L.welshimeri*	+	27,7	35,7	+	+MB	*L.monocytogenes*	=
c	O60	PC	*No*	Lardons fumés	+LD	-LE	-LE	+HA	-ME	-ME	*L.monocytogenes*	+	32,6	34,3	+	-ME	/	= (sf RLM)
c	A7	PC	*No*	Rillettes de canard	+MA	+MA	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	25,6	32,6	+	+MA	*L.monocytogenes*	=
c	A8	PC	*No*	Jambon blanc	-LE(2)	Ø	Ø	Ø	Ø	Ø	/	-	41,8	34,7	+	+LA(1)	*L.monocytogenes*	PD
c	B1	PC	*No*	Cervelas	+LB	+LB	+MB	+HB	+HB	+HB	*L.monocytogenes*	+	34,1	32,3	+	+MB	*L.monocytogenes*	=
c	B2	PC	*No*	Jambon blanc	+LA	+MA	+MA	+HA	+HA	+HA	*L.monocytogenes*	+	29,3	32,9	+	+MA	*L.monocytogenes*	=
c	C11	PC	*No*	Pâté de tête	+LA	+LA	+LA	+HA	+HA	+HA	*L.monocytogenes*	+	30,8	32,4	+	+LA	*L.monocytogenes*	=
c	I12	PC	*No*	Saucisses de Strasbourg	+HA	+MA	+MA	+HA	+HB	+HB	*L.monocytogenes*	+	18,9	35,9	+	+HA	*L.monocytogenes*	=
c	J1	PC	*No*	Lardons	+MB	+LB	+MB	+HB	+HB	+HB	*L.monocytogenes*	+	27,0	36,5	+	+MB	*L.monocytogenes*	=
c	K22	PC	*No*	Pâté de tête	+LD(1)	+LD	+LD	+HA	+HA	+HA	*L.monocytogenes*	+	36,0	34,3	+	+LB	*L.monocytogenes*	=
c	K23	PC	*No*	Pâté de tête	+LA	+MA	+MA	+HA	+HA	+HA	*L.monocytogenes*	+	24,5	34,8	+	+MA	*L.monocytogenes*	=
c	K24	PC	*No*	Pâté de tête persillé	+MA	+MB	+MB	+HA	+HB	+HB	*L.monocytogenes*	+	20,0	36,6	+	+HB	*L.monocytogenes*	=
c	L19	PC	*No*	Langue en gelée	+MB	+LB	+LB	+HB	+HB	+HB	*L.monocytogenes*	+	34,1	34,7	+	+LB	*L.monocytogenes*	=

Protocol 1 (Half Fraser - Standard II lysis) Renewal study (ISHA 2017)																							
MEAT PRODUCTS																							
ST	SN	Time	Sample	Contamination				RM: NF EN ISO 11290-1						AM: iQ-Check Half Fraser - Standard II lysis								Additional pathway of confirmation ISO 16140-2:2016	Concordance RM/AM
				Strain		Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result		
								O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification			
b	167	T0	Pork muzzle with mayonnaise	LIS	4.30	se	3,2	4h+L	4h-M	4h+L	4h+L	/	+	32,61	26,21	+	4h+L	4h-M	4h+L	L.m	+	Cf. RM	PA

ST	SN	Time	Sample	Contamination				RM: NF EN ISO 11290-1						AM: iQ-Check Half Fraser - Standard II lysis - Storage 72h at 5°C								Additional pathway of confirmation ISO 16140-2:2016	Concordance RM/AM
				Strain		Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result		
								O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification			
b	167	T72h	Pork muzzle with mayonnaise	LIS	4.30	se	3,2	4h+L	4h-M	4h+L	4h+L	/	+	33,05	24,53	+	4h+L	4h-M	4h+L	L.m	+	Cf. RM	PA

Protocol 1 (Half Fraser - Standard II lysis) - Dairy products

Protocol 1 (Half Fraser - Standard II lysis) Initial validation (IPL 2005)																		
DAIRY PRODUCTS																		
Types	Ref.	Cat	*CA*	Product (in French)	Reference method								Alternative method					Agreement
					Fraser 1/2 (10µl)			Fraser			*Identifications*	Result	Pure DNA		Result	RLM	*Identifications*	
					P1	A1	AL1	P2	A2	AL2			Ct TEX	Ct FAM				
a	A16	PL	*No*	Munster au lait cru	-LE	-LE	-LE	-LE	Ø	Ø	/	-	N/A	32,0	-	/	/	=
a	O8	PL	*No*	Chèvre au lait cru	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,1	-	-LE	/	=
a	O11	PL	*No*	Chèvre au lait cru	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	33,6	-	Ø	/	=
a	O24	PL	*No*	Fromage fermier au lait cru de brebis	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	33,3	-	-LE	/	=
a	O25	PL	*No*	Fromage fermier au lait cru de brebis	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	33,5	-	Ø	/	=
a	O36	PL	*No*	Chèvre au lait cru	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	31,6	-	Ø	/	=
a	O40	PL	*No*	Chèvre au lait cru	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	33,4	-	-LE	/	=
a	J14	PL	*No*	Fromage au lait cru de chèvre	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	35,9	-	/	/	=
a	O56	PL	*No*	Chèvre au lait cru	Ø	Ø	-LE	-LE	Ø	Ø	/	-	N/A	31,5	-	-LE	/	=
a	O4	PL	*No*	Chèvre au lait cru	+LA (1)	/	-LE(1)	+HA	/	+HA	*L.monocytogenes*	+	35,0	31,7	+	+LB(4)	*L.monocytogenes*	=
a	O12	PL	*No*	Fromage au lait cru de chèvre	+LA	+LA	+LA	+HA	+MA	+MA	*L.monocytogenes*	+	24,2	32,5	+	+MB	*L.monocytogenes*	=
a	O13	PL	*No*	Fromage au lait cru de chèvre	+LA	+LA	+LA	+HA	+MA	+MA	*L.monocytogenes*	+	25,4	32,3	+	+MB	*L.monocytogenes*	=
a	O14	PL	*No*	Fromage au lait cru de chèvre	+LA	+LA	+LA	+HA	+HA	+MA	*L.monocytogenes*	+	21,3	33,4	+	+MA	*L.monocytogenes*	=
a	O38	PL	*No*	Chèvre au lait cru	Ø	Ø	Ø	+LA	-LE	-LE	*L.monocytogenes*	+	31,2	34,8	+	+LA	*L.monocytogenes*	=
a	O39	PL	*No*	Chèvre au lait cru	+LA	+LA	+LA	+MA	-LE	-LE	*L.monocytogenes*	+	26,1	34,0	+	+MB	*L.monocytogenes*	=
a	A15	PL	*No*	Ossau Iraty au lait cru	-ME	Ø	Ø	+HA	+MA	+HA	*L.monocytogenes*	+	40,6	31,9	+	+LA	*L.monocytogenes*	=
a	I36	PL	*No*	Chèvre au lait cru	+MA	+MA	+MA	+HB	+HB	+HB	*L.monocytogenes*	+	24,7	33,8	+	+MA	*L.monocytogenes*	=
a	I37	PL	*No*	Crottin de chèvre	-ME	+LC	+LC	+HA	+HC	+HC	*L.monocytogenes*	+	32,1	32,6	+	+LB	*L.monocytogenes*	=
a	I38	PL	*No*	Roquefort	-ME	Ø	Ø	-ME	Ø	Ø	/	-	39,2 37,0 N/A	32,5 35,9 35,6	+ + -	Ø	/	PPNA
b	O69	PL	*No*	Lait cru	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,8	-	/	/	=
b	O70	PL	*No*	Lait cru	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	33,9	-	/	/	=
b	O71	PL	*No*	Lait cru	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	34,3	-	/	/	=
b	O72	PL	*No*	Lait cru	-LE	-LE	-LE	-ME	-ME	-ME	/	-	N/A	34,3	-	/	/	=
b	O73	PL	*No*	Lait cru	Ø	Ø	Ø	-LE	-LE	-LE	/	-	N/A	34,0	-	/	/	=
b	O74	PL	*No*	Lait cru	-LE	-LE	-LE	-ME	-ME	-ME	/	-	N/A	33,6	-	/	/	=
b	J16	PL	*No*	Lait cru	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	34,7	-	/	/	=
b	J17	PL	*No*	Lait cru	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	33,8	-	/	/	=
b	L15	PL	*No*	Lait cru	Ø	Ø	Ø	-LE	-LE	-LE	/	-	N/A	33,2	-	/	/	=
c	O9	PL	*No*	Reblochon	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,8	-	-LE	/	=
c	O10	PL	*No*	Reblochon	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	31,5	-	-LE	/	=
c	A18	PL	*No*	Carré	+LB	-LE	-LE	+HB	-HE	-ME	*L.innocua*	-	N/A	32,7	-	/	*L.innocua*	=
c	A19	PL	*No*	Carré	Ø	Ø	-LE	Ø	Ø	Ø	/	-	N/A	32,7	-	/	/	=
c	B12	PL	*No*	Fromage croûte lavée	Ø	Ø	Ø	-LE	Ø	Ø	/	-	N/A	32,4	-	/	/	=
c	B13	PL	*No*	Carré	-ME	Ø	Ø	-ME	Ø	-LE	/	-	N/A	32,1	-	/	/	=
c	C2	PL	*No*	Carré	-LE	Ø	Ø	-LE	Ø	Ø	/	-	N/A	31,4	-	/	/	=
c	C3	PL	*No*	Reblochon	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,6	-	/	/	=
c	C5	PL	*No*	Camembert	-LE	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,5	-	/	/	=
c	D10	PL	*No*	Carré	-LE	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,0	-	/	/	=
c	D12	PL	*No*	Epoisses	Ø	-LE	-LE	Ø	Ø	Ø	/	-	N/A	32,1	-	/	/	=
c	D13	PL	*No*	Fromage croûte lavée	-LE	Ø	-LE	-ME	Ø	Ø	/	-	N/A	31,6	-	/	/	=
c	D15	PL	*No*	Camembert	-LE	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,2	-	/	/	=

Protocol 1 (Half Fraser - Standard II lysis) Initial validation (IPL 2005)																		
DAIRY PRODUCTS																		
Types	Ref.	Cat	*CA*	Product (in French)	Reference method								Alternative method					Agreement
					Fraser 1/2 (10µl)			Fraser			*Identifications*	Result	Pure DNA		Result	RLM	*Identifications*	
					P1	A1	AL1	P2	A2	AL2			Ct TEX	Ct FAM				
c	J13	PL	*No*	Maroilles	Ø	-LE	Ø	Ø	Ø	Ø	/	-	N/A	35,8	-	/	/	=
c	J15	PL	*No*	Maroilles fermier	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	35,8	-	/	/	=
c	O43	PL	*No*	Chèvre fermier	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	34,2	-	Ø	/	=
c	J12	PL	*No*	Chevrotin fermier	+LC	Ø	Ø	Ø	Ø	Ø	/	-	N/A	36,8	-	/	/	=
c	O52	PL	*No*	Carré	+MB	+MA	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	20,9	32,4	+	+HB	*L.monocytogenes*	=
c	O53	PL	*No*	Carré	+LA	+LA	+LB	+MA	+MA	+MA	*L.monocytogenes* **L.innocua (2)*	+	28,3	31,6	+	+MB	*L.monocytogenes*	=
c	A17	PL	*No*	Petit carré	-LE	Ø	Ø	+MA	+MA	+MA	*L.monocytogenes*	+	34,6	32,7	+	+LA(5)	*L.monocytogenes*	=
c	A20	PL	*No*	Camembert	Ø	Ø	+LA(1)	+HA	+HA	+MA	*L.monocytogenes*	+	37,7	32,0	+	+MA	*L.monocytogenes*	=
c	C4	PL	*No*	Fromage de Bergues fermier	+LB	+HA	+MA	+HA	+HA	+HA	*L.monocytogenes*	+	26,9	34,1	+	+LC	*L.monocytogenes*	=
c	C6	PL	*No*	Fromage croûte lavée	+MA	+MA	+MA	+HA	+HA	+HA	*L.monocytogenes*	+	21,3	33,0	+	+MB	*L.monocytogenes*	=
c	C13	PL	*No*	Munster au lait cru	+LB	+LC	+LC	+HB	+HB	+HB	*L.monocytogenes*	+	29,4	33,0	+	+LD	*L.monocytogenes*	=
c	D7	PL	*No*	Camembert	+LB	+MA	+MB	+MB	+MB	+MB	*L.monocytogenes*	+	25,0	32,7	+	+MA	*L.monocytogenes*	=
c	D9	PL	*No*	Camembert	+LA	+LA	+LA	+HB	+MA	+MA	*L.monocytogenes*	+	28,7	32,2	+	+LB	*L.monocytogenes*	=
c	D11	PL	*No*	Epoisses	+HA	+HA	+HA	+HA	+HB	+HA	*L.monocytogenes*	+	17,6	35,4	+	+HA	*L.monocytogenes*	=
c	D14	PL	*No*	Carré	+LB	+LD	+MD(1)	+HB	+HA	+MB	*L.monocytogenes*	+	30,2	31,8	+	+MD (5)	*L.monocytogenes*	=
c	O49	PL	*No*	Chèvre fermier	+LA	+LA	+LA	+MA	+MA	+MA	*L.monocytogenes*	+	30,9	32,9	+	+MB	*L.monocytogenes*	=

Protocol 1 (Half Fraser - Standard II lysis) - Dairy products

Protocol 1 (Half Fraser - Standard II lysis)
RENEWAL STUDY (ISHA 2017)

DAIRY PRODUCTS

ST	SN	Time	Sample	Contamination				RM: NF EN ISO 11290-1						AM: iQ-Check Half Fraser - Standard II lysis								Additional pathway of confirmation ISO 16140-2:2016	Concordance RM/AM
				Strain		Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result		
								O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification			
a	62	T0	Neuf Châtel raw milk		/	/	/	0L	0L	0Ø	0Ø	/	-	37,29	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
a	64	T0	Camembert of Normandie raw milk		/	/	/	0L	0L	0Ø	0Ø	/	-	36,72	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
b	90	T0	Raw milk		/	/	/	0L	0M	0Ø	0Ø	/	-	38,19	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
b	75	T0	Raw milk	LIS	4.59	se	2,4	2h+M	3h-L	3h+Ø	4h-Ø	L.m	+	35,09	18,49	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA
b	77	T0	Raw milk	LIS	4.59	se	2,4	2h+M	3h-M	3h+L	4h-L	L.m	+	37,71	21,23	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA
b	79	T0	Raw milk	LIS	4.59	se	2,4	3h+L	3h-L	3h+L	4h-L	L.m	+	32,52	24,89	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	Cf. RM	PA
b	81	T0	Raw milk	LIS	4.23	se	3,2	3h+L	3h-L	4h+L	4h-Ø	L.m	+	37,71	24,34	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA
b	83	T0	Raw milk	LIS	4.23	se	3,2	3h+M	3h-M	3h+L	4h-L	L.m	+	34,61	23,37	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA
b	85	T0	Raw milk	LIS	4.23	se	3,2	4h+Ø	3h-M	3h+L	4h-L	L.m	+	35,8	21,53	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA
b	87	T0	Raw milk butter	LIS	4.62	se	2,6	4h+L	3h-L	4h+L	4h-Ø	L.m	+	36,89	25,64	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA
b	89	T0	Raw milk butter	LIS	4.62	se	2,6	3h+M	3h-M	4h+Ø	4h-Ø	L.m	+	37,84	20,07	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA
b	91	T0	Raw milk	LIS	4.62	se	2,6	4h+Ø	3h-M	3h+L	4h-L	L.m	+	35,32	20,33	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA
b	93	T0	Raw milk	LIS	4.65	se	2,2	2h+M	3h-Ø	3h+L	4h-Ø	L.m	+	47,54	15,1	+	3h+M	4h+Ø	3h+M	L.m	+	Cf. RM	PA
b	95	T0	Raw milk	LIS	4.65	se	2,2	3h+M	3h-Ø	3h+L	4h-L	L.m	+	34,36	16,92	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA
b	97	T0	Raw milk	LIS	4.65	se	2,2	3h+M	3h-Ø	3h+L	4h-L	L.m	+	35,25	19,18	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA
b	99	T0	Raw milk	LIS	4.61	se	2,4	3h+L	3h-L	4h+L	4h-Ø	L.m	+	35,41	23,46	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA

ST	SN	Time	Sample	Contamination				RM: NF EN ISO 11290-1						AM: iQ-Check Half Fraser - Standard II lysis - Storage 72h at 5°C								Additional pathway of confirmation ISO 16140-2:2016	Concordance RM/AM
				Strain		Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result		
								O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification			
b	75	T72h	Raw milk	LIS	4.59	se	2,4	2h+M	3h-L	3h+Ø	4h-Ø	L.m	+	33,78	18,58	+	3h+M	3h+L	3h+M	L.m	+	Cf. RM	PA
b	77	T72h	Raw milk	LIS	4.59	se	2,4	2h+M	3h-M	3h+L	4h-L	L.m	+	32,78	22,36	+	3h+M	3h+L	3h+M	L.m	+	Cf. RM	PA
b	79	T72h	Raw milk	LIS	4.59	se	2,4	3h+L	3h-L	3h+L	4h-L	L.m	+	32,46	25,74	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	Cf. RM	PA
b	81	T72h	Raw milk	LIS	4.23	se	3,2	3h+L	3h-L	4h+L	4h-Ø	L.m	+	33,56	19,56	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	Cf. RM	PA
b	83	T72h	Raw milk	LIS	4.23	se	3,2	3h+M	3h-M	3h+L	4h-L	L.m	+	33,58	23,25	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA
b	85	T72h	Raw milk	LIS	4.23	se	3,2	4h+Ø	3h-M	3h+L	4h-L	L.m	+	33,69	24,18	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA
b	87	T72h	Raw milk butter	LIS	4.62	se	2,6	4h+L	3h-L	4h+L	4h-Ø	L.m	+	34,05	25,02	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA
b	89	T72h	Raw milk butter	LIS	4.62	se	2,6	3h+M	3h-M	4h+Ø	4h-Ø	L.m	+	34,07	25,17	+	3h+L	4h+Ø	3h+L	L.m	+	Cf. RM	PA
b	91	T72h	Raw milk	LIS	4.62	se	2,6	4h+Ø	3h-M	3h+L	4h-L	L.m	+	33,74	18,45	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA
b	93	T72h	Raw milk	LIS	4.65	se	2,6	2h+M	3h-Ø	3h+L	4h-Ø	L.m	+	32,01	19,54	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA
b	95	T72h	Raw milk	LIS	4.65	se	2,2	3h+M	3h-Ø	3h+L	4h-L	L.m	+	36,15	17,54	+	3h+L	3h+L	3h+L	L.m	+	Cf. RM	PA
b	97	T72h	Raw milk	LIS	4.65	se	2,2	3h+M	3h-Ø	3h+L	4h-L	L.m	+	33,14	30,2	+	3h+L	3h+Ø	3h+L	L.m	+	Cf. RM	PA
b	99	T72h	Raw milk	LIS	4.61	se	2,4	3h+L	3h-L	4h+L	4h-Ø	L.m	+	34,57	25,18	+	3h+L	3h+Ø	3h+L	L.m	+	Cf. RM	PA

Protocol 1 (Half Fraser - Standard II lysis) - Seafood products

Protocol 1 (Half Fraser - Standard II lysis) Initial validation (IPL 2005)																		
SEAFOOD PRODUCTS																		
Type	Ref.	Cat	CA	Product (in French)	Reference method								Alternative method					Agreement
					Fraser 1/2 (10µl)			Fraser			Identifications	Result	Pure DNA		Result	RLM	Identifications	
					P1	A1	AL1	P2	A2	AL2			Ct TEX	Ct FAM				
a	A2	PP	*No*	Tartare de saumon	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,0	-	/	/	=
a	A5	PP	*No*	Tartare de saumon	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,7	-	/	/	=
a	G18	PP	*No*	Saumon	-LE	Ø	-LE	Ø	Ø	-LE	/	-	N/A	34,9	-	/	/	=
a	G19	PP	*No*	Filets de saumon	-ME	Ø	-LE	-LE	Ø	-LE	/	-	N/A	32,2	-	Ø	/	=
a	G20	PP	*No*	Saumon	+MB	-ME	-LE	+HA	-HE	-HE	*L.innocua*	-	N/A	35,2	-	/	*L.innocua*	=
a	G24	PP	*No*	Filets de saumon frais	+MB	-LE	-ME	+LB	-LE	-ME	*L.welshimeri*	-	N/A	34,8	-	/	*L.welshimeri*	=
a	G25	PP	*No*	Filets de saumon frais	+LB	-LE	-LE	+LB	-LE	-ME	*L.welshimeri*	-	N/A	34,8	-	/	*L.welshimeri*	=
a	G26	PP	*No*	Filets de saumon frais	+MB	-LE	-ME	+LB	-LE	-ME	*L.welshimeri*	-	N/A	35,0	-	/	*L.welshimeri*	=
a	G27	PP	*No*	Lieu noir	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	35,2	-	/	/	=
a	G28	PP	*No*	Pavé de saumon	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	34,4	-	/	/	=
a	H1	PP	*No*	Escalope de saumon	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,3	-	/	/	=
a	L16	PP	*No*	Filet de haddock	-LE	-LE	-LE	-HE	-ME	-ME	/	-	N/A	34,8	-	/	/	=
a	L17	PP	*No*	Filet de sabre	Ø	-LE	-LE	-LE	Ø	Ø	/	-	37,8 43,6 N/A	34,5 34,9 34,0	+ + -	- LE	/	PPNA
a	O27	PP	*No*	Filet de saumon frais	Ø	Ø	Ø	+HA	+MA	+MA	*L.monocytogenes*	+	35,0	33,6	+	+LA	*L.monocytogenes*	=
a	O44	PP	*No*	Tartare de saumon	Ø	+LA	Ø	+HA	+MA	+HA	*L.monocytogenes*	+	N/A	34,7	-	+LA	*L.monocytogenes*	ND
a	O48	PP	*No*	Tartare de saumon	Ø	Ø	+LA	+MA	+MA	+MA	*L.monocytogenes*	+	34,6	31,7	+	+LA	*L.monocytogenes*	=
a	C9	PP	*No*	Tartare de saumon	+LA	+LA	+LA	+HA	+HA	+HA	*L.monocytogenes*	+	31,4	32,9	+	+LA	*L.monocytogenes*	=
a	C10	PP	*No*	Tartare de saumon	+LA(2)	+LA(2)	+LA(2)	+HA	+HA	+HA	*L.monocytogenes*	+	36,6	32,0	+	+LA	*L.monocytogenes*	=
a	J11	PP	*No*	Filet de poisson	+MA	+MA	+MA	+HB	+HB	+HB	*L.monocytogenes*	+	16,9	N/A	+	+MB	*L.monocytogenes*	=
a	J18	PP	*No*	Poisson	+MA	+MA	+MA	+HB	+HB	+HB	*L.monocytogenes*	+	21,8	40,9	+	+HB	*L.monocytogenes*	=
a	J19	PP	*No*	Poisson	+MB	+LB	+LB	+HB	+HC	+HC	*L.monocytogenes*	+	29,1	35,9	+	+HD	*L.monocytogenes*	=
a	D19	PP	*No*	Filets de harengs doux	-LE	Ø	Ø	+HA	+MA	+HA	*L.monocytogenes*	+	35,1	31,8	+	+LA	*L.monocytogenes*	=
b	O5	PP	*No*	Saumon fumé	-LE	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,0	-	Ø	/	=
b	O23	PP	*No*	Saumon fumé	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,8	-	Ø	/	=
b	O26	PP	*No*	Filet de marlin fumé	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	33,2	-	Ø	/	=
b	O30	PP	*No*	Marlin fumé	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,9	-	Ø	/	=
b	O31	PP	*No*	Saumon fumé	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	33,0	-	Ø	/	=
b	O46	PP	*No*	Saumon fumé	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	34,4	-	Ø	/	=
b	O47	PP	*No*	Marlin fumé	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	33,5	-	Ø	/	=
b	O50	PP	*No*	Saumon fumé	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,2	-	Ø	/	=
b	O45	PP	*No*	Filet de hareng doux	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A N/A	34,6 32,8	- -	Ø	/	= =
b	A3	PP	*No*	Filets de harengs marinés	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,4	-	/	/	=
b	C7	PP	*No*	Filets de harengs saurs	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,2	-	/	/	=
b	C8	PP	*No*	Filets de harengs marinés	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,1	-	/	/	=
b	A1	PP	*No*	Saumon fumé	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,8	-	/	/	=
b	O1	PP	*No*	Saumon fumé	+HA	/	+HC	+HA	/	+MC	*L.monocytogenes*	+	20,9	32,6	+	+HB	*L.monocytogenes*	=
b	O16	PP	*No*	Saumon fumé	+MA	+MA	+MA	+HA	+MA	+MA	*L.monocytogenes*	+	20,6	36,1	+	+MA	*L.monocytogenes*	=
b	O19	PP	*No*	Saumon fumé	+MA	+MA	+MA	+LA	+MA	+HA	*L.monocytogenes*	+	19,8	37,7	+	+MA	*L.monocytogenes*	=
b	O22	PP	*No*	Saumon fumé	Ø	+LA	+LA	+HA	+HA	+HA	*L.monocytogenes*	+	31,3	34,4	+	+LA	*L.monocytogenes*	=
b	O32	PP	*No*	Saumon fumé	+MA	+MA	+LA	+LA	+LA	+LA	*L.monocytogenes*	+	24,7	34,5	+	+MA	*L.monocytogenes*	=
b	O57	PP	*No*	Saumon fumé	Ø	Ø	Ø	+MA	+MA	+MA	*L.monocytogenes*	+	N/A	32,8	-	+LA	*L.monocytogenes*	ND

Protocol 1 (Half Fraser - Standard II lysis)
Initial validation (IPL 2005)

SEAFOOD PRODUCTS

Type	Ref.	Cat	*CA*	Product (in French)	Reference method								Alternative method					Agreement
					Fraser 1/2 (10µl)			Fraser			*Identifications*	Result	Pure DNA		Result	RLM	*Identifications*	
					P1	A1	AL1	P2	A2	AL2			Ct TEX	Ct FAM				
b	O61	PP	*No*	Saumon fumé	+LA	+LA	+LA	+HB	+HA	+HA	*L.monocytogenes*	+	31,2	32,0	+	+LA	*L.monocytogenes*	=
b	O62	PP	*No*	Saumon fumé	+LA	+MA	+MA	+HA	+MA	+MA	*L.monocytogenes*	+	25,8	32,3	+	+MA	*L.monocytogenes*	=
b	O65	PP	*No*	Saumon fumé	+LA	+LA	+LA	+HA	+HA	+HA	*L.monocytogenes*	+	30,8	32,4	+	+LA	*L.monocytogenes*	=
b	O67	PP	*No*	Saumon fumé	+MA	+MA	+MA	+HA	+HA	+HA	*L.monocytogenes*	+	30,2	32,6	+	+MA	*L.monocytogenes*	=
b	O68	PP	*No*	Truite fumée	+HA	+MA	+MA	+HA	+HA	+HA	*L.monocytogenes*	+	17,5	36,1	+	+HA	*L.monocytogenes*	=
b	A4	PP	*No*	Thon fumé	+LB	+LA	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	30,3	32,3	+	+MB	*L.monocytogenes*	=
b	E16	PP	*No*	Brisures de saumon fumé	+LA (5)	Ø	+LA (2)	+MB	+MB	+MB	*L.monocytogenes*	+	37,7	33,5	+	+LA	*L.monocytogenes*	=
b	J10	PP	*No*	Brisures de saumon fumé	+LA	+MA	+MA	+HA	+HA	+HA	*L.monocytogenes*	+	28,3	35,4	+	+MA	*L.monocytogenes*	=
b	J8	PP	*No*	Filets de harengs saurs	+MA	+LA	+LA	+HA	+MA	+MB	*L.monocytogenes*	+	27,6	38,8	+	+MA	*L.monocytogenes*	=
c	O3	PP	*No*	Tarama de saumon	-LE	/	-LE	-ME	/	-LE	/	-	N/A	31,4	-	-LE	/	=
c	H3	PP	*No*	Paupiettes de saumon	Ø	Ø	-LE	Ø	Ø	-LE	/	-	N/A	32,6	-	Ø	/	=
c	J20	PP	*No*	Poisson, sauce citron	Ø	Ø	Ø	Ø	Ø	Ø	/	-	40,1 35,5 31,6 N/A	35,0 33,4 34,3 35,6	+ + + -	-LE	/	PPNA Fraser
c	H5	PP	*No*	Brochette de saumon	Ø	Ø	Ø	Ø	Ø	-LE	/	-	N/A	32,1	-	Ø	/	=
c	A6	PP	*No*	Crevettes cuites	+LB	+LB	+MA	+MB	+MB	+HB	*L.monocytogenes*	+	33,0	32,0	+	+LB	*L.monocytogenes*	=
c	D20	PP	*No*	Crevettes cuites	+LA	+LB	+MB	+HB	+MB	+MB	*L.monocytogenes*	+	27,8	32,5	+	+LA	*L.monocytogenes*	=
c	H2	PP	*No*	Paupiettes de saumon	+LA(1)	+LA(1)	Ø	+HA	+HA	+HA	*L.monocytogenes*	+	N/A 14,7	32,3 N/A	- +	Ø	*L.monocytogenes*	ND Fraser
c	H7	PP	*No*	Brochette de poisson blanc	+LB	+LB	+LB	+HB	+HB	+HB	*L.monocytogenes* *L.innocua*	+	34,0	32,1	+	+LB	*L.monocytogenes*	=
c	J7	PP	*No*	Poisson bordelaise	+HA	+HA	+HA	+HB	+HB	+HB	*L.monocytogenes*	+	16,6	N/A	+	+HA	*L.monocytogenes*	=
c	J9	PP	*No*	Poisson bordelaise	+MA	+MA	+MA	+MB	+MB	+MB	*L.monocytogenes*	+	16,3	N/A	+	+HA	*L.monocytogenes*	=

Protocol 1 (Half Fraser - Standard II lysis) - Seafood products

Protocol 1 (Half Fraser - Standard II lysis)
Renewal study (ISHA 2017)

SEAFOOD PRODUCTS

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check Half Fraser - Standard II lysis								Additional pathway of confirmation ISO 16140-2:2016	Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result		
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification			
c	74	T0	Stick with crab flavour	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,20	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
c	76	T0	Rillette of sardines	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,61/33,7	39,81/N/A	+/-	0Ø	0Ø	0Ø	/	-	Cf. RM	PPNA
c	78	T0	Tarama with cod eggs	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,45	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
c	80	T0	Rillette of salmon with garlic and sweet herbs	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,25	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
c	82	T0	Rillette of St Jacques	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	39,46	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
c	84	T0	Tuna with fresh cheese and sweet herbs	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	37,8	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
c	101	T0	Stick with crab flavour	LIS 4.83	se	2,8	3h+Ø	3h-Ø	3h+Ø	4h-Ø	/	+	35,69	23,58	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
c	103	T0	Rillette of sardines	LIS 4.83	se	2,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	33,95	21,47	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	Cf. RM	PA
c	105	T0	Tarama with cod eggs	LIS 4.83	se	2,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	34,76	26,17	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	Cf. RM	PA
c	107	T0	Rillette of salmon with garlic and sweet herbs	LIS 4.15	se	2,2	3h+Ø	3h-Ø	3h+Ø	4h-Ø	/	+	33,8	20,17	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	Cf. RM	PA
c	109	T0	Rillette of St Jacques	LIS 4.15	se	2,2	3h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	36,34	18,93	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	Cf. RM	PA

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check Half Fraser - Standard II lysis - Storage 72h at 5°C								Additional pathway of confirmation ISO 16140-2:2016	Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result		
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification			
c	101	T72h	Stick with crab flavour	LIS 4.83	se	2,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	35,78	24,19	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
c	103	T72h	Rillette of sardines	LIS 4.83	se	2,8	3h+Ø	4h-Ø	3h+Ø	3h-Ø	/	+	36,04	17,96	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	Cf. RM	PA
c	105	T72h	Tarama with cod eggs	LIS 4.83	se	2,8	3h+Ø	4h-Ø	4h+Ø	3h-Ø	/	+	33,12	18,56	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	Cf. RM	PA
c	107	T72h	Rillette of salmon with garlic and sweet herbs	LIS 4.15	se	2,2	3h+Ø	3h-Ø	4h+Ø	3h-Ø	/	+	35,69	20,36	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	Cf. RM	PA
c	109	T72h	Rillette of St Jacques	LIS 4.15	se	2,2	3h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	35,08	20,48	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	Cf. RM	PA

Protocol 1 (Half Fraser - Standard II lysis) - Vegetable products

Protocol 1 (Half Fraser - Standard II lysis) Initial validation (IPL 2005)																		
VEGETABLE PRODUCTS																		
Types	Ref.	Cat	*CA*	Product (in French)	Reference method								Alternative method					Agreement
					Fraser 1/2 (10µl)			Fraser			*Identifications*	Result	Pure DNA		Result	RLM	*Identifications*	
					P1	A1	AL1	P2	A2	AL2			Ct TEX	Ct FAM				
a	D3	PV	*No*	Courgettes surgelées	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	31,8	Neg	/	/	=
a	D1	PV	*No*	Brocolis	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,6	Neg	/	/	=
a	E24	PV	*No*	Champignons	Ø	Ø	Ø	Ø	Ø	Ø	/	-	34,4 31,9 34,6	33,4 33,8 33,7	+ + +	Ø	/	PPNA
a	H8	PV	*No*	Champignons	-LE	-LE	-LE	-ME	-ME	Ø	/	-	N/A	32,2	Neg	Ø	/	=
a	L7	PV	*No*	Haricots verts	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A N/A	34,1 36,3	Neg Neg	/	/	= =
a	J26	PV	*No*	Brocolis	+MA	+MA	+MA	+HA	+MA	+HA	*L.monocytogenes*	+	27,6	36,2	+	+MA	*L.monocytogenes*	=
b	J22	PV	*No*	Macédoine de légumes non assaisonnée	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	35,8	Neg	/	/	=
b	L5	PV	*No*	Carottes râpées non assaisonnées	-LE	Ø	Ø	-ME	Ø	Ø	/	-	N/A	33,7	Neg	/	/	=
b	L11	PV	*No*	Mélange de salades	-ME	-ME	-ME	+MB	-ME	-ME	/	-	N/A	34,8	Neg	/	/	=
b	D8	PV	*No*	Poêlée de légumes	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,4	Neg	/	/	=
b	L12	PV	*No*	Poêlée forestière	Ø	-LE	-LE	-ME	-ME	-ME	/	-	N/A	34,0	Neg	/	/	=
b	I16	PV	*Yes*	Mâche	-ME	-LE	-LE	-ME	-LE	-ME	/	-	N/A	33,8	Neg	-LE	/	=
b	I17	PV	*Yes*	Mélange de crudités	Ø	Ø	Ø	Ø	Ø	-LE	/	-	N/A	35,6	Neg	/	/	=
c	E23	PV	*No*	Pommes de terre rissolées surgelées	-LE	-LE	-LE	+MA	-ME	-HE	*L.innocua*	-	N/A	35,1	Neg	/	*L.innocua*	=
c	B18	PV	*No*	Pommes de terre rissolées surgelées	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,7	Neg	/	/	=
c	B19	PV	*No*	Epinards à la crème surgelés	Ø	Ø	Ø	-LE	Ø	-LE	/	-	40,0 38,3 38,7 40,8	32,2 34,4 34,3 34,6	+ + + +	Ø	/	PPNA Fraser
c	J28	PV	*No*	Chou-fleur en gratin	-LE	Ø	Ø	-ME	Ø	Ø	/	-	N/A	36,2	Neg	/	/	=
c	L8	PV	*No*	Chou cuit	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	34,0	Neg	/	/	=
c	L9	PV	*No*	Chou-fleur cuit	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	33,9	Neg	/	/	=
c	L13	PV	*No*	Salade de lentilles	+LA	-ME	-ME	Ø	Ø	Ø	/	-	N/A	33,9	Neg	/	/	=
c	B15	PV	*No*	Pommes de terre rissolées surgelées	+LB	+LA	+LA	+MA	+HA	+HA	*L.monocytogenes*	+	33,2	32,4	+	+MA	*L.monocytogenes*	=
c	C1	PV	*No*	Pommes de terre rissolées surgelées	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,3	Neg	/	/	=
c	D4	PV	*No*	Pommes de terre rissolées surgelées	+MB	+LA	+MA	+HB	+MB	+MB	*L.monocytogenes*	+	25,6	32,5	+	+MB	*L.monocytogenes*	=
c	D6	PV	*No*	Epinards à la crème surgelés	+LB	+LA	+LA	+HB	+MB	+MB	*L.monocytogenes*	+	30,1	31,9	+	+LA(4)	*L.monocytogenes*	=
c	L1	PV	*No*	Pommes rissolées surgelées	+MA	+MA	+MA	+HB	+MA	+MA	*L.monocytogenes*	+	24,7	34,2	+	+MA	*L.monocytogenes*	=
c	H9	PV	*No*	Mélange de légumes	Ø	Ø	-LE	Ø	-ME	-ME	/	-	N/A	33,0	Neg	Ø	/	=
c	H6	PV	*No*	Purée d'épinards	+LA	+LA	+LA	+HB	+HB	+HB	*L.monocytogenes*	+	31,2	32,5	+	+LB	*L.monocytogenes*	=

Protocol 1 (Half Fraser - Standard II lysis) - Vegetable products

Protocol 1 (Half Fraser - Standard II lysis) - Vegetable products Renewal study (ISHA 2017)																						
VEGETABLE PRODUCTS																						
ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check Half Fraser - Standard II lysis								Additional pathway of confirmation ISO 16140-2:2016	Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result		
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification			
a	106	T0	Banana	/	/	/	0L	0L	0Ø	0Ø	/	-	37,91	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
a	108	T0	Grape	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,91	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
a	110	T0	Tomato	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	37,81	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
a	112	T0	Plums red	/	/	/	0L	0L	0Ø	0Ø	/	-	38,18	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
a	114	T0	Pear	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,39	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
b	116	T0	Julienne of vegetables	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	34,02	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
b	118	T0	Grated carrot	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,67	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
b	120	T0	Sliced cucumber	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,7	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
c	128	T0	Wax bean	/	/	/	0L	0L	0Ø	0Ø	/	-	33,81	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
c	130	T0	peas steamed	/	/	/	0L	0L	0Ø	0Ø	/	-	33,6	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
c	132	T0	Green lentils cooked	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,56	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
a	111	T0	Banana	LIS 4.10	se	1,6	3h+M	3h-L	3h+L	4h-L	/	+	34,78	20,31	+	2h+M	3h-L	2h+M	L.m	+	Cf. RM	PA
a	113	T0	Grape	LIS 4.10	se	1,6	3h+L	4h-L	4h+L	4h-L	/	+	37,93	15,33	+	3h+L	4h-L	3h+L	L.m	+	Cf. RM	PA
a	115	T0	Tomato	LIS 4.10	se	1,6	3h+Ø	4h-Ø	4h+L	4h-Ø	/	+	35,02	19,27	+	2h+Ø	4h-Ø	2h+Ø	L.m	+	Cf. RM	PA
a	117	T0	Plums red	LIS 4.35	se	2,0	3h+Ø	4h-Ø	4h+L	4h-Ø	/	+	36,44-34,39	N/A-23,74	IV/+**	2h+Ø	4h-Ø	2h+Ø	L.m	+	Cf. RM	PA
a	119	T0	Pear	LIS 4.35	se	2,0	3h+M	4h-L	3h+l	4h-L	/	+	33,8	21,45	+	3h+M	4h-L	3h+M	L.m	+	Cf. RM	PA
a	121	T0	Yellow plum	LIS 4.35	se	2,0	3h+Ø	4h-Ø	3h+l	4h-L	/	+	N/A	19,02	+	3h+Ø	4h-Ø	3h+Ø	L.m	+	Cf. RM	PA
a	123	T0	Estar apple	LIS 4.17	se	1,8	3h+M	4h-L	4h+L	4h-L	/	+	33,06	27,26	+	3h+M	4h-L	3h+M	L.m	+	Cf. RM	PA
a	125	T0	Canada grey apple	LIS 4.17	se	1,8	3h+M	4h-L	4h+L	4h-L	/	+	33,41	22,28	+	3h+M	4h-L	3h+M	L.m	+	Cf. RM	PA
a	127	T0	Granny apple	LIS 4.17	se	1,8	3h+M	4h-L	4h+L	4h-L	/	+	N/A	28,23	+	3h+M	4h-L	3h+M	L.m	+	Cf. RM	PA
a	129	T0	Reine-Claude plum	LIS 4.80	se	3,0	3h+M	4h-M	4h+L	4h-L	/	+	34,71	24,83	+	3h+M	4h-M	3h+M	L.m	+	Cf. RM	PA
a	131	T0	Golden apple	LIS 4.80	se	3,0	3h+Ø	4h-Ø	3h+L	4h-Ø	/	+	34,21	20,09	+	3h+Ø	4h-Ø	3h+Ø	L.m	+	Cf. RM	PA
b	133	T0	Julienne of vegetables	LIS 4.80	se	3,0	3h+M	4h-L	3h+L	4h-L	/	+	33,51	20,15	+	3h+L	4h-L	3h+L	L.m	+	Cf. RM	PA
b	135	T0	Grated carot	LIS 4.81	se	2,6	3h+M	4h-L	3h+L	4h-L	/	+	33,67-33,82-34,15	N/A-N/A-N/A	IV/IV/ -**	2h+L	4h-L	2h+L	L.m	-	Cf. RM	ND
b	137	T0	Sliced cucumber	LIS 4.81	se	2,6	3h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	32,14	19,07	+	3h+Ø	4h-Ø	3h+Ø	L.m	+	Cf. RM	PA
b	139	T0	Prepared lettuce heart	LIS 4.81	se	2,6	3h+Ø	3h-L	4h+Ø	4h-L	/	+	37,45	15,25	+	3h+Ø	3h-L	3h+Ø	L.m	+	Cf. RM	PA
b	141	T0	Mix of young sprouts	LIS 4.20	se	1,8	3h+M	4h-L	3h+L	4h-L	/	+	35,54	19,18	+	3h+L	4h-L	3h+L	L.m	+	Cf. RM	PA
b	143	T0	Sliced leek	LIS 4.20	se	1,8	3h+Ø	4h-Ø	3h+l	4h-Ø	/	+	35,92	23,54	+	3h+Ø	4h-Ø	3h+Ø	L.m	+	Cf. RM	PA
b	145	T0	Grated carrot	LIS 4.20	se	1,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	33,38	31,25	+	3h+Ø	3h-Ø	3h+Ø	L.m	+	Cf. RM	PA
b	147	T0	White cabbage	LIS 4.5	se	2,2	3h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	33,15	26,88	+	3h+Ø	3h-Ø	3h+Ø	L.m	+	Cf. RM	PA
b	149	T0	Red cabbage	LIS 4.5	se	2,2	3h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	34,14	20,05	+	3h+Ø	4h-Ø	3h+Ø	L.m	+	Cf. RM	PA
b	151	T0	White cabbage	LIS 4.5	se	2,2	3h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	34,28	20,33	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	Cf. RM	PA
b	153	T0	Red cabbage	LIS 4.18	se	2,0	3h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	33,1	15,15	+	3h+Ø	3h-Ø	3h+Ø	L.m	+	Cf. RM	PA
b	155	T0	Batavia salad	LIS 4.18	se	2,0	3h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	35,65	18,84	+	3h+Ø	3h-Ø	3h+Ø	L.m	+	Cf. RM	PA
b	157	T0	Frisée salad	LIS 4.18	se	2,0	3h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	34,92	23,6	+	3h+Ø	4h-Ø	3h+Ø	L.m	+	Cf. RM	PA
c	159	T0	Wax bean	LIS 4.78	se	3,2	3h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	34,24	21,45	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	Cf. RM	PA
c	161	T0	peas steamed	LIS 4.78	se	3,2	3h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	35,22	26,23	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	Cf. RM	PA
c	163	T0	Green lentils cooked	LIS 4.78	se	3,2	3h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	33,61	23,03	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	Cf. RM	PA
c	165	T0	Green beans	LIS 4.79	se	2,6	3h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	33,67	28,04	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	Cf. RM	PA

Protocol 1 (Half Fraser - Standard II lysis) - Vegetable products
Renewal study (ISHA 2017)

VEGETABLE PRODUCTS

ST	SN	Time	Sample	Contamination				RM: NF EN ISO 11290-1						AM: iQ-Check Fraser 1/2-Standard II lysis-Storage 72h at 5°C								Additional pathway of confirmation ISO 16140-2:2016	Concordance RM/AM
				Strain		Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirma-tion a	Confirmation b			Final result		
								O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification			
a	111	T72h	Banana	LIS	4.10	se	1,6	3h+M	3h-L	3h+I	4h-L	/	+	34,55	20,45	+	2h+M	3h-L	2h+M	L.m	+	Cf. RM	PA
a	113	T72h	Grape	LIS	4.10	se	1,6	3h+L	4h-L	4h+L	4h-L	/	+	33,69	16,54	+	4h+L	4h-L	4h+L	L.m	+	Cf. RM	PA
a	115	T72h	Tomato	LIS	4.10	se	1,6	4h+Ø	4h-L	4h+L	4h-Ø	/	+	33,54	21,08	+	2h+Ø	4h-Ø	2h+Ø	L.m	+	Cf. RM	PA
a	117	T72h	Plums red	LIS	4.35	se	2	3h+Ø	4h-Ø	3h+I	4h-Ø	/	+	33,87	24,78	+	2h+Ø	4h-Ø	2h+Ø	L.m	+	Cf. RM	PA
a	119	T72h	Pear	LIS	4.35	se	2	3h+M	4h-Ø	4h+L	4h-L	/	+	33,12	19,45	+	4h+M	4h-L	4h+M	L.m	+	Cf. RM	PA
a	121	T72h	Yellow plum	LIS	4.35	se	2	3h+Ø	4h-Ø	4h+L	4h-L	/	+	34,05	22,36	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	Cf. RM	PA
a	123	T72h	Estar apple	LIS	4.17	se	1,8	3h+M	4h-L	4h+L	4h-L	/	+	33,54	28,18	+	4h+M	4h-L	4h+M	L.m	+	Cf. RM	PA
a	125	T72h	Canada grey apple	LIS	4.17	se	1,8	3h+Ø	4h-Ø	4h+L	4h-L	/	+	33,87	28,22	+	4h+M	4h-L	4h+M	L.m	+	Cf. RM	PA
a	127	T72h	Granny apple	LIS	4.17	se	1,8	3h+M	4h-Ø	4h+L	4h-Ø	/	+	33,06	27,45	+	4h+M	4h-L	4h+M	L.m	+	Cf. RM	PA
a	129	T72h	Reine-Claude plum	LIS	4.80	se	3	3h+L	4h-M	4h+L	4h-L	/	+	33,25	25,04	+	4h+M	4h-M	4h+M	L.m	+	Cf. RM	PA
a	131	T72h	Golden apple	LIS	4.80	se	3	3h+Ø	4h-Ø	3h+L	4h-L	/	+	34,08	17,84	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	Cf. RM	PA
b	133	T72h	Julienne of vegetables	LIS	4.80	se	3	3h+M	4h-L	3h+L	4h-L	/	+	34,25	23,56	+	4h+L	4h-L	4h+L	L.m	+	Cf. RM	PA
b	135	T72h	Grated carrot	LIS	4.81	se	2,6	3h+M	4h-L	3h+L	4h-L	/	+	34,55-32,75-31,54-35,18	N/A-N/A-N/A-N/A	IV /-/-/- **	2h+L	3h-L	2h+L	L.m	-	Cf. RM	ND
b	137	T72h	Sliced cucumber	LIS	4.81	se	2,6	3h+L	4h-L	4h+Ø	4h-Ø	/	+	31,89	21,87	+	3h+Ø	3h-Ø	3h+Ø	L.m	+	Cf. RM	PA
b	139	T72h	Prepared lettuce heart	LIS	4.81	se	2,6	3h+L	4h-L	4h+Ø	4h-L	/	+	32,98	18,79	+	4h+Ø	4h-L	4h+Ø	L.m	+	Cf. RM	PA
b	141	T72h	Mix of young sprouts	LIS	4.2	se	1,8	3h+M	4h-L	3h+L	4h-L	/	+	33,05	25,34	+	4h+L	4h-L	4h+L	L.m	+	Cf. RM	PA
b	143	T72h	Sliced leek	LIS	4.2	se	1,8	4h+Ø	4h-Ø	3h+L	4h-Ø	/	+	33,01	20,45	+	3h+Ø	4h-Ø	3h+Ø	L.m	+	Cf. RM	PA
b	145	T72h	Grated carrot	LIS	4.2	se	1,8	4h+Ø	4h-Ø	3h+I	4h-Ø	/	+	32,87	28,36	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	Cf. RM	PA
b	147	T72h	White cabbage	LIS	4.5	se	2,2	3h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	34,54	25,47	+	3h+Ø	3h-Ø	3h+Ø	L.m	+	Cf. RM	PA
b	149	T72h	Red cabbage	LIS	4.5	se	2,2	4h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	33,28	21,08	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	Cf. RM	PA
b	151	T72h	White cabbage	LIS	4.5	se	2,2	3h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	33,49	21,45	+	3h+Ø	4h-Ø	3h+Ø	L.m	+	Cf. RM	PA
b	153	T72h	Red cabbage	LIS	4.18	se	2	4h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	33,2	14,78	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	Cf. RM	PA
b	155	T72h	Batavia salad	LIS	4.18	se	2	3h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	32,87	19,54	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	Cf. RM	PA
b	157	T72h	Frisée salad	LIS	4.18	se	2	3h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	34,21	24,57	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	Cf. RM	PA
c	159	T72h	Wax bean	LIS	4.78	se	3,2	4h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	34,98	22,45	+	3h+Ø	4h-Ø	3h+Ø	L.m	+	Cf. RM	PA
c	161	T72h	peas steamed	LIS	4.78	se	3,2	4h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	34,07	25,36	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	Cf. RM	PA
c	163	T72h	Green lentils cooked	LIS	4.78	se	3,2	4h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	34,52	23,09	+	3h+Ø	3h-Ø	3h+Ø	L.m	+	Cf. RM	PA
c	165	T72h	Green beans	LIS	4.79	se	2,6	4h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	33,12	28,97	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	Cf. RM	PA

Protocol 1 (Half Fraser - Standard II lysis)RTE/RTRH

Protocol 1 (Half Fraser - Standard II lysis) Initial validation (IPL 2005)																		
RTE - RTRH																		
Type	Ref.	Cat	*CA*	Product (in French)	Reference method								Alternative method					Agreement
					Fraser 1/2 (10µl)			Fraser			*Identifications*	Result	Pure DNA		Result	RLM	*Identifications*	
					P1	A1	AL1	P2	A2	AL2			Ct TEX	Ct FAM				
a	O33	PP	*No*	Tartare de saumon	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	33,3	-	Ø	/	=
a	J21	PV	*No*	Taboulé	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	35,9	-	/	/	=
a	O6	PP	*No*	Tartare de saumon	Ø	+LA	Ø	+MA	+MA	+MA	*L.monocytogenes*	+	29,3	31,9	+	+LA(4)	*L.monocytogenes*	=
b	L6	PV	*No*	Pomme de terre et tomates	-LE	Ø	-LE	-LE	Ø	-LE	/	-	N/A	33,9	-	/	/	=
b	H4	PP	*No*	Millefeuille de saumon	+LA	+LA	+LA	+HB	+HB	+HB	*L.monocytogenes*	+	30,7	32,0	+	+LB	*L.monocytogenes*	=
b	I7	PC	*No*	Jambon croustillant	+MA	+LA	+LA	+HA	+HA	+HA	*L.monocytogenes*	+	24,9	33,9	+	+MA	*L.monocytogenes*	=
b	D5	PV	*No*	Farfalles fraîches crues	+LA	+LA	+LA	+MB	+MB	+MB	*L.monocytogenes*	+	29,2	31,6	+	+LA	*L.monocytogenes*	=
b	J25	PV	*No*	Tagliatelles fraîches crues	+LB	+LA	+LA	+HA	+MA	+HA	*L.monocytogenes*	+	36,8	35,7	+	+LB	*L.monocytogenes*	=
b	B16	PV	*No*	Riz aux légumes	+MA	+HA	+MA	+MA	+HA	+HA	*L.monocytogenes*	+	23,7	33,3	+	+HA	*L.monocytogenes*	=
b	E22	PV	*No*	Riz cantonais	+MA	+MA	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	28,0	35,1	+	+MA	*L.monocytogenes*	=
b	L10	PV	*No*	Semoule couscous et tomates	+MB	-LE	-LE	+MB	-ME	-ME	/	-	N/A	34,2	-	/	/	=
c	B14	PL	*No*	Profiteroles chocolat	+MA	+MA	+HA	+HA	+HA	+HA	*L.monocytogenes*	+	22,2	35,2	+	+HB	*L.monocytogenes*	=
c	D16	PL	*No*	Chou chantilly	+HB	+HA	+HA	+MB	+MB	+MB	*L.monocytogenes*	+	18,9	35,0	+	+HA	*L.monocytogenes*	=
c	D17	PL	*No*	Tarte tropézienne	+MA	+MA	+MA	+HB	+HB	+MB	*L.monocytogenes*	+	21,7	32,7	+	+MA	*L.monocytogenes*	=
c	E25	PL	*No*	Profiteroles chantilly	+MB	+MB	+MB	+HB	+MB	+MB	*L.monocytogenes*	+	18,5	N/A	+	+HB	*L.monocytogenes*	=

Protocol 1 (Half Fraser - Standard II lysis) - RTE/RTRH

Protocol 1 (Half Fraser - Standard II lysis) Renewal study (ISHA 2017) RTE - RTRH																					
ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check Half Fraser - Standard II lysis								Additional pathway of confirmation ISO 16140-2:2016	Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result		Final result
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification			
a	2	T0	Tabouleh with chicken	/	/	/	0L	0L	0L	0L	/	-	34,18	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
a	4	T0	Strabourgeoise salad	/	/	/	0L	0L	0Ø	0Ø	/	-	35,18	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
a	6	T0	Pièmontaise with ham	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	34,01	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
a	8	T0	Sandwich with salmon and chives	/	/	/	0M	0M	0Ø	0M	/	-	33,85	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
a	10	T0	Sandwich with ham and Emmental	/	/	/	0M	0M	0M	0M	/	-	34,14/34,52	38,69/N/A	+/-	0M	0M	0M	/	-	Cf. RM	PPNA)
a	12	T0	Sandwich with tuna and crudities	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	34,34	N/A	-	0M	0M	0M	/	-	Cf. RM	NA
a	14	T0	Sandwich with ham and butter	/	/	/	0L	0Ø	0Ø	0Ø	/	-	34,48	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
a	16	T0	Sandwich with rosette and butter	/	/	/	0L	0L	0Ø	0Ø	/	-	33,5	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
a	1	T0	Tabouleh with chicken	LIS 4.6	se	2,2	4h+M	4h-M	4h+M	4h-M	L.m	+	35,55	23,48	+	3h+L	4h+L	3h+L	L.m	+	Cf. RM	PA
a	3	T0	Strabourgeoise salad	LIS 4.6	se	2,2	3h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	35,05	21,37	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	Cf. RM	PA
a	5	T0	Pièmontaise with ham	LIS 4.6	se	2,2	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	35,09	25,83	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	Cf. RM	PA
a	7	T0	Sandwich with salmon and chives	LIS 4.24	se	2,8	3h+Ø	4h-M	3h+Ø	3h-Ø	L.m	+	35,85	19,65	+	3h+L	4h+M	3h+L	L.m	+	Cf. RM	PA
a	9	T0	Sandwich with ham and Emmental	LIS 4.24	se	2,8	4h+Ø	4h-M	3h+Ø	4h-Ø	L.m	+	35,09	20,3	+	3h+L	4h+M	3h+L	L.m	+	Cf. RM	PA
a	11	T0	Sandwich with tuna and crudities	LIS 4.24	se	2,8	3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	36,66	23,62	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	Cf. RM	PA
a	13	T0	Sandwich with ham and butter	LIS 4.86	se	1,8	2h+L	3h-Ø	3h+Ø	3h-Ø	L.m	+	33,86	20,9	+	3h+M	4h+L	3h+M	L.m	+	Cf. RM	PA
a	15	T0	Sandwich with rosette and butter	LIS 4.86	se	1,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	34,11	22,33	+	2h+Ø	2h+Ø	2h+Ø	L.m	+	Cf. RM	PA
a	17	T0	Sandwich with chiken and crudities	LIS 4.86	se	1,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	35,3	19,38	+	2h+Ø	2h+Ø	2h+Ø	L.m	+	Cf. RM	PA
a	19	T0	Sandwich with ham and cheddar	LIS 4.88	se	2,2	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	N/A	15,62	+	2h+Ø	2h+Ø	2h+Ø	L.m	+	Cf. RM	PA
a	21	T0	Sandwich with ham and cheddar	LIS 4.88	se	2,2	3h+Ø	4h-Ø	3h+Ø	3h-Ø	L.m	+	38,2	17,22	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	Cf. RM	PA
b	22	T0	Pizza with three cheeses	/	/	/	0L	0L	0Ø	0Ø	/	-	33,59	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
b	24	T0	Pizza with ham and cheese	/	/	/	0L	0Ø	0Ø	0Ø	/	-	33,48	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
b	26	T0	Pizza with three melting cheeses	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,4	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
b	28	T0	Pizza with comté, emmental and lardons	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,61	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
b	30	T0	Pizza with ham and mushroom	/	/	/	0L	0L	0Ø	0Ø	/	-	41,27	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
b	32	T0	Flammekueche with smoked lardons	/	/	/	0L	0L	0Ø	0Ø	/	-	42,59	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
b	34	T0	Croissant with ham	/	/	/	0L	0M	0L	0L	/	-	40,33	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
b	36	T0	Lorrain quiche	/	/	/	0L	0L	0Ø	0Ø	/	-	33,57	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
b	38	T0	Flaky goat cheese	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	41,94	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
b	40	T0	Provencal pastry	/	/	/	0M	0M	0M	0M	/	-	40,14	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
b	23	T0	Pizza with three cheeses	LIS 4.88	se	2,2	3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	36,58	19,16	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	Cf. RM	PA
b	25	T0	Pizza with ham and cheese	LIS 4.89	se	2,6	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	34,72	23,35	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
b	27	T0	Pizza with three melting cheeses	LIS 4.89	se	2,6	3h+Ø	4h-Ø	3h+Ø	3h-Ø	L.m	+	36,11	21,23	+	2h+Ø	2h+Ø	2h+Ø	L.m	+	Cf. RM	PA
b	29	T0	Pizza with comté, emmental and lardons	LIS 4.89	se	2,6	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	38,31	20,04	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	Cf. RM	PA
c	42	T0	Raspberries tart	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,39	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
c	44	T0	Apples tart	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,97/33,6	41,89/N/A	+/-	0L	0L	0L	/	-	Cf. RM	PPNA
c	46	T0	Mille-feuilles	/	/	/	0L	0L	0Ø	0Ø	/	-	33,39	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
c	48	T0	Donuts with pastry cream	/	/	/	0L	0Ø	0Ø	0Ø	/	-	38,08	N/A	-	0L	0L	0L	/	-	Cf. RM	NA

Protocol 1 (Half Fraser - Standard II lysis)
Renewal study (ISHA 2017)

RTE - RTRH

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check Half Fraser - Standard II lysis								Additional pathway of confirmation ISO 16140-2:2016	Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result		Final result
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification			
c	50	T0	Pudding	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,44	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
c	52	T0	Stick with pastry cream	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,51	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
c	54	T0	Strawberries tart	/	/	/	0L	0L	0Ø	0Ø	/	-	38,65	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
c	56	T0	Savarin with rhum and pastry cream	/	/	/	0L	0L	0Ø	0Ø	/	-	38,52	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
c	58	T0	Choux with pastry cream	/	/	/	0L	0L	0Ø	0Ø	/	-	38,31	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
c	60	T0	Pudding	/	/	/	0L	0L	0Ø	0Ø	/	-	38,27	N/A	-	0L	0L	0L	/	-	Cf. RM	NA
c	35	T0	Raspberries tart	LIS 4.46	se	2,0	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	36,2	19,97	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	Cf. RM	PA
c	37	T0	Apples tart	LIS 4.7	se	2,8	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	35	20,35	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	Cf. RM	PA
c	39	T0	Mille-feuille	LIS 4.7	se	2,8	4h+M	4h-M	4h+M	4h-M	L.m	+	38,14	15,71	+	3h+M	4h+M	3h+M	L.m	+	Cf. RM	PA
c	41	T0	Savarin with rhum and pastry cream	LIS 4.7	se	2,8	4h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	36,96	17,05	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
c	43	T0	Pudding	LIS 4.93	se	3,2	4h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	38,1	19,36	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
c	45	T0	Choux with pastry cream	LIS 4.93	se	3,2	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	34,93	23,27	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	Cf. RM	PA
c	47	T0	Strawberries tart	LIS 4.93	se	3,2	3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	36,63	15,54	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
c	49	T0	Savarin with rhum and pastry cream	LIS 4.91	se	1,6	3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	36,07	16,55	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	Cf. RM	PA

Protocol 1 (Half Fraser - Standard II lysis)
Renewal study (ISHA 2017)

RTE - RTRH

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check Half Fraser - Standard II lysis								Additional pathway of confirmation ISO 16140-2:2016	Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result		Final result
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification			
a	1	T72h	Taboulet with chicken	LIS 4.6	se	2,2	4h+M	4h-M	4h+M	4h-M	L.m	+	36,25	22,64	+	3h+M	3h+M	3h+M	L.m	+	Cf. RM	PA
a	3	T72h	strabourgeoise salad	LIS 4.6	se	2,2	3h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	34,58	23,01	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	Cf. RM	PA
a	5	T72h	Pièmontaise with ham	LIS 4.6	se	2,2	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	34,67	22,89	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
a	7	T72h	Sandwich with salmon and chives	LIS 4.24	se	2,7	3h+Ø	4h-M	3h+Ø	3h-Ø	L.m	+	34,02	21,06	+	3h+M	4h+L	3h+M	L.m	+	Cf. RM	PA
a	9	T72h	Sandwich with ham and Emmental	LIS 4.24	se	2,7	4h+Ø	4h-M	3h+Ø	4h-Ø	L.m	+	33,65	21,54	+	3h+L	4h+L	3h+L	L.m	+	Cf. RM	PA
a	11	T72h	Sandwich with tuna and crudities	LIS 4.24	se	2,7	3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	N/A	22,58	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	Cf. RM	PA
a	13	T72h	Sandwich with ham and butter	LIS 4.86	se	1,8	2h+L	3h-Ø	3h+Ø	3h-Ø	L.m	+	36,12	18,54	+	3h+M	4h+L	3h+M	L.m	+	Cf. RM	PA
a	15	T72h	Sandwich with rosette and butter	LIS 4.86	se	1,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	34,58	24,59	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	Cf. RM	PA
a	17	T72h	Sandwich with chicken and crudities	LIS 4.86	se	1,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	34,78	24,17	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	Cf. RM	PA
a	19	T72h	Sandwich with ham and cheddar	LIS 4.88	se	2,2	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	33,69	25,06	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	Cf. RM	PA
a	21	T72h	Sandwich with ham and cheddar	LIS 4.88	se	2,2	3h+Ø	4h-Ø	3h+Ø	3h-Ø	L.m	+	33,25	21,36	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	Cf. RM	PA
b	23	T72h	Pizza with three cheeses	LIS 4.88	se	2,2	3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	33,14	25,28	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	Cf. RM	PA
b	25	T72h	Pizza with ham and cheese	LIS 4.89	se	2,5	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	33,25	19,04	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	Cf. RM	PA
b	27	T72h	Pizza with three melting cheeses	LIS 4.89	se	2,5	3h+Ø	4h-Ø	3h+Ø	3h-Ø	L.m	+	34,06	20,15	+	2h+Ø	2h+Ø	2h+Ø	L.m	+	Cf. RM	PA
b	29	T72h	Pizza with comté, emmental and lardons	LIS 4.89	se	2,5	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	34,89	24,36	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	Cf. RM	PA

Protocol 1 (Half Fraser - Standard II lysis) Renewal study (ISHA 2017)																						
RTE - RTRH																						
ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check Half Fraser - Standard II lysis								Additional pathway of confirmation ISO 16140-2:2016	Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result		Final result
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification			
c	35	T72h	Raspberries tart	LIS 4.46	se	1,9	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	35,06	22,89	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	Cf. RM	PA
c	37	T72h	Apples tart	LIS 4.7	se	2,8	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	34,87	25,61	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
c	39	T72h	Mille-feuille	LIS 4.7	se	2,8	4h+M	4h-M	4h+M	4h-M	L.m	+	32,05	21,56	+	3h+L	3h+M	3h+L	L.m	+	Cf. RM	PA
c	41	T72h	Savarin with rum and pastry cream	LIS 4.7	se	2,8	4h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	32,58	23,16	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
c	43	T72h	Pudding	LIS 4.93	se	3,1	4h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	33,69	24,02	+	2h+Ø	2h+Ø	2h+Ø	L.m	+	Cf. RM	PA
c	45	T72h	Choux with pastry cream	LIS 4.93	se	3,1	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,14	24,13	+	2h+Ø	2h+Ø	2h+Ø	L.m	+	Cf. RM	PA
c	47	T72h	Strawberries tart	LIS 4.93	se	3,1	3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	35,12	25,04	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
c	49	T72h	Savarin with rum and pastry cream	LIS 4.91	se	1,6	3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	33,48	26,31	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA

Protocol 1 (Half Fraser - Standard II lysis) - Environmental products

Protocol 1 (Half Fraser - Standard II lysis) Initial validation (IPL 2005)																		
ENVIRONMENTAL PRODUCTS																		
Types	Ref.	Cat	*CA*	Product (in French)	Reference method								Alternative method					Agreement
					Fraser 1/2 (10µl)			Fraser			*Identifications*	Result	Pure DNA		Result	RLM	*Identifications*	
					P1	A1	AL1	P2	A2	AL2			Ct TEX	Ct FAM				
a	F21	EN	*No*	Bac eau adoucie de rinçage	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	32,8	-	/	/	=
a	F22	EN	*No*	Bains rinçage	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	33,4	-	/	/	=
a	F23	EN	*No*	Bains de lavage	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	33,2	-	/	/	=
a	E4	EN	*No*	Eau bacs poissons blanc	+HB	+MA	+MA	+MB	+MB	+MB	*L.monocytogenes*	+	15,4	N/A	+	+HB	*L.monocytogenes*	=
a	E14	EN	*No*	Eau égout siphon zone rinçage	+MA	+MB	+MC	+MB	+MB	+MB	*L.monocytogenes*	+	20,9	36,9	+	+HD	*L.monocytogenes*	=
b	F1	EN	*No*	Surface coffre avant lavage	-LE	-LE	-ME	+HA	-HE	-HE	*L.innocua*	-	N/A	33,7	-	/	*L.innocua*	=
b	F2	EN	*No*	Surface caisse	-LE	-LE	-ME	+MB	-ME	-HE	*L.welshimeri*	-	N/A	32,2	-	/	*L.welshimeri*	=
b	F3	EN	*No*	Surface intérieure caisse poisson	-ME	-ME	-HE	+LB	-LE	-LE	*L.welshimeri*	-	N/A	33,6	-	/	*L.welshimeri*	=
b	F4	EN	*No*	Ecouvillon languette sortie sécheur	-LE	Ø	-ME	-ME	-LE	-ME	/	-	N/A	32,7	-	/	/	=
b	F5	EN	*No*	Eponge bavette sortie caisson	-LE	-LE	-ME	-LE	-ME	-ME	/	-	N/A	33,2	-	/	/	=
b	F6	EN	*No*	Eponge bavette sortie rinçage	-HE	-ME	-HE	-ME	-ME	-ME	/	-	N/A	33,0	-	/	/	=
b	F8	EN	*No*	Surface intérieure caisse poisson	-LE	-LE	-ME	-LE	-LE	-LE	/	-	N/A	31,9	-	/	/	=
b	F10	EN	*No*	Caisse polystyrène	-LE	-LE	-LE	-ME	-HE	-HE	/	-	N/A	32,6	-	/	/	=
b	F11	EN	*No*	Surface caisse neuve	-LE	-ME	-ME	-HE	-HE	-HE	/	-	N/A	32,8	-	/	/	=
b	F13	EN	*No*	Surface conditionnement viande	-ME	-LE	-ME	-LE	-LE	-ME	/	-	N/A	32,6	-	/	/	=
b	F14	EN	*No*	Surface couvercle conditionnement viande	-LE	-LE	-LE	Ø	-LE	-LE	/	-	N/A	32,6	-	/	/	=
b	F15	EN	*No*	Surface bac avant lavage	+LA	-ME	-ME	+HA	-HE	-HE	*L.welshimeri*	-	N/A	33,0	-	/	*L.welshimeri*	=
b	F18	EN	*No*	Surface intérieure caisse après lavage	-ME	-ME	-ME	Ø	-ME	-HE	/	-	N/A	32,7	-	/	/	=
b	G3	EN	*No*	Surface tapis entrée passerelle	-LE	Ø	Ø	-LE	Ø	Ø	/	-	N/A	34,8	-	/	*L.welshimeri*	=
b	G8	EN	*No*	Surface tapis sortie	-ME	Ø	Ø	-LE	Ø	Ø	/	-	N/A	34,8	-	/	/	=
b	G21	EN	*No*	Surface intérieure caisse propre intergroupe	-LE	Ø	-LE	Ø	-LE	-LE	/	-	N/A	34,5	-	/	/	=
b	G22	EN	*No*	Surface extérieure caisse propre intergroupe	Ø	Ø	Ø	Ø	Ø	Ø	/	-	N/A	33,7	-	/	/	=
b	E1	EN	*No*	Surface filetage saumon	+HB	+MB	+HB	+MB	+MC	+MC	*L.monocytogenes*	+	18,9	38,9	+	+HB	*L.monocytogenes*	=
b	E2	EN	*No*	Surface filetage poisson blanc	+MA	+MA	+MA	+MA	+MC	+MB	*L.monocytogenes*	+	15,0	N/A	+	+HB	*L.monocytogenes*	=
b	E3	EN	*No*	Surface tapis filets blancs	+MA	+MA	+MA	+MB	+MB	+MB	*L.monocytogenes*	+	15,2	N/A	+	+HB	*L.monocytogenes*	=
b	E6	EN	*No*	Surface pesage	+MB	+MB	+MB	+HB	+MB	+MB	*L.monocytogenes*	+	20,0	34,9	+	+HB	*L.monocytogenes*	=
b	E7	EN	*No*	Surface balance ligne poissons	+HB	+HB	+MB	+MB	+MB	+MB	*L.monocytogenes*	+	15,9	N/A	+	+HB	*L.monocytogenes*	=
b	E8	EN	*No*	Surface tapis de passage saumon	+HA	+MA	+MA	+MB	+MB	+MB	*L.monocytogenes*	+	15,2	N/A	+	+HB	*L.monocytogenes*	=
b	E9	EN	*No*	Surface convoyeur saumons	+HA	+HA	+HA	+MB	+MB	+MB	*L.monocytogenes*	+	15,6	N/A	+	+HB	*L.monocytogenes*	=
b	E10	EN	*No*	Surface range couteau fileteur	+HA	+MA	+MA	+MB	+MB	+MB	*L.monocytogenes*	+	15,0	N/A	+	+HB	*L.monocytogenes*	=
b	E11	EN	*No*	Surface intérieur caisse poissons	+MA	+LA	+LA	+MB	+HB	+MB	*L.monocytogenes*	+	26,9	34,3	+	+HB	*L.monocytogenes*	=
b	E12	EN	*No*	Surface balance filets poissons blancs	+HA	+MA	+MA	+MB	+MB	+MB	*L.monocytogenes*	+	17,3	N/A	+	+HA	*L.monocytogenes*	=
b	E13	EN	*No*	Surface tapis caissette avant peleuse	+HA	+MA	+MA	+MB	+MB	+MB	*L.monocytogenes*	+	17,6	N/A	+	+HA	*L.monocytogenes*	=
b	E15	EN	*No*	Ecouvillon gouttière tapis à flipper	+MB	+LA	+LA	+MB	+MB	+MB	*L.monocytogenes*	+	24,9	34,8	+	+HB	*L.monocytogenes*	=
b	F7	EN	*No*	Surface extérieure caisse blanche	+LB	+MB	+MD	+HA	+HA	+HA	*L.monocytogenes*	+	28,5	32,1	+	+MB	*L.monocytogenes*	=
b	F19	EN	*No*	Ecouvillon convoyeur	+MB	+MB	+MB	+HB	+HB	+HB	*L.monocytogenes* *L.welshimeri*	+	22,8	33,9	+	+MB	*L.monocytogenes*	=
b	G2	EN	*No*	Ecouvillon gouttière tapis calibrage	+LB	+LA	+LB	+HA	+HA	+HA	*L.monocytogenes*	+	29,3	34,2	+	+MB	*L.monocytogenes*	=
c	F12	EN	*No*	Résidus bac gris poisson	-ME	-ME	-ME	-LE	-ME	-ME	/	-	N/A	32,8	-	/	/	=
c	F16	EN	*No*	Déchets intérieur bac poisson	-ME	-LE	-LE	+HA	-HE	-HE	*L.welshimeri*	-	N/A	32,4	-	/	/	=
c	F20	EN	*No*	Déchets grenadiers	-LE	-LE	-LE	Ø	-ME	-ME	/	-	N/A	32,4	-	/	/	=
c	G1	EN	*No*	Résidus tapis calibrage	+MC	-LE	-LE	+LB	-LE	-LE	*L.welshimeri*	-	N/A	34,1	-	/	/	=
c	G4	EN	*No*	Résidus filets poissons	+MB	-ME	-ME	+MC	-LE	-ME	*L.welshimeri*	-	N/A	35,3	-	/	/	=
c	G9	EN	*No*	Résidus flétan	Ø	Ø	-LE	Ø	Ø	Ø	/	-	N/A	34,2	-	/	/	=
c	G10	EN	*No*	Résidus lieu noir	-LE	-LE	-LE	-LE	-LE	-ME	/	-	N/A	34,6	-	/	/	=

Protocol 1 (Half Fraser - Standard II lysis) Initial validation (IPL 2005)																		
ENVIRONMENTAL PRODUCTS																		
Types	**Ref.**	**Cat**	***CA***	**Product (in French)**	**Reference method**								**Alternative method**					**Agreement**
					Fraser 1/2 (10µl)			Fraser			*Identifications*	Result	Pure DNA		Result	RLM	*Identifications*	
					P1	A1	AL1	P2	A2	AL2			Ct TEX	Ct FAM				
c	G11	EN	*No*	Résidus cutter inox sortie	+MA	-ME	-ME	+LC	-ME	-ME	*L.welshimeri*	-	N/A	32,5	-	-ME	*L.welshimeri*	=
c	G12	EN	*No*	Déchets intérieur capot	-LE	Ø	-LE	-LE	Ø	-ME	/	-	N/A	32,6	-	Ø	/	=
c	G13	EN	*No*	Résidus lieu noir	-LE	Ø	-LE	Ø	-LE	-LE	/	-	N/A	35,0	-	/	/	=
c	G15	EN	*No*	Résidus flétan	-LE	-LE	-LE	Ø	Ø	-LE	/	-	N/A	34,0	-	/	/	=
c	G16	EN	*No*	Résidus lieu noir	Ø	Ø	-LE	Ø	Ø	-LE	/	-	N/A	35,0	-	/	/	=
c	G17	EN	*No*	Résidus saumon	-ME	-LE	-ME	+LB	-ME	-ME	*L.welshimeri*	-	N/A	33,8	-	/	/	=
c	G23	EN	*No*	Résidus saumon	Ø	Ø	Ø	Ø	Ø	-LE	/	-	N/A	35,1	-	/	/	=
c	G6	EN	*No*	Résidus matières premières lieu noir	Ø	Ø	-LE	Ø	Ø	Ø	/	-	N/A	34,1	-	/	/	=
c	F17	EN	*No*	Résidus intérieur bac grenadier avant lavage	+LB	+MB	+MB	+HA	+HA	+HA	*L.monocytogenes* *L.welshimeri*	+	27,1	33,6	+	+MB	*L.monocytogenes*	=
c	E5	EN	*No*	Résidus canon à déchets	+MA	+MA	+MA	+HB	+HB	+MB	*L.monocytogenes*	+	19,3	36,9	+	+HB	*L.monocytogenes*	=
c	F9	EN	*No*	Déchets intérieur bac poisson	-LE	-ME	-HE	+HA	+HA	+HA	*L.monocytogenes*	+	33,5	32,6	+	+MB	*L.monocytogenes*	=
c	G5	EN	*No*	Résidus palette	+MB	+MB	+MB	+HB	+MB	+MB	*L.monocytogenes*	+	24,2	35,1	+	+MB	*L.monocytogenes*	=
c	G7	EN	*No*	Résidus dessous tapis pesée	+LB	-LE	-ME	+MB	+MC	+MC	*L.welshimeri* *L.monocytogenes*	+	34,8	34,5	+	+LB(3)	*L.monocytogenes*	=
c	G14	EN	*No*	Résidus filets poissons	+MB	-ME	Ø	+MB	+MB	+HB	*L.monocytogenes*	+	23,9	35,5	+	+MA	*L.monocytogenes*	=

Protocol 1 (Half Fraser - Standard II lysis) - Environmental samples

Protocol 1 (Half Fraser - Standard II lysis)
Renewal study (ISHA 2017)
ENVIRONMENTAL SAMPLES

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check Half Fraser - Standard II lysis								Additional pathway of confirmation ISO 16140-2:2016	Concordance RM/AM
							Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result		
				Strain	Type	Level	O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification			
a	134	T0	Processed water 1	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	31,87	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
a	135	T0	Processed water 2	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	32,56	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
a	136	T0	Processed water 3	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	34,36	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
a	137	T0	Processed water 4	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	31,89	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
a	138	T0	Processed water 5	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	31,56	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
a	139	T0	Processed water 6	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	32,06	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
a	140	T0	Processed water 7	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	35,06	N/A	-	0Ø	0Ø	0Ø	/	-	Cf. RM	NA
a	179	T0	Processed water 1	LIS 4.2	se	2,4	3h+Ø	4h-Ø	3h+Ø	4h-Ø	/	+	32,56	17	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
a	181	T0	Processed water 2	LIS 4.2	se	2,4	3h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	33,89	18,23	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
a	183	T0	Processed water 3	LIS 4.2	se	2,4	3h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	33,59	18,27	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
a	185	T0	Processed water 4	LIS 4.44	se	3,0	4h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	32,42	18,98	-	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
a	187	T0	Processed water 5	LIS 4.44	se	3,0	4h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	32,06	17,99	+	2h+Ø	3h+Ø	2h+Ø	L.m	+	Cf. RM	PA
a	189	T0	Processed water 6	LIS 4.44	se	3,0	3h+Ø	4h-Ø	3h+Ø	4h-Ø	/	+	33,78	16,48	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	Cf. RM	PA
a	191	T0	Processed water 7	LIS 4.50	se	1,8	4h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	33,95	19,06	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
a	193	T0	Processed water 8	LIS 4.50	se	1,8	4h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	33,64/32,48	N/A-N/A	-	4h+Ø	3h+Ø	4h+Ø	L.m	-	Cf. RM	ND
c	195	T0	Residue	LIS 4.50	se	1,8	4h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	33,18	20,15	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check Half Fraser - Standard II lysis								Additional pathway of confirmation ISO 16140-2:2016	Concordance RM/AM
							Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result		Final result
				Strain	Type	Level	O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification			
a	179	T72h	Processed water 1	LIS 4.2	se	2,4	3h+Ø	4h-Ø	3h+Ø	4h-Ø	/	+	33,47	18,45	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	Cf. RM	PA
a	181	T72h	Processed water 2	LIS 4.2	se	2,4	3h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	33,58	17,89	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
a	183	T72h	Processed water 3	LIS 4.2	se	2,4	3h+Ø	3h-Ø	4h+Ø	4h-Ø	/	+	32,96	17,62	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
a	185	T72h	Processed water 4	LIS 4.44	se	3,0	4h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	34,06	17,84	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	Cf. RM	PA
a	187	T72h	Processed water 5	LIS 4.44	se	3,0	4h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	33,25	18,56	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
a	189	T72h	Processed water 6	LIS 4.44	se	3,0	3h+Ø	4h-Ø	3h+Ø	4h-Ø	/	+	33,78	16,89	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
a	191	T72h	Processed water 7	LIS 4.50	se	1,8	4h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	33,49	20,13	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA
a	193	T72h	Processed water 8	LIS 4.50	se	1,8	4h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	34,12/33,16	N/A-N/A	-	4h+Ø	4h+Ø	4h+Ø	L.m	-	Cf. RM	ND
c	195	T72h	Residue	LIS 4.50	se	1,8	4h+Ø	4h-Ø	4h+Ø	4h-Ø	/	+	32,99	19,01	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	Cf. RM	PA

Protocol 2 (LSB - Standard II Lysis) - Meat products

Protocol 2 (LSB - Standard II lysis) Extension study (IPL 2006)																							
MEAT PRODUCTS																							
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method - LSB, Standard II lysis(T0)							Agreement	Alternative method - LSB, Standard II lysis after 72 h			Agreement
					Fraser 1/2		Fraser		Identifications	Result	DNA	Direct lysis		Result	Confirmations	*Identifications*	Result		Result	*Identifications*	Result	
					P1	AL1	P2	AL2				Ct C.int	Ct FAM		Streaking on RLM							
a	A8	PC1	No	Emincé de porc	Ø	Ø	Ø	Ø	/	-	pur	28,04	N/A	-	/	/	-	=	-	/	-	=
a	B7	PC1	No	Escalope de veau	Ø	Ø	Ø	Ø	/	-	pur	3001	N/A	-	Ø (Fraser : Ø)	/	-	=	-	/	-	=
a	E4	PC1	No	Viande de bœuf hachée	-LE	-ME	-LE	-LE	/	-	pur	3074	N/A	-	Ø	/	-	=	-	/	-	=
a	K5	PC1	No	Haché de bœuf	Ø	-LE	Ø	Ø	/	-	pur	2217	N/A	-	-LA	*L.welshimeri*	-	=	-	*L.welshimeri*	-	=
a	K8	PC1	No	Magret de canard	Ø	Ø	+MB	+MB	*L.innocua*	-	pur	2279	4179	+	-MA	*L.innocua*	-	PPNA	+	/	-	PPNA
a	M9	PC1	No	Viande de cheval	Ø	-LE	+LB	-LB	*L.innocua*	-	pur	2515	N/A	-	/	/	-	=	-	/	-	=
a	M10	PC1	No	Haché tartare de bœuf	Ø	Ø	Ø	Ø	/	-	pur	2558	N/A	-	/	/	-	=	-	/	-	=
a	M12	PC1	No	Foie de porc	Ø	-LE	+LA	-LA	*L.welshimeri*	-	pur	2467	N/A	-	/	/	-	=	-	/	-	=
a	N28	PC1	No	Viande hachée de cheval	Ø	Ø	Ø	Ø	/	-	pur	2222	N/A	-	/	/	-	=	-	/	-	=
a	C5	PC1	No	Viande hachée	Ø	Ø	+HB	+HB	*L.monocytogenes* *L.innocua*	+	pur	3111	N/A	-	+LA(48 h)	*L.monocytogenes* *L.innocua*	-	ND	-	/	-	ND
a	L1	PC1	No	Entrecôte de bœuf	+LA	+LA(5)	+HA	+MA	*L.monocytogenes* *L.innocua*	+	pur	2414	3198	+	+LB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
a	L3	PC1	No	Escalope de volaille	+LB	+LB	+MB	+MB	*L.monocytogenes* *L.welshimeri*	+	pur	2419	2353	+	+MB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
a	M6	PC1	No	Viande de boeuf	+LB*	+LB*	+MB*	+LB*	*L.monocytogenes* *L.innocua*	+	pur	2664	2469	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
a	M11	PC1	No	Joue de bœuf	+LB*	+LB*	+LB*	+MB*	*L.monocytogenes* *L.innocua*	+	pur	2501	2628	+	+LB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
a	N3	PC1	No	Steak surgelé	+MA	+LB*	+MB*	+MC*	*L.monocytogenes* *L.innocua*	+	pur	2378	N/A	-	-MA	*L.innocua*	-	ND	-	*L.innocua*	-	ND
a	N22	PC1	No	Viande hachée	+LB	+LB	+LB	+MA	*L.monocytogenes*	+	pur	2305	2229	+	+HB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
a	O7	PC1	No	Viande hachée de bœuf	+LB*	+LB*	+HB*	+MB*	*L.monocytogenes* *L.welshimeri*	+	pur	3705	3952	+	+LB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
a	O11	PC1	No	Manchons de canard	+LB*	+LB*	+MB*	+MB*	*L.monocytogenes* *L.welshimeri*	+	pur	2418	2209	+	+MB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
a	O12	PC1	No	Escalope de volaille	+LA	-LA	+HA	-MA	*L.welshimeri*	-	pur	2417	2441	+	+MB*	*L.monocytogenes* *L.welshimeri*	+	PD	+	*L.monocytogenes* *L.welshimeri*	+	PD
a	O13	PC1	No	Cuisse de poulet	+MB*	+MB*	+MB*	+MC*	*L.monocytogenes* *L.innocua*	+	pur	2408	2296	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
a	O14	PC1	No	Cuisse de dinde	-LE	+LB	-ME	-ME	*L.monocytogenes* *L.welshimeri*	+	pur	2387	2238	+	+HB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
a	Q14	PC1	No	Viande hachée	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	pur	3225	3031	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	M23	PC1	No	Sauté de porc	Ø	Ø	Ø	Ø	/	-	pur	2434	N/A	-	/	/	-	=	-	/	-	=
b	K7	PC2	No	Chipolatas	Ø	Ø	Ø	-LE	/	-	pur	2250	N/A	-	Ø	/	-	=	-	/	-	=
b	O16	PC2	No	Cuisse de poulet crue marinée à la provençale	Ø	-LE	Ø	Ø	/	-	pur	2523	N/A	-	/	/	-	=	-	/	-	=
b	S8	PC2	No	Tripes à la provençale	Ø	Ø	Ø	-LE	/	-	pur 1/10	N/A 31.22	N/A N/A	inh -	Ø (Fraser : Ø)	/	inh -	=				
b	U2	PC2	No	Merguez	Ø	Ø	Ø	Ø	/	-	pur	3379	N/A	-	/	/	-	=				
b	U4	PC2	No	Boudin blanc	-LE	-LE	ME	ME	/	-	pur	3294	N/A	-	/	/	-	=				
b	R13	PC3	No	Emincé de poulet curry	Ø	Ø	Ø	Ø	/	-	pur	2499	N/A	-	/	/	-	=				
b	R14	PC3	No	Emincé de poulet curry	-LE	-LE	-ME	-ME	/	-	pur	2527	N/A	-	/	/	-	=				

Protocol 2 (LSB - Standard II lysis) Extension study (IPL 2006)																						
MEAT PRODUCTS																						
Type	**Ref**	**Cat**	**CA**	**Product (in French)**	**Reference method**						**Alternative method - LSB, Standard II lysis(T0)**							**Agreement**	**Alternative method - LSB, Standard II lysis after 72 h**			**Agreement**
					Fraser 1/2		Fraser		Identifications	Result	DNA	Direct lysis		Result	Confirmations	*Identifications*	Result		Result	*Identifications*	Result	
					P1	AL1	P2	AL2				Ct C.int	Ct FAM		Streaking on RLM							
b	R17	PC3	No	Tripes au calvados	Ø	Ø	Ø	Ø	/	-	pur	2523	N/A	-	/	/	-	=				
b	T4	PC3	No	Côte de porc cuisinée	Ø	Ø	Ø	Ø	/	-	pur	3317	N/A	-	/	/	-	=				
b	T7	PC3	No	Mouton aux haricots	Ø	Ø	Ø	Ø	/	-	pur	3117	N/A	-	/	/	-	=				
b	B6	PC1	No	Sauté de porc	-LE	-LE	+MB	-MA	*L.innocua*	-	pur	2836	2636	+	+MB	*L.monocytogenes* *L.innocua*	+	PD	+	*L.monocytogenes* *L.innocua*	+	PD
b	A9	PC2	No	Chair à saucisse	+LA(3)	+LA(5)	+HA	+MA	*L.monocytogenes*	+	pur	2772	N/A	-	Ø	/	-	ND	-	/	-	ND
b	K4	PC2	No	Merguez crue	+MB	+MB*	+HB	+HB*	*L.monocytogenes* *L.welshimeri*	+	pur	2114	1569	+	+HB	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
b	M8	PC2	No	Merguez	+LB*	+LB*	+LB*	+MB*	*L.monocytogenes* *L.welshimeri*	+	pur	2658	2279	+	+MB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	N1	PC2	No	Chipolatas	Ø	Ø	Ø	Ø	/	-	pur	2474	3480	+	+LA	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
b	N2	PC2	No	Rôti de veau Orloff	+LA	+LA	+HA	+MA	*L.monocytogenes*	+	pur	2389	3073	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	N23	PC2	No	Chipolatas	+LA(2)	+LA(1)	+HA	+MA	*L.monocytogenes*	+	pur	2207	2963	+	+MB	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
b	O4	PC2	No	Merguez	Ø	-LE	Ø	-LE	/	-	pur	2526	2784	+	+LB	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
b	O15	PC2	No	Saucisses de veau	+LB	-LB	+HB	-MA	*L.welshimeri*	-	pur	2486	2776	+	+LB*	*L.monocytogenes* *L.welshimeri*	+	PD	+	*L.monocytogenes* *L.welshimeri*	+	PD
b	O17	PC2	No	Ailes de poulet marinées au curry	+MA	-LA	+HA	-MA	*L.innocua*	-	pur	N/A	2124	+	+MB*	*L.monocytogenes* *L.innocua*	+	PD	+	*L.monocytogenes* *L.innocua*	+	PD
b	P6	PC2	No	Chipolatas aux herbes	Ø	Ø	+LA	+MA	*L.monocytogenes*	+	pur	2761	2613	+	+MB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
b	P7	PC2	No	Merguez	+LB	+LB	+HB*	+MB	*L.monocytogenes* *L.welshimeri*	+	pur	2974	2662	+	+HB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
b	P8	PC2	No	Hamburger à cuire	+MB	+MB	+HC*	+LB	*L.monocytogenes* *L.welshimeri*	+	pur	2688	2175	+	+HB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
b	R15	PC2	No	Merguez	+MA	+MA	+MB*	+MB*	*L.monocytogenes* *L.welshimeri*	+	pur	2484	2384	+	+MB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
b	S9	PC2	No	Chipolatas	+LB*	+LB*	+MB*	+MB*	*L.monocytogenes* *L.welshimeri*	+	pur	3391	3165	+	+LA	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
b	T5	PC2	No	Saucisse fumée à cuire	+MB*	+MB*	+HB*	+HB*	*L.monocytogenes* *L.innocua*	+	pur	2880	2146	+	+HB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
b	T6	PC2	No	Boulettes bœuf et porc à cuire	+LB	+MC	+HA	+MA	*L.monocytogenes*	+	pur	3038	N/A	-	Ø	/	-	ND	-	/	-	ND
b	K9	PC3	No	Sauté de cheval à l'indienne	Ø	Ø	+MB	+MB*	*L.monocytogenes* *L.welshimeri*	+	pur	2209	2006	+	+MB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
c	A11	PC3	No	Saucisson au poivre	Ø	Ø	-LE	-LE	/	-	pur	2814	N/A	-	Ø	/	-	=	-	/	-	=
c	K6	PC3	No	Foie gras	Ø	-LE	Ø	-LE	/	-	pur	2230	N/A	-	Ø	/	-	=	-	/	-	=
c	L4	PC3	No	Noix de jambon aux herbes	Ø	+LB	-LE	-ME	*Bacillus*	-	pur	2422	N/A	-	-LB	*Bacillus*	-	=	-	/	-	=
c	L5	PC3	No	Lardons	+LB	+LA	+HB	+HA	*L.welshimeri*	-	pur	2434	N/A	-	-LA	*L.welshimeri*	-	=	-	/	-	=
c	L6	PC3	No	Pâté à l'échalote	Ø	Ø	Ø	-LE	/	-	pur	2297	N/A	-	Ø	/	-	=	-	/	-	=
c	L7	PC3	No	Potjevlesh	-LE	-LE	-LE	-ME	/	-	pur	2401	N/A	-	Ø	/	-	=	-	/	-	=
c	L9	PC3	No	Pâté de campagne	-ME	-ME	-ME	-ME	/	-	pur	2343	N/A	-	-ME	/	-	=	-	/	-	=
c	O5	PC3	No	Pâté de campagne	+LA	+LB*	+MB	+MA	*L.ivanovii* *L.innocua*	-	pur	2411	N/A	-	Ø	/	-	=	-	/	-	=
c	O6	PC3	No	Jambon fumé	Ø	Ø	Ø	Ø	/	-	pur	2463	N/A	-	/	/	-	=	-	/	-	=
c	O8	PC3	No	Bacon	Ø	Ø	-ME	-LE	/	-	pur	2587	3685	+	-LA	*L.welshimeri*	-	PPNA	+	*L.welshimeri*	-	PPNA

Protocol 2 (LSB - Standard II lysis) Extension study (IPL 2006)																						
MEAT PRODUCTS																						
Type	**Ref**	**Cat**	**CA**	**Product (in French)**	**Reference method**						**Alternative method - LSB, Standard II lysis(T0)**							**Agreement**	**Alternative method - LSB, Standard II lysis after 72 h**			**Agreement**
					Fraser 1/2		Fraser		Identifications	Result	DNA	Direct lysis		Result	Confirmations	*Identifications*	Result		Result	*Identifications*	Result	
					P1	AL1	P2	AL2				Ct C.int	Ct FAM		Streaking on RLM							
c	O9	PC3	No	Lardons	+LA(2)	Ø	+HB	-MA	*L.welshimeri*	-	pur	2550	N/A	-	-LB	*L.welshimeri*	-	=	-	/	-	=
c	L2	PC3	No	Rosette de porc	Ø	+LA(1)	+HB	+HB*	*L.monocytogenes* *L.welshimeri*	+	pur	2426	3826	+	+LA(1) (Fraser : +MB*)	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
c	M7	PC3	No	Jambon fumé	Ø	Ø	Ø	Ø	/	-	pur	2748	2755	+	+LB	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
c	M13	PC3	No	Chorizo	-LE	-LE	+HA	-LA	*L.innocua*	-	pur	2432	3440	+	+LB	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
c	N24	PC3	No	Rôti de veau	Ø	Ø	+LA	-MA	*L.welshimeri*	-	pur	2339	3601	+	+LA	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
c	O10	PC3	No	Poitrine fumée	+LA	-LA	+MB*	+MB*	*L.monocytogenes* *L.welshimeri*	+	pur	2430	2892	+	+MB*	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=

Protocol 2 (LSB - Standard II lysis) - Meat products

Protocol 2 (LSB - Standard II lysis) Renewal study (ISHA 2017)																										
MEAT PRODUCTS																										
ST	SN	Time	Sample	Contamination				RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Standard II lysis								Additional pathway of confirmation ISO 16140-2:2016				Concordance RM/AM
				Strain		Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Confirmation	Final result	
								O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Placam	Identification		
c	169	T0	Cooked ham high quality	LIS	4.26	se	2,4	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	38,29	14,04	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	171	T0	Auvergne Ham	LIS	4.26	se	2,4	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	34,53	18,7	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	173	T0	Cooked and derinded ham high quality	LIS	4.26	se	2,4	0Ø	0Ø	0Ø	0Ø	/	-	33,49	21,74	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PD
c	175	T0	Cooked ham	LIS	4.27	se	2,8	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,35	25,89	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	177	T0	Serrano ham	LIS	4.27	se	2,8	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,78	21,74	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA

ST	SN	Time	Sample	Contamination				RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Standard II lysis after storage 72h at 5°C								Additional pathway of confirmation ISO 16140-2:2016				Concordance RM/AM
				Strain		Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Confirmation	Final result	
								O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Placam	Identification		
c	169	T72h	Cooked ham high quality	LIS	4.26	se	2,4	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	32,58	15,06	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	171	T72h	Auvergne Ham	LIS	4.26	se	2,4	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	37,85	18,25	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	173	T72h	Cooked and derinded ham high quality	LIS	4.26	se	2,4	0Ø	0Ø	0Ø	0Ø	/	-	33,56	23,05	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PD
c	175	T72h	Cooked ham	LIS	4.27	se	2,8	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,69	19,36	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	177	T72h	Serrano ham	LIS	4.27	se	2,8	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	35,12	22,35	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA

Protocol 2 (LSB - Standard II lysis) - Dairy products

Protocol 2 (LSB - Standard II lysis) Extension study (IPL 2006)																							
DAIRY PRODUCTS																							
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Standard II lysis (T0)							Agreement	Alternative method LSB, Standard II lysis after 72 h			Agreement
					Fraser 1/2		Fraser		Identifications	Result	DNA	Direct lysis		Result	Confirmations	*Identifications*	Result		Result	*Identifications*	Result	
					P1	AL1	P2	AL2				Ct C.int	Ct FAM		Streaking on RLM							
a	N26	PL1	No	Palet de Bourgo (au lait cru)	Ø	-LE	Ø	Ø	/	-	pur	23,03	N/A	-	-LE	/	-	=	-	/	-	=
a	P5	PL1	No	Maroilles au lait cru	-LE	-LE	-ME	-LE	/	-	pur	2878	N/A	-	/	/	-	=				
a	R3	PL2	No	Valençay (fromage de chèvre)	Ø	Ø	Ø	Ø	/	-	pur	2425	N/A	-	/	/	-	=				
a	R4	PL2	No	Selles sur Cher	Ø	Ø	Ø	Ø	/	-	pur	2450	N/A	-	/	/	-	=				
a	R6	PL2	No	Selles sur Cher	Ø	Ø	-LE	Ø	/	-	pur	2374	N/A	-	/	/	-	=				
a	P3	PL1	No	Maroilles au lait cru	+LB	+LB	+MB	+MA	*L.monocytogenes*	+	pur	3044	3919	+	+LB*	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	P4	PL1	No	Maroilles au lait cru	Ø	-LE	+MA	+LA	*L.monocytogenes*	+	pur	2969	3276	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	Q24	PL2	7,2	Rocamadour au lait cru	Ø	Ø	+LA	+LA	*L.monocytogenes*	+	pur	3297	2687	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	C8	PL3	No	Lait cru	+LA(1)	Ø	+HA	-LA	*L.welshimeri*	-	pur 1/10	N/A 26.45	N/A N/A	inh -	-LB	*L.welshimeri*	inh -	=	inh -	/	inh -	=
b	O19	PL3	No	Lait cru	Ø	Ø	-LE	Ø	/	-	pur	2481	N/A	-	/	/	-	=	-	/	-	=
b	B15	PL3	No	Lait cru	+LA	+LA	+HA	+MA	*L.monocytogenes*	+	pur	3092	2773	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	B16	PL3	No	Lait cru	+MA	+MA	+MB	+MA	*L.monocytogenes*	+	pur	3150	1827	+	+MB	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
b	E7	PL3	No	Lait cru	Ø	Ø	-LE	-LE	/	-	pur	2445	1611	+	+HA	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
b	O27	PL3	10,8	Lait cru	+LA	+LA	+HA	+MA	*L.monocytogenes*	+	pur	2432	2185	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	O28	PL3	13,5	Lait cru	+LA	+LB	+MA	+MB	*L.monocytogenes*	+	pur	2443	2027	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	A2	PL1	No	Camembert	Ø	Ø	Ø	Ø	/	-	pur	2575	N/A	-	Ø	/	-	=	-	/	-	=
c	A3	PL1	No	Munster	Ø	Ø	Ø	-LE	/	-	pur	2702	N/A	-	+HB	/	-	=	-	/	-	=
c	B2	PL1	No	Epoisses	-LE	-LE	-LE	-LE	/	-	pur	2972	N/A	-	Ø	/	-	=	-	/	-	=
c	B5	PL1	No	Munster	Ø	-LE	Ø	Ø	/	-	pur	2893	N/A	-	/	/	-	=	-	/	-	=
c	M24	PL1	No	Pont l'Evêque	Ø	Ø	Ø	Ø	/	-	pur	2412	N/A	-	/	/	-	=	-	/	-	=
c	M25	PL1	No	Livarot	Ø	Ø	Ø	Ø	/	-	pur	2385	N/A	-	/	/	-	=	-	/	-	=
c	O3	PL1	No	Rond du vinage	Ø	Ø	Ø	-LE	/	-	pur	2706	N/A	-	/	/	-	=	-	/	-	=
c	Q27	PL1	No	St Paulin	Ø	Ø	Ø	Ø	/	-	pur	3236	N/A	-	/	/	-	=				
c	Q28	PL1	No	Munster pasteurisé	Ø	-LE	Ø	Ø	/	-	pur	3370	N/A	-	/	/	-	=				
c	Q29	PL1	No	Brie pasteurisé	Ø	-LE	Ø	Ø	/	-	pur	3343	N/A	-	/	/	-	=				
c	Q30	PL1	No	Fromage à raclette pasteurisé	Ø	-LE	Ø	Ø	/	-	pur	3244	N/A	-	/	/	-	=				
c	A1	PL2	No	Fromage de chèvre Ste Maure	Ø	Ø	Ø	Ø	/	-	pur	2369	N/A	-	/	/	-	=	-	/	-	=
c	A4	PL2	No	Féta nature	Ø	Ø	Ø	Ø	/	-	pur	2528	N/A	-	/	/	-	=	-	/	-	=
c	A6	PL2	No	Fromage de chèvre Chabichou	Ø	Ø	Ø	-LE	/	-	pur	2399	N/A	-	/	/	-	=	-	/	-	=
c	Q18	PL2	No	Bûche de chèvre	-LE	-LE	-LE	-LE	/	-	pur	3217	N/A	-	/	/	-	=				
c	R5	PL2	No	Pigouille (fromage de chèvre)	-LE	-LE	Ø	-LE	/	-	pur	2466	N/A	-	/	/	-	=				
c	R7	PL2	No	Pigouille (fromage de chèvre)	Ø	Ø	-LE	Ø	/	-	pur	2521	N/A	-	/	/	-	=				
c	S1	PL3	No	Lait infantile en poudre	Ø	Ø	Ø	Ø	/	-	pur	3416	N/A	-	/	/	-	=				
c	S2	PL3	No	Lait infantile en poudre	Ø	Ø	Ø	-LE	/	-	pur	3453	N/A	-	/	/	-	=				
c	A10	PL1	No	Maroilles	+LB	+LA	+MB	+MA	*L.monocytogenes*	+	pur	2491	2308	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=

Protocol 2 (LSB - Standard II lysis) Extension study (IPL 2006)																						
DAIRY PRODUCTS																						
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Standard II lysis (T0)							Agreement	Alternative method LSB, Standard II lysis after 72 h			Agreement
					Fraser 1/2		Fraser		Identifications	Result	DNA	Direct lysis		Result	Confirmations	*Identifications*	Result		Result	*Identifications*	Result	
					P1	AL1	P2	AL2				Ct C.int	Ct FAM		Streaking on RLM							
c	B1	PL1	No	Epoisses	+LA	+MA	+MA	+MA	*L.monocytogenes*	+	pur	3011	2503	+	+MB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	B3	PL1	No	Reblochon	Ø	-LE	Ø	Ø	/	-	std	2863	2666	+	+MA	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
c	C2	PL1	No	Munster	+MA	+MA	+MB	+MA	*L.monocytogenes*	+	pur 1/10	N/A 31.82	N/A 24.46	inh +	+MA	*L.monocytogenes*	inh +	=	inh +	*L.monocytogenes*	inh +	=
c	C4	PL1	No	Maroilles	+LB(2)	Ø	+LB	+MA	*L.monocytogenes*	+	pur	3040	27,48	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	N18	PL1	No	Cœur de Neufchâtel	-LE	-LE	-LE	-LE	/	-	pur	2217	2264	+	+MA	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
c	P20	PL1	6	Saint Paulin	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	pur	2269	2031	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	Q15	PL1	5,4	Brie de Meaux	Ø	-LE	+MA	+MA	*L.monocytogenes*	+	pur	3607	3336	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	E6	PL2	No	Ossau Iraty	+LA	+LA	+HB	+MB*	*L.monocytogenes* *L.innocua*	+	pur	2625	1886	+	+HB	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
c	E8	PL2	No	Fromage de chèvre	+MB	+MB	+MB	+MB	*L.monocytogenes*	+	pur	2410	1518	+	+HB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	O23	PL2	5,4	Bûche de chèvre	+LA	+MC*	+HA	+MA	*L.monocytogenes*	+	pur	2604	2467	+	+MB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	O24	PL2	10,8	Crottin de Chavignol	-LE	+LA(1)	-ME	+LB	*L.monocytogenes*	+	pur	N/A	3493	+	+LA	*L.monocytogenes*	+	=	-	*L.monocytogenes*	-	ND
c	P21	PL2	9	Fromage de chèvre	+LB	+MD	+HB	+MA	*L.monocytogenes*	+	pur	2181	2093	+	+MB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	Q9	PL2	8,8	Bûche de chèvre	+LB	+LB	+MC	+MB	*L.monocytogenes*	+	pur	N/A	3516	+	+LB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	Q13	PL3	3,6	Glace chocolat	+LC	+LC	+HB	+MB	*L.monocytogenes*	+	pur 1/10	N/A 38.14	N/A 24.54	inh +	+MA	*L.monocytogenes*	inh +	=	inh +	*L.monocytogenes*	inh +	=

Protocol 2 (LSB - Standard II lysis) - Dairy products

Protocol 2 (LSB - Standard II lysis) Renewal study (ISHA 2017)																									
DAIRY PRODUCTS																									
ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Standard II lysis								Additional pathway of confirmation ISO 16140-2:2016				Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Confirmation	Final result	
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Placam	Identification		
a	62	T0	Neuf Châtel raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	38,05	N/A	-	0L	0L	0L	/	-	0L	0L	/	/	NA
a	64	T0	Camembert of Normandie raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	37,71	N/A	-	0L	0L	0L	/	-	0L	0L	/	/	NA
a	66	T0	Coulommiers raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	37,46	N/A	-	0L	0L	0L	/	-	0L	0Ø	/	/	NA
a	68	T0	Comté raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	38,4	N/A	-	0L	0L	0L	/	-	0L	0Ø	/	/	NA
a	70	T0	Comté raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	38,37	N/A	-	0L	0L	0L	/	-	0L	0L	/	/	NA
a	72	T0	Morbier raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	33,34	N/A	-	0L	0L	0L	/	-	0Ø	0Ø	/	/	NA
a	57	T0	Neuf Châtel raw milk	LIS 4.60	se	2,2	3h+L	3h-L	3h+L	4h-Ø	L.m	+	N/A-37,8	N/A-18,97	IH/+*	4h+Ø	4h+Ø	4h+Ø	L.m	+	3h+L	4h-Ø	L.m	+	PA
a	59	T0	Camembert of Normandie raw milk	LIS 4.60	se	2,2	2h+M	3h-L	3h+L	4h-L	L.m	+	N/A-37,77	N/A-23,48	IH/+*	4h+Ø	3h+M	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
a	61	T0	Coulommiers raw milk	LIS 4.60	se	2,2	3h+L	3h-L	3h+L	4h-Ø	L.m	+	37,29	18,65	+	4h+L	3h+L	4h+L	L.m	+	3h+L	3h-L	L.m	+	PA
a	63	T0	Comté raw milk	LIS 4.56	se	1,8	0M	0M	0L	0M	L.m	-	37,82	28,19	+	3h+Ø	3h+L	3h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+	PD
a	65	T0	Comté raw milk	LIS 4.56	se	1,8	2h+M	3h-L	3h+L	4h-Ø	L.m	+	36,29	24,52	+	3h+M	3h+L	3h+M	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
a	67	T0	Morbier raw milk	LIS 4.56	se	1,8	3h+L	3h-L	3h+L	4h-Ø	L.m	+	34,53-37,25	N/A-20,27	IV/+**	3h+L	3h+L	3h+L	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
a	69	T0	Reblochon raw milk	LIS 4.32	se	3,0	3h+L	4h-L	3h+Ø	4h-Ø	L.m	+	37,28	35,5	+	3h+L	3h+L	3h+L	L.m	+	3h+L	3h-Ø	L.m	+	PA
a	71	T0	Mountain tome cheese raw milk	LIS 4.32	se	3,0	3h+L	3h-M	3h+Ø	4h-L	L.m	+	35,11	25,07	+	3h+L	3h+L	3h+L	L.m	+	3h+L	3h-Ø	L.m	+	PA
a	73	T0	Raclette raw milk	LIS 4.32	se	3,0	4h+H	3h-M	3h+M	4h-L	L.m	+	35,67	29,04	+	3h+L	3h+L	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	90	T0	Raw milk	/	/	/	0L	0M	0Ø	0Ø	/	-	37,37	N/A	-	0L	0L	0L	/	-	0L	0L	/	/	NA
b	92	T0	Raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	37,32-33,43	47,19-N/A	+/-	0L	0L	0L	/	-	0L	0L	/	/	PPNA
b	94	T0	Raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	33,87	N/A	-	0L	0L	0L	/	-	0L	0Ø	/	/	NA
b	96	T0	Raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	37,87	N/A	-	0L	0L	0L	/	-	0L	0L	/	/	NA
b	98	T0	Raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	37,9	N/A	-	0L	0L	0L	/	-	0L	0Ø	/	/	NA
b	100	T0	Raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	38,29	N/A	-	0L	0L	0L	/	-	0L	0L	/	/	NA
b	102	T0	Raw milk butter	/	/	/	0M	0M	0Ø	0Ø	/	-	37,62	N/A	-	0L	0L	0L	/	-	0L	0Ø	/	/	NA
b	104	T0	Raw milk butter	/	/	/	0M	0L	0Ø	0Ø	/	-	40,08	N/A	-	0L	0L	0L	/	-	0L	0L	/	/	NA
b	75	T0	Raw milk	LIS 4.59	se	2,4	2h+M	3h-L	3h+Ø	4h-Ø	L.m	+	40,76	23,47	+	4h+Ø	3h+L	4h+Ø	L.m	+	3h+L	3h-Ø	L.m	+	PA
b	77	T0	Raw milk	LIS 4.59	se	2,4	2h+M	3h-L	3h+Ø	4h-Ø	L.m	+	41,95	21,61	+	3h+L	3h+L	3h+L	L.m	+	3h+L	4h-Ø	L.m	+	PA
b	79	T0	Raw milk	LIS 4.59	se	2,4	4h+H	3h-M	3h+L	4h-L	L.m	+	40,52	25,65	+	3h+L	4h+Ø	3h+L	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
b	81	T0	Raw milk	LIS 4.23	se	3,2	3h+L	3h-L	3h+Ø	4h-Ø	L.m	+	37,88	25,25	+	3h+L	3h+M	3h+L	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
b	83	T0	Raw milk	LIS 4.23	se	3,2	3h+M	3h-M	3h+M	4h-L	L.m	+	33,22	19,69	+	3h+M	3h+L	3h+M	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
b	85	T0	Raw milk	LIS 4.23	se	3,2	3h+M	3h-M	3h+L	4h-L	L.m	+	33,66	15,54	+	3h+L	3h+L	3h+L	L.m	+	3h+L	3h-L	L.m	+	PA
b	87	T0	Raw milk butter	LIS 4.62	se	2,6	3h+M	3h-L	3h+L	4h-Ø	L.m	+	N/A	18,59	+	4h+Ø	4h+L	4h+Ø	L.m	+	3h+L	4h-Ø	L.m	+	PA
b	89	T0	Raw milk butter	LIS 4.62	se	2,6	3h+M	3h-L	3h+L	4h-Ø	L.m	+	38,34	23,95	+	4h+L	4h+L	4h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA

Protocol 2 (LSB - Standard II lysis) - Seafood products

Protocol 2 (LSB - Standard II lysis) Extension study (IPL 2006)																						
SEAFOOD PRODUCTS																						
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Standard II lysis (T0)							Agreement	Alternative method LSB, Standard II lysis after 72 h			Agreement
					Fraser 1/2		Fraser		Identifications	Result	DNA	Direct lysis		Result	Confirmations	*Identifications*	Result		Result	*Identifications*	Result	
					P1	AL1	P2	AL2				Ct C.int	Ct FAM		Streaking on RLM							
a	B18	PP1	No	Filet de tilapia	+LA	-LA	+MA	-MA	*L.innocua*	-	pur	3112	N/A	-	-MA	*L.innocua*	-	=	-	*L.innocua*	-	=
a	G16	PP1	No	Saumon frais	Ø	Ø	Ø	Ø	/	-	pur	4721	N/A	-	Ø	/	-	=	-	/	-	=
a	G17	PP1	No	Saumon frais	Ø	Ø	Ø	Ø	/	-	pur 1/10	N/A 25.49	N/A N/A	inh -	/	/	inh -	=	inh -	/	inh -	=
a	G18	PP1	No	Saumon frais	Ø	Ø	Ø	Ø	/	-	pur 1/10	N/A 35.16	N/A N/A	inh -	/	/	inh -	=	inh -	/	inh -	=
a	G19	PP1	No	Saumon frais	Ø	Ø	Ø	Ø	/	-	pur	3394	N/A	-	/	/	-	=	-	/	-	=
a	R18	PP1	No	Filet de flétan	-LE	Ø	-ME	-LE	/	-	pur	2420	N/A	-	/	/	-	=				
a	T11	PP1	No	Filet de sabre	-LE	-LE	Ø	Ø	/	-	pur	3136	N/A	-	/	/	-	=				
a	K2	PP3	No	Tartare de saumon	Ø	-LE	Ø	Ø	/	-	pur	2186	N/A	-	Ø	/	-	=	-	/	-	=
a	E3	PP1	No	Harengs	-LE	Ø	-ME	Ø	/	-	pur	2808	3272	+	+LB	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
a	G20	PP1	No	Saumon frais	+LA	+LA	+HB*	+MB*	*L.monocytogenes*	+	pur	N/A	3211	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	H1	PP1	No	Saumon frais	+LA	+LA	+HA	+MB	*L.monocytogenes* *L.innocua*	+	pur	2470	1602	+	+HB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
a	H2	PP1	No	Saumon frais	+LA	+LA	+HA	+HA	*L.monocytogenes*	+	pur	2229	2549	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	H3	PP1	No	Saumon frais	+LA	+LA	+HA	+MA	*L.monocytogenes*	+	pur	2504	1908	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	H4	PP1	No	Saumon frais	+LA	+LA	+HA	+MA	*L.monocytogenes*	+	pur	2289	3767	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	H5	PP1	No	Saumon frais	+LA	+LA	+HA	+MA	*L.monocytogenes*	+	pur	2396	1517	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	M20	PP1	No	Darnes de lieu noir	+LA(4)	+LA	+LB	+LA	*L.monocytogenes*	+	pur	2458	2832	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	N8	PP1	No	Cocktail de fruits de mer surgelé	Ø	-ME	+HA	+MB*	*L.monocytogenes* *L.innocua*	+	pur	2697	2908	+	+LB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
a	N19	PP1	No	Cocktail de fruits de mer surgelé	Ø	+LB(2)	+LA	+MB	*L.monocytogenes*	+	pur	2393	2613	+	+LB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
b	C1	PP2	No	Saumon fumé	Ø	-LE	Ø	Ø	/	-	pur	3108	N/A	-	-LE (Fraser : -LA)	*L.innocua*	-	=	-	/	-	=
b	K10	PP2	No	Saumon fumé	Ø	Ø	Ø	-LE	/	-	pur	2264	N/A	-	Ø	/	-	=	-	/	-	=
b	N9	PP2	No	Saumon fumé d'Irlande	-LE	Ø	-ME	-ME	/	-	pur	2379	N/A	-	Ø	/	-	=	-	/	-	=
b	Q21	PP2	No	Truite fumée	Ø	Ø	Ø	-LE	/	-	pur	3216	N/A	-	/	/	-	=				
b	Q22	PP2	No	Sardines fumées	Ø	Ø	Ø	Ø	/	-	pur	3245	N/A	-	/	/	-	=				
b	Q23	PP2	No	Saumon fumé	Ø	Ø	Ø	Ø	/	-	pur	3227	N/A	-	/	/	-	=				
b	R19	PP2	No	Thon fumé	Ø	Ø	Ø	Ø	/	-	pur	2454	N/A	-	/	/	-	=				
b	T9	PP2	No	Saumon fumé	Ø	Ø	Ø	Ø	/	-	pur	3084	N/A	-	/	/	-	=				
b	A15	PP3	No	Harengs marinés	Ø	Ø	-ME	Ø	/	-	pur	2965	N/A	-	-LE	/	-	=	-	/	-	=
b	C6	PP3	No	Harengs marinés	Ø	Ø	-LE	Ø	/	-	pur	2952	N/A	-	Ø	/	-	=	-	/	-	=
b	M18	PP1	No	Haddock	+LB	+LB	+LB	+LA	*L.monocytogenes*	+	pur	2581	2897	+	+LB*	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	A13	PP2	No	Flétan fumé	Ø	+LA	+HB	+MA	*L.monocytogenes*	+	pur	2751	3050	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	A14	PP2	No	Saumon fumé	+LA	+LB	+HA	+MB	*L.monocytogenes*	+	pur	2744	31,11	+	+HA	*L.monocytogenes*	+	=	-	/	-	ND
b	B8	PP2	No	Saumon fumé	+LA	+LA	+HA	+HA	*L.monocytogenes*	+	pur	2935	2764	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	B9	PP2	No	Saumon fumé	+LA(3)	+LA(2)	+HA	+MA	*L.monocytogenes*	+	pur	2996	1917	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=

Protocol 2 (LSB - Standard II lysis)
Extension study (IPL 2006)

SEAFOOD PRODUCTS

Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Standard II lysis (T0)							Agreement	Alternative method LSB, Standard II lysis after 72 h			Agreement
					Fraser 1/2		Fraser		Identifications	Result	DNA	Direct lysis		Result	Confirmations	Identifications	Result		Result	Identifications	Result	
					P1	AL1	P2	AL2				Ct C.int	Ct FAM		Streaking on RLM							
b	C3	PP2	No	Lardons de saumon fumé	Ø	+LA	+LB	+MB	*L.monocytogenes*	+	pur	2862	2708	+	+LA(48 h)	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	L8	PP2	No	Saumon fumé	Ø	Ø	+HB	+HA	*L.innocua*	-	pur	2309	2520	+	+MB*	*L.monocytogenes* *L.innocua*	+	PD	+	*L.monocytogenes* *L.innocua*	+	PD
b	M16	PP2	No	Eglefin fumé	+LB*	+LB*	+LB*	+LB*	*L.monocytogenes* *L.innocua*	+	pur	2578	2984	+	-LA (Fraser : +MB*)	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
b	M17	PP2	No	Sprats fumés	+MA	+MA	+HA	+HA	*L.monocytogenes*	+	pur	2367	1976	+	+LB	*L.monocytogenes*	+	=	inh +	*L.monocytogenes*	inh +	=
b	R20	PP2	No	Saumon fumé d'Ecosse	Ø	Ø	Ø	Ø	/	-	pur	2395	3850	+	+LA	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
b	S5	PP2	No	Eglefin fumé	Ø	-LE	-LE	-LE	/	-	pur	3348	2726	+	+MB*	*L.monocytogenes* *L.innocua*	+	PD	+	*L.monocytogenes* *L.innocua*	+	PD
b	M19	PP3	No	Kippers	+LA(2)	+LB(2)	+LA	+LA	*L.monocytogenes*	+	pur	2403	3186	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	T10	PP1	No	Miettes de crabe	Ø	Ø	-LE	Ø	/	-	pur	3117	4092	+	/	/	-	PPNA				
c	S3	PP2	No	Canapés de saumon fumé	-LE	-ME	-LE	-ME	/	-	pur	3361	N/A	-	/	/	-	=				
c	S13	PP2	No	Nonnettes de poissons fumés	-LE	-LE	-LE	-ME	/	-	pur	3363	N/A	-	/	/	-	=				
c	B10	PP3	No	Rillettes de thon	Ø	Ø	Ø	Ø	/	-	pur	2950	N/A	-	/	/	-	=	-	/	-	=
c	C7	PP3	No	Tarama	-LE	-LE	-ME	-LE	/	-	pur	3104	N/A	-	Ø	/	-	=	-	/	-	=
c	M14	PP3	No	Filet de poisson à la provençale	-LE	-LE	Ø	-LE	/	-	pur	2354	N/A	-	-LA	*L.innocua*	-	=	-	*L.innocua*	-	=
c	M21	PP3	No	Accras de morue	Ø	Ø	-LE	-LE	/	-	pur	2349	N/A	-	/	/	-	=	-	/	-	=
c	S4	PP3	No	Tartare de saumon à la moutarde	-LE	-LE	-ME	-ME	/	-	pur	3310	N/A	-	/	/	-	=				
c	T8	PP3	No	Coquilles de saumon frais	Ø	Ø	Ø	Ø	/	-	pur	2983	N/A	-	/	/	-	=				
c	K3	PP1	No	Crevettes cuites	+MB	+LB*	+MB	+MB*	*L.monocytogenes* *L.innocua*	+	pur	2859	2181	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
c	M15	PP1	No	Crevettes cuites	+LB*	+MB*	+MB*	+LB*	*L.monocytogenes* *L.innocua*	+	pur	2482	2733	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	S19	PP2	No	Paniers au saumon fumé	+LC	+LB*	+MB*	+MB*	*L.monocytogenes* *L.innocua*	+	pur	3022	2402	+	+HB	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
c	E2	PP3	No	Terrine langoustines	+HA	+MB	+HB	+MB	*L.monocytogenes*	+	pur	2365	1550	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	K1	PP3	No	Accras de morue	+MA	+MA	+HA	+HA	*L.monocytogenes*	+	pur	2006	1311	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	N7	PP3	No	Brochettes de saumon frais	+LB	+LA	+MA	+MA	*L.monocytogenes*	+	pur	2356	3482	+	Ø (Fraser : Ø) RLspp : +HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	N20	PP3	No	Calamars à la romaine	+LB	+LB	+LB*	+MB*	*L.monocytogenes* *L.innocua*	+	pur	2230	2133	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
c	N25	PP3	No	Poisson à la bordelaise	+MD	+MB*	+HA	+MB*	*L.monocytogenes* *L.innocua*	+	pur	2261	2039	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=

Protocol 2 (LSB - Standard II lysis) - Seafood products

Protocol 2 (LSB - Standard II lysis)
Renewal study (ISHA 2017)

SEAFOOD PRODUCTS

ST	SN	Time	Sample	Contamination				RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Standard II lysis								Additional pathway of confirmation ISO 16140-2:2016				Concordance RM/AM
				Strain		Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Confirmation	Final result	
								O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Placam	Identification		
a	86	T0	Salmon filet		/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	37,56	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
a	88	T0	Cod filed		/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	37,71	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
c	74	T0	Stick with crab flavour		/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,34	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
c	101	T0	Stick with crab flavour	LIS	4.83	se	2,8	3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	37,47	18,48	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
c	103	T0	Rillette of sardines	LIS	4.83	se	2,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	37,46	28,29	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
c	105	T0	Tarama with cod eggs	LIS	4.83	se	2,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	36,01	24,31	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA

ST	SN	Time	Sample	Contamination				RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Standard II lysis after storage 72h at 5°C								Additional pathway of confirmation ISO 16140-2:2016				Concordance RM/AM
				Strain		Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-check			Confirmation a	Confirmation b			Final result	Fraser		Confirmation	Final result	
								O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Placam	Identification		
c	101	T72h	Stick with crab flavour	LIS	4.83	se	2,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	36,12	19,46	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	103	T72h	Rillette of sardines	LIS	4.83	se	2,8	3h+Ø	4h-Ø	3h+Ø	3h-Ø	L.m	+	33,65	25,13	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	105	T72h	Tarama with cod eggs	LIS	4.83	se	2,8	3h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	34,58	23,65	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+	PA

Protocol 2 (LSB - Standard II lysis) - Vegetable products

Protocol 2 (LSB - Standard II lysis) Extension study (IPL 2006)																							
VEGETABLE PRODUCTS																							
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Standard II lysis (T0)							Agreement	Alternative method LSB, Standard II lysis after 72 h			Agreement
					Fraser 1/2		Fraser		Identifications	Result	DNA	Direct lysis		Result	Confirmations	*Identifications*	Result		Result	*Identifications*	Result	
					P1	AL1	P2	AL2				Ct C.int	Ct FAM		Streaking on RLM							
a	A7	PV1	No	Haricots verts surgelés	Ø	Ø	Ø	Ø	/	-	pur	2896	N/A	-	/	/	-	=	-	/	-	=
a	O21	PV1	No	Mélange de poivrons surgelés	-LE	-LE	-ME	-LE	/	-	pur	2863	N/A	-	/	/	-	=	-	/	-	=
a	O22	PV1	No	Légumes pour potage surgelés	Ø	Ø	Ø	Ø	/	-	pur	2844	N/A	-	/	/	-	=	-	/	-	=
a	J8	PV2	No	Epinards branches	+LA	-LA	+MA	-MA	*L.welshimeri*	-	pur	3057	N/A	-	-LB	*L.welshimeri*	-	=	-	*L.welshimeri*	-	=
a	Q16	PV2	No	Chou rouge	Ø	Ø	Ø	Ø	/	-	pur	3328	N/A	-	/	/	-	=				
a	S12	PV2	No	Carottes râpées	-LE	-LE	-ME	-ME	/	-	pur	3406	N/A	-	/	/	-	=				
a	R9	PV3	No	Haricots verts surgelés	Ø	Ø	Ø	Ø	/	-	pur	2549	N/A	-	/	/	-	=				
a	S17	PV3	No	Petits paniers de légumes surgelés	Ø	-LE	Ø	Ø	/	-	pur	33.98 34.52	N/A	-	/	/	-	=				
a	N14	PV1	No	Champignons surgelés	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	pur	2491	N/A	-	Ø	/	-	ND	-	/	-	ND
a	J4	PV2	No	Epinards branches	+LA(3)	+LB(3)	+MA	+MA	*L.monocytogenes*	+	pur	2966	2665	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	J5	PV2	No	Epinards hachés	+LB	+LB	+MB	+MA	*L.monocytogenes*	+	pur	2769	2619	+	+LB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	Q7	PV2	5,2	Carottes râpées	+LB(2)	Ø	+HA	+MA	*L.monocytogenes*	+	pur	2536	3172	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	Q26	PV2	No	Salade composée	Ø	Ø	Ø	Ø	/	-	pur	3249	N/A	-	/	/	-	=				
b	S11	PV2	No	Mélange salade, maïs, carottes	Ø	Ø	Ø	Ø	/	-	pur	3374	N/A	-	/	/	-	=				
b	M4	PV3	No	Pommes de terre précuites	Ø	Ø	Ø	Ø	/	-	pur	2758	N/A	-	/	/	-	=	-	/	-	=
b	R10	PV3	No	Courgettes précuites surgelées	Ø	Ø	-LE	-LE	/	-	pur	2496	N/A	-	/	/	-	=				
b	J2	PV2	No	Poêlée de légumes frais	+LB	+MB*	+MB	+MB*	*L.monocytogenes* *L.innocua*	+	pur	2430	2025	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
b	Q1	PV2	10	Salade 4ème gamme	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	pur	2506	2614	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	M1	PV3	No	Poêlée champêtre	+LA	+MB	+MA	+MA	*L.monocytogenes*	+	pur	2769	2211	+	+MB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	M5	PV3	No	Pommes de terre précuites	+LB	+MA	+LB	+MB	*L.monocytogenes*	+	pur	2418	1712	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	O2	PV3	No	Pommes de terre précuites	+MA	+MA	+HA	+MA	*L.monocytogenes*	+	pur	2471	N/A	-	Ø	/	-	ND	-	/	-	ND
b	O20	PV3	No	Pommes de terre précuites	+MA	+MA	+HA	+MA	*L.monocytogenes*	+	pur	2485	1909	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	P9	PV3	16	Poêlée romaine	Ø	-LE	+HA	+LA	*L.monocytogenes*	+	pur	2664	2023	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	Q8	PV3	6,5	Poêlée de légumes	+LB	+LB	+MB	+MB	*L.monocytogenes*	+	pur	2564	3163	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	N15	PV2	No	Jardinière de légumes	Ø	Ø	Ø	-LE	/	-	pur	2148	N/A	-	/	/	-	=	-	/	-	=
c	R11	PV2	No	Fond de Pommes de terre à farcir	+LA	+LA	+LB*	+LB*	*L.innocua*	+	pur	2486	N/A	-	Ø (Fraser : Ø)	/	-	=	-	/	-	=
c	L10	PV3	No	Mousse aux trois légumes	-LE	-LE	-ME	-ME	/	-	pur	2333	N/A	-	-ME	/	-	=	-	/	-	=
c	N17	PV3	No	Coucous (semoule et légumes)	-LE	-LE	-LE	-ME	/	-	pur	2355	N/A	-	/	/	-	=	-	/	-	=
c	Q17	PV3	No	Salade de pennes napolitaine	Ø	Ø	-LE	-ME	/	-	pur	3319	N/A	-	/	/	-	=				
c	Q19	PV3	No	Céleri rémoulade	-LE	-LE	-ME	-ME	/	-	pur	3251	N/A	-	/	/	-	=				
c	Q20	PV3	No	Concombre, carottes et chou en sauce	Ø	Ø	Ø	Ø	/	-	pur	3234	N/A	-	/	/	-	=				
c	R8	PV3	No	Tapenade Olives et Tomates	Ø	Ø	-LE	-LE	/	-	pur	2529	N/A	-	/	/	-	=				
c	S14	PV3	No	Légumes façon paysanne	-LE	-LE	Ø	-ME	/	-	pur	3239	N/A	-	Ø (Fraser : Ø)	/	-	=				
c	S16	PV3	No	Purée de légumes du soleil	-LE	-LE	-LE	-ME	/	-	pur	3408	N/A	-	/	/	-	=				
c	T1	PV3	No	Pommes de terre et poivrons sauce curry	Ø	-LE	-LE	-LE	/	-	pur	3116	N/A	-	/	/	-	=				

Protocol 2 (LSB - Standard II lysis) Extension study (IPL 2006)																							
VEGETABLE PRODUCTS																							
Type	**Ref**	**Cat**	**CA**	**Product (in French)**	**Reference method**						**Alternative method LSB, Standard II lysis (T0)**							**Agreement**	**Alternative method LSB, Standard II lysis after 72 h**			**Agreement**
					Fraser 1/2		Fraser		Identifications	Result	DNA	Direct lysis		Result	Confirmations	*Identifications*	Result		Result	*Identifications*	Result	
					P1	AL1	P2	AL2				Ct C.int	Ct FAM		Streaking on RLM							
c	J1	PV2	No	Petits pois	+LB	+LB*	+MB	+MB*	*L.monocytogenes L.innocua*	+	pur	2498	2129	+	+MB*	*L.monocytogenes L.innocua*	+	=	+	*L.monocytogenes L.innocua*	+	=
c	T3	PV2	No	Mélange quatre légumes	Ø	-LE	Ø	Ø	/	-	pur	3159	N/A	-	/	/	-	=				
c	P10	PV3	16	Purée chou-fleur, brocolis	+LB	+MA	+MB	+LB	*L.monocytogenes*	+	pur	2629	2173	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	Q2	PV3	15	Riz et légumes en julienne	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	pur	2445	3116	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	Q6	PV3	3,9	Gratin de chou-fleur	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	pur	2405	3238	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	T2	PV3	No	Carottes râpées sauce vinaigrette	Ø	-LE	Ø	Ø	/	-	pur	3077	N/A	-	/	/	-	=				

Protocol 2 (LSB - Standard II lysis) - Vegetable products

Protocol 2 (LSB - Standard II lysis)
Renewal study (ISHA 2017)
VEGETABLE PRODUCTS

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Standard II lysis								Additional pathway of confirmation ISO 16140-2:2016				Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Confirmation	Final result	
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam	Identification		
a	106	T0	Banana	/	/	/	0L	0L	0Ø	0Ø	/	-	37,99	N/A	-	0L	0L	0L	/	-	0Ø	0Ø	/	-	NA
a	108	T0	Grape	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,27	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
b	116	T0	Julienne of vegetables	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,65	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
b	118	T0	Grated carrot	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,93	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
b	120	T0	Sliced cucumber	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,26	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
b	122	T0	Prepared lettuce heart	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	34,05	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
b	124	T0	Mix of young sprouts	/	/	/	0L	0L	0Ø	0Ø	/	-	33,73	N/A	-	0L	0L	0L	/	-	0Ø	0Ø	/	-	NA
b	126	T0	Sliced leek	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,43	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
a	111	T0	Banana	LIS 4.10	se	1,6	3h+M	3h-L	3h+I	4h-L	L.m	+	36,73	20,38	+	3h+L	3h-L	3h+L	L.m	+	4h+L	4h-L	L.m	+	PA
a	113	T0	Grape	LIS 4.10	se	1,6	3h+L	4h-L	4h+L	4h-L	L.m	+	33,9	19,84	+	2h+M	3h-L	2h+M	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
a	115	T0	Tomato	LIS 4.10	se	1,6	4h+Ø	4h-L	4h+L	4h-Ø	L.m	+	N/A	14,83	+	3h+L	4h-Ø	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
a	117	T0	Plums red	LIS 4.35	se	2,0	3h+Ø	4h-Ø	3h+I	4h-Ø	L.m	+	34,83	30,84	+	4h+L	4h-L	4h+L	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
a	119	T0	Pear	LIS 4.35	se	2,0	3h+M	4h-Ø	4h+L	4h-L	L.m	+	N/A	13,75	+	3h+L	4h-L	3h+L	L.m	+	4h+L	4h-L	L.m	+	PA
a	121	T0	Yellow plum	LIS 4.35	se	2,0	3h+Ø	4h-Ø	4h+L	4h-L	L.m	+	43,13	21,47	+	3h+L	3h-L	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
a	123	T0	Estar apple	LIS 4.17	se	1,8	3h+M	4h-L	4h+L	4h-L	L.m	+	35,42	20,64	+	4h+L	4h-L	4h+L	L.m	+	4h+L	4h-L	L.m	+	PA
a	125	T0	Canada grey apple	LIS 4.17	se	1,8	3h+Ø	4h-Ø	4h+L	4h-L	L.m	+	42,08	24,92	+	3h+L	4h-L	3h+L	L.m	+	4h+Ø	3h-Ø	L.m	+	PA
b	133	T0	Julienne of vegetables	LIS 4.80	se	3,0	3h+M	4h-L	3h+L	4h-L	L.m	+	34,34	24,08	+	3h+L	4h-Ø	3h+L	L.m	+	4h+L	4h-L	L.m	+	PA
b	135	T0	Grated carrot	LIS 4.81	se	2,6	3h+M	4h-L	3h+L	4h-L	L.m	+	32,9	26,06	+	3h+L	4h-Ø	3h+L	L.m	+	4h+L	4h-L	L.m	+	PA
b	137	T0	Sliced cucumber	LIS 4.81	se	2,6	3h+L	4h-L	4h+Ø	4h-Ø	L.m	+	38,78	15,63	-	3h+L	4h-L	3h+L	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
c	159	T0	Wax bean	LIS 4.78	se	3,2	4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	38,06	N/A	-	0Ø	0Ø	0Ø	/	-	/	/	/	/	ND
c	161	T0	peas steamed	LIS 4.78	se	3,2	4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	N/A	13,74	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
c	163	T0	Green lentils cooked	LIS 4.78	se	3,2	4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	34,91	18	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	165	T0	Green beans	LIS 4.79	se	2,6	4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	34,08	18,3	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Standard II lysis after storage 72h at 5°C								Additional pathway of confirmation ISO 16140-2:2016				Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Confirmation	Final result	
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam	Identification		
a	111	T72h	Banana	LIS 4.10	se	1,6	3h+M	3h-L	3h+I	4h-L	L.m	+	33,18	24,36	+	3h+L	3h-L	3h+L	L.m	+	3h+Ø	4h-L	L.m	+	PA
a	113	T72h	Grape	LIS 4.10	se	1,6	3h+L	4h-L	4h+L	4h-L	L.m	+	35,06	22,15	+	3h+L	3h-L	3h+L	L.m	+	4h+L	4h-L	L.m	+	PA
a	115	T72h	Tomato	LIS 4.10	se	1,6	4h+Ø	4h-L	4h+L	4h-Ø	L.m	+	35,87	36,25	+	3h+L	4h-Ø	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
a	117	T72h	Plums red	LIS 4.35	se	2,0	3h+Ø	4h-Ø	3h+I	4h-Ø	L.m	+	N/A	183,54	+	4h+L	4h-Ø	4h+L	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
a	119	T72h	Pear	LIS 4.35	se	2,0	3h+M	4h-Ø	4h+L	4h-L	L.m	+	35,18	19,65	+	4h+L	4h-Ø	4h+L	L.m	+	4h+L	4h-L	L.m	+	PA
a	121	T72h	Yellow plum	LIS 4.35	se	2,0	3h+Ø	4h-Ø	4h+L	4h-L	L.m	+	34,92	21,15	+	3h+L	3h-L	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
a	123	T72h	Estar apple	LIS 4.17	se	1,8	3h+M	4h-L	4h+L	4h-L	L.m	+	33,54	22,48	+	4h+L	4h-L	4h+L	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
a	125	T72h	Canada grey apple	LIS 4.17	se	1,8	3h+Ø	4h-Ø	4h+L	4h-L	L.m	+	33,89	26,13	+	3h+L	4h-L	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	133	T72h	Julienne of vegetables	LIS 4.80	se	3,0	3h+M	4h-L	3h+L	4h-L	L.m	+	N/A	15,23	+	4h+L	4h-Ø	4h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	135	T72h	Grated carrot	LIS 4.81	se	2,6	3h+M	4h-L	3h+L	4h-L	L.m	+	N/A	16,45	+	3h+L	4h-Ø	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	137	T72h	Sliced cucumber	LIS 4.81	se	2,6	3h+L	4h-L	4h+Ø	4h-Ø	L.m	+	33,74	18,43	+	3h+L	4h-L	3h+L	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
c	159	T72h	Wax bean	LIS 4.78	se	3,2	4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	32,12	N/A	-	0Ø	0Ø	0Ø	/	-	/	/	/	/	ND
c	161	T72h	peas steamed	LIS 4.78	se	3,2	4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	33,78	18,56	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
c	163	T72h	Green lentils cooked	LIS 4.78	se	3,2	4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	33,84	18,96	+	4h+Ø	3h-Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	165	T72h	Green beans	LIS 4.79	se	2,6	4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	33,76	25,18	+	3h+Ø	4h-Ø	3h+Ø	L.m	+	4h+Ø	3h-Ø	L.m	+	PA

Protocol 2 (LSB - Standard II lysis) - RTE/RTRH

Protocol 2 (LSB - Standard II lysis) Extension study (IPL 2006)																							
RTE - RTRH																							
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Standard II lysis(T0)							Agreement	Alternative method LSB, Standard II lysis after 72 h			Agreement
					Fraser 1/2		Fraser		Identifications	Result	DNA	Direct lysis		Result	Confirmations	*Identifications*	Result		Result	*Identifications*	Result	
					P1	AL1	P2	AL2				Ct C.int	Ct FAM		Streaking on RLM							
a	S7	PP3	No	Crevettes en taboulé	-LE	-LE	Ø	-LE	/	-	pur	3260	N/A	-	/	/	-	=				
a	N4	PP3	No	Faluche au thon	+LA	+LA	+HA	+MA	*L.monocytogenes*	+	pur	2391	2451	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	N5	PP3	No	Faluche aux crevettes	+LA	+LB	+HA	+MB	*L.monocytogenes*	+	pur	2330	3109	+	+LB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	N6	PP3	No	Faluche aux crevettes	+LB	+LB	+HA	+MB	*L.monocytogenes*	+	pur	2297	2592	+	+LB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	B14	PC3	No	Couscous (merguez cuites, légumes, semoule)	Ø	Ø	Ø	Ø	/	-	pur	3132	N/A	-	-LE	/	-	=	-	/	-	=
b	S10	PC2	No	Tomates farcies prêtes à cuire	Ø	-LE	+HA	-MB	*L.innocua*	-	pur	3359	2492	+	+MB*	*L.monocytogenes* *L.innocua*	+	PD	+	*L.monocytogenes* *L.innocua*	+	PD
b	R16	PC3	No	Crépinettes au vin blanc	+LA	-LA	+LB	-LB	*L.welshimeri*	-	pur	2520	2662	+	+MB*	*L.welshimeri* *L.monocytogenes*	+	PD	inh +	*L.welshimeri* *L.monocytogenes*	inh +	PD
b	B13	PV3	No	Pommes de terre rissolées	Ø	Ø	Ø	Ø	/	-	pur	2998	2609	+	+MB	*L.monocytogenes* *L.innocua*	+	PD	+	*L.monocytogenes* *L.innocua*	+	PD
b	S15	PV3	No	Flans de chou-fleur	-LE	Ø	-ME	-ME	/	-	pur	3137	N/A	-	Ø (Fraser : Ø)	/	-	=				
b	Q4	PV3	25	Gâteau de céleri	+LB	+LB	+HA	+MA	*L.monocytogenes*	+	pur	2391	3038	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	E1	PL3	No	Tartelettes fruits	+MA	-MA	+MA	-MA	*L.innocua*	-	pur	2873	N/A	-	-HB	*L.innocua*	-	=	-	/	-	=
c	R1	PL3	No	Religieuses au café	-LE	-LE	-LE	-ME	/	-	pur	2373	N/A	-	/	/	-	=				
c	R2	PL3	No	Riz au lait	Ø	Ø	Ø	Ø	/	-	pur	2253	N/A	-	/	/	-	=				
c	S18	PP3	No	Petits paniers au poisson	-LE	-LE	-ME	-ME	/	-	pur	3230	N/A	-	/	/	-	=				
c	N10	PL3	No	Tartelette framboise	+LB	+LA	+HA	+MA	*L.monocytogenes*	+	pur	2413	N/A	-	Ø	/	-	ND	-	/	-	ND

Protocol 2 (LSB - Standard II lysis) - RTE/RTRH

Protocol 2 (LSB - Standard II lysis) Renewal study (ISHA 2017) RTE - RTRH																								
ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Standard II lysis								Confirmation ISO 16140-2				Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Confirmation	Final result	Final result
							O&A	Palcam	O&A	Palcam	Identif-ication		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam	Identification		
a	2	T0	Tabouleh with chicken	/	/	/	0L	0L	0L	0L	/	-	33,86	N/A	-	0M	0M	0M	/	-	0L	0L	/	/	NA
a	4	T0	Strabourgeoise salad	/	/	/	0L	0L	0Ø	0Ø	/	-	33,4	N/A	-	0L	0L	0L	/	-	0L	0L	/	/	NA
a	6	T0	Pièmontaise with ham	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,11	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
a	8	T0	Sandwich with salmon and chives	/	/	/	0M	0M	0Ø	0M	/	-	33,69	N/A	-	0M	0L	0M	/	-	0L	0L	/	/	NA
a	10	T0	Sandwich with ham and Emmental	/	/	/	0M	0M	0M	0M	/	-	33,6	N/A	-	0Ø	0Ø	0Ø	/	-	0M	0M	/	/	NA
a	12	T0	Sandwich with tuna and crudities	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,18	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
a	14	T0	Sandwich with ham and butter	/	/	/	0L	0Ø	0Ø	0Ø	/	-	33,76	N/A	-	0L	0L	0L	/	-	0L	0L	/	/	NA
a	16	T0	Sandwich with rosette and butter	/	/	/	0L	0L	0Ø	0Ø	/	-	33,57	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
a	18	T0	Sandwich with chicken and crudities	/	/	/	0L	0Ø	0Ø	0Ø	/	-	33,58	N/A	-	0L	0L	0L	/	-	0L	0L	/	/	NA
a	20	T0	Sandwich with ham and cheddar	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,39	N/A	-	0L	0L	0L	/	-	0L	0L	/	/	NA
a	1	T0	Tabouleh with chicken	LIS 4.6	se	2,2	4h+ M	4h-M	4h+ M	4h-M	L.m	+	36,06	23,72	+	3h+L	3h+ M	3h+L	L.m	+	3h+ M	4h-M	L.m	+	PA
a	3	T0	Strabourgeoise salad	LIS 4.6	se	2,2	3h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	39,19	18,6	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
a	5	T0	Pièmontaise with ham	LIS 4.6	se	2,2	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	37,03	28,25	+	3h+Ø	2h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
a	7	T0	Sandwich with salmon and chives	LIS 4.24	se	2,8	3h+Ø	4h-M	3h+Ø	3h-Ø	L.m	+	36,54	24,36	+	3h+L	3h+L	3h+L	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
a	9	T0	Sandwich with ham and Emmental	LIS 4.24	se	2,8	4h+Ø	4h-M	3h+Ø	4h-Ø	L.m	+	36,09	20,24	+	3h+L	3h+Ø	3h+L	L.m	+	3h+L	3h-L	L.m	+	PA
a	11	T0	Sandwich with tuna and crudities	LIS 4.24	se	2,8	3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	41,83	23,69	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+L	4h-L	L.m	+	PA
a	13	T0	Sandwich with ham and butter	LIS 4.86	se	1,8	2h+L	3h-Ø	3h+Ø	3h-Ø	L.m	+	34,76	17,78	+	2h+L	2h+Ø	2h+L	L.m	+	2h+Ø	3h-Ø	L.m	+	PA
a	15	T0	Sandwich with rosette and butter	LIS 4.86	se	1,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	35,19	25,87	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
a	17	T0	Sandwich with chiken and crudities	LIS 4.86	se	1,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,86	23,4	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	22	T0	Pizza with three cheeses	/	/	/	0L	0L	0Ø	0Ø	/	-	33,37	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
b	24	T0	Pizza with ham and cheese	/	/	/	0L	0Ø	0Ø	0Ø	/	-	33,52	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
b	26	T0	Pizza with three melting cheeses	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,54	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
b	28	T0	Pizza with comté, emmental and lardons	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,23	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
b	30	T0	Pizza with ham and mushroom	/	/	/	0L	0L	0Ø	0Ø	/	-	38,03	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
b	32	T0	Flammekueche with smoked lardons	/	/	/	0L	0L	0Ø	0Ø	/	-	37,83	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
b	34	T0	Croissant with ham	/	/	/	0L	0M	0L	0L	/	-	37,85	N/A	-	0L	0Ø	0L	/	-	0M	0M	/	/	NA
b	36	T0	Lorrain quiche	/	/	/	0L	0L	0Ø	0Ø	/	-	33,14	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
b	38	T0	Flaky goat cheese	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	37,67	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
b	40	T0	Provencal pastry	/	/	/	0M	0M	0M	0M	/	-	38,09	N/A	-	0L	0L	0L	/	-	0L	0M	/	/	NA

Protocol 2 (LSB - Standard II lysis)
Renewal study (ISHA 2017)

RTE - RTRH

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Standard II lysis								Confirmation ISO 16140-2				Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Confirmation	Final result	Final result
							O&A	Palcam	O&A	Palcam	Identif-ication		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam	Identification		
b	23	T0	Pizza with three cheeses	LIS 4.88	se	2,2	3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	33,94	19,76	+	2h+Ø	3h+Ø	2h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	25	T0	Pizza with ham and cheese	LIS 4.89	se	2,6	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	33,69	15,35	+	3h+Ø	2h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
b	27	T0	Pizza with three melting cheeses	LIS 4.89	se	2,6	3h+Ø	4h-Ø	3h+Ø	3h-Ø	L.m	+	37,43	18,67	+	3h+Ø	2h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
b	29	T0	Pizza with comté, emmental and lardons	LIS 4.89	se	2,6	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	36,19	19,67	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
b	31	T0	Pizza with ham and mushroom	LIS 4.46	se	2	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	34,13	19,32	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	33	T0	Flammekueche with smoked lardons	LIS 4.46	se	2	2h+L	4h-M	2h+Ø	2h-M	L.m	+	38,15	23,76	+	2h+L	2h+M	2h+L	L.m	+	2h+L	3h-L	L.m	+	PA
c	42	T0	Raspberries tart	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,41	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
c	44	T0	Apples tart	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,5	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
c	46	T0	Mille-feuilles	/	/	/	0L	0L	0Ø	0Ø	/	-	37,9/33,7	40,96/N/A	+	0L	0Ø	0L	/	-	0L	0L	/	/	PPNA
c	48	T0	Donuts with pastry cream	/	/	/	0L	0Ø	0Ø	0Ø	/	-	37,82	N/A	-	0Ø	0Ø	0Ø	/	-	0L	0L	/	/	NA
c	50	T0	Pudding	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	37,74	N/A	-	0L	0Ø	0L	/	-	0L	0L	/	/	NA
c	52	T0	Stick with pastry cream	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,22	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
c	35	T0	Raspberries tart	LIS 4.46	se	2	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	38,57	18,63	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
c	37	T0	Apples pie	LIS 4.7	se	2,8	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	35,64/37,11	N/A-28,49	-/+	3h+Ø	4h+Ø	3h+Ø	L.m	-	3h+Ø	4h-Ø	L.m	+	ND
c	39	T0	Mille-feuille	LIS 4.7	se	2,8	4h+M	4h-M	4h+M	4h-M	L.m	+	36,97	25,62	+	3h+M	4h+M	3h+M	L.m	+	3h+M	4h-M	L.m	+	PA
c	41	T0	Savarin with rhum and pastry cream	LIS 4.7	se	2,8	4h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	37,24	20,42	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
c	43	T0	Pudding	LIS 4.93	se	3,2	4h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	33,16	19,92	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
c	45	T0	Choux with pastry cream	LIS 4.93	se	3,2	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	34,21	15,62	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
c	47	T0	Strawberries tart	LIS 4.93	se	3,2	3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	35,9	14,75	+	2h+Ø	2h+Ø	2h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
c	49	T0	Savarin with rum and pastry cream	LIS 4.91	se	1,6	3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	35,97	17,25	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
c	51	T0	Choux with pastry cream	LIS 4.91	se	1,6	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	38,66	16,05	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
c	53	T0	Pudding	LIS 4.91	se	1,6	3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	36,87	16,25	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA

Protocol 2 (LSB - Standard II lysis)
Renewal study (ISHA 2017)

RTE - RTRH

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Standard II lysis								Confirmation ISO 16140-2				Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	iQ-Check			Confir-mation a	Confirmation b			Final result	Fraser		Confir-mation	Final result	Final result
							O&A	Palcam	O&A	Palcam	Identifi-+cation		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identif-ication		O&A	Palcam	Identifi-cation		
a	1	T72h	Tabouleh with chicken	LIS 4.6	se	2,2	4h+M	4h-M	4h+M	4h-M	L.m	+	33,25	18,67	+	3h+L	3h+L	3h+L	L.m	+	3h+L	4h-L	L.m	+	PA
a	3	T72h	strabourgeoise salad	LIS 4.6	se	2,2	3h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	33,02	19,63	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
a	5	T72h	Pièmontaise with ham	LIS 4.6	se	2,2	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	32,69	21,06	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
a	7	T72h	Sandwich with salmon and chives	LIS 4.24	se	2,8	3h+Ø	4h-M	3h+Ø	3h-Ø	L.m	+	24,01	18,45	+	3h+L	3h+L	3h+L	L.m	+	3h+L	3h-Ø	L.m	+	PA
a	9	T72h	Sandwich with ham and Emmental	LIS 4.24	se	2,8	4h+Ø	4h-M	3h+Ø	4h-Ø	L.m	+	33,54	16,54	+	3h+M	3h+M	3h+M	L.m	+	3h+M	3h-M	L.m	+	PA
a	11	T72h	Sandwich with tuna and crudities	LIS 4.24	se	2,8	3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	33,68	25,31	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
a	13	T72h	Sandwich with ham and butter	LIS 4.86	se	1,8	2h+L	3h-Ø	3h+Ø	3h-Ø	L.m	+	33,47	18,54	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	2h+Ø	3h-Ø	L.m	+	PA
a	15	T72h	Sandwich with rosette and butter	LIS 4.86	se	1,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,22	19,65	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
a	17	T72h	Sandwich with chicken and crudities	LIS 4.86	se	1,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,94	24,84	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	23	T72h	Pizza with three cheeses	LIS 4.88	se	2,2	3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	33,25	19,04	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	25	T72h	Pizza with ham and cheese	LIS 4.89	se	2,6	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	33,64	18,54	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
b	27	T72h	Pizza with three melting cheeses	LIS 4.89	se	2,6	3h+Ø	4h-Ø	3h+Ø	3h-Ø	L.m	+	32,98	18,62	+	2h+L	2h+Ø	2h+L	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
b	29	T72h	Pizza with comté, emmental and lardons	LIS 4.89	se	2,6	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	34,08	21,03	+	3h+Ø	2h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
b	31	T72h	Pizza with ham and mushroom	LIS 4.46	se	2,0	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,81	21,65	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	33	T72h	Flammekueche with smoked lardons	LIS 4.46	se	2,0	2h+L	4h-M	2h+Ø	2h-M	L.m	+	33,47	17,52	+	3h+M	3h+M	3h+M	L.m	+	2h+L	3h-L	L.m	+	PA
c	35	T72h	Raspberries tart	LIS 4.46	se	2,0	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	33,96	24,23	+	2h+L	2h+Ø	2h+L	L.m	+	2h+Ø	3h-Ø	L.m	+	PA
c	37	T72h	Apple pie	LIS 4.7	se	2,8	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	32,13/34,95	N/A-N/A	-/-	2h+L	2h+Ø	2h+L	L.m	-	3h+Ø	3h-Ø	L.m	+	ND
c	39	T72h	Mille feuille	LIS 4.7	se	2,8	4h+M	4h-M	4h+M	4h-M	L.m	+	33,67	21,98	+	3h+L	4h+M	3h+L	L.m	+	3h+L	3h-L	L.m	+	PA
c	41	T72h	Savarin with rum and pastry cream	LIS 4.7	se	2,8	4h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	33,61	27,58	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
c	43	T72h	Pudding	LIS 4.93	se	3,2	4h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	33,02	21,13	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	2h+Ø	4h-Ø	L.m	+	PA
c	45	T72h	Choux with pastry cream	LIS 4.93	se	3,2	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,08	18,45	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
c	47	T72h	Strawberries tart	LIS 4.93	se	3,2	3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	32,84	16,23	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
c	49	T72h	Savarin with rum and pastry cream	LIS 4.91	se	1,6	3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	33,56	16,87	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
c	51	T72h	Choux with pastry cream	LIS 4.91	se	1,6	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,84	22,01	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
c	53	T72h	Pudding	LIS 4.91	se	1,6	3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	33,42	18,46	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+	PA

Protocol 2 (LSB - Standard II lysis) - Environmental products

Protocol 2 (LSB - Standard II lysis) Extension study (IPL 2006)																							
ENVIRONMENTAL PRODUCTS																							
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Standard II lysis (T0)							Agreement	Alternative method LSB, Standard II lysis after 72 h			Agreement
					Fraser 1/2		Fraser		Identifications	Result	DNA	Direct lysis		Result	Confirmations	*Identifications*	Result		Result	*Identifications*	Result	
					P1	AL1	P2	AL2				Ct C.int	Ct FAM		Streaking onto RLM							
a	D6	EN1	No	Eau de process	Ø	Ø	-LE	-LE	/	-	pur	3331	N/A	-	Ø	/	-	=	-	/	-	=
a	I13	EN1	No	Condensation centrale eau glacée	Ø	Ø	Ø	Ø	/	-	pur	2239	N/A	-	/	/	-	=	-	/	-	=
a	J9	EN1	No	Eau retour transfert hydraulique	Ø	Ø	-LE	-LE	/	-	pur	2708	N/A	-	Ø	/	-		-	/	-	
a	J10	EN1	No	Eau débordement refroidisseur	+LA	-LA	+LA	-MA	*L.innocua*	-	pur	2404	N/A	-	-LA	*L.innocua*	-	=	-	*L.innocua*	-	=
a	J11	EN1	No	Eau débordement glazurage Gyro	Ø	Ø	Ø	Ø	/	-	pur	2707	N/A	-	-LE	/	-	=	-	/	-	=
a	J12	EN1	No	Eau débordement jacuzy	Ø	Ø	-LE	-LE	/	-	pur	1695	N/A	-	Ø	/	-	=	-	/	-	=
a	I19	EN1	No	Eau stagnante vibrants dispatching	+LB*	+LB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	pur	2223	1904	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
a	I20	EN1	No	Eau en pierreur à contre courant L2	+LB*	+LB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	pur	2291	2001	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
b	C9	EN2	No	Surface hall déballage cartons	-LE	-LE	-ME	Ø	/	-	pur	2628	3639	+	-ME	Ø	-	PPNA	-	/	-	=
b	C10	EN2	No	Surface bac sale	-ME	-LE	-HE	-LE	/	-	pur 1/10	N/A 28.00	N/A N/A	inh -	-HE (Fraser : -HE)	Ø	inh -	=	inh -	/	inh -	=
b	D1	EN2	No	Joint Chambre froide	-LE	Ø	-ME	-LE	/	-	pur	3406	N/A	-	Ø	/	-	=	-	/	-	=
b	D4	EN2	No	Sol atelier découpe	Ø	Ø	Ø	Ø	/	-	pur	1944	N/A	-	Ø	/	-	=	-	/	-	=
b	E9	EN2	No	Surface atelier découpe poissonnerie	+MB	-MA	+HA	-MA	*L.innocua*	-	pur	1926	4321	+	-MB	*L.innocua*	-	PPNA	+	*L.innocua*	-	PPNA
b	G1	EN2	No	Surface ligne blanc machine table tournante	Ø	Ø	Ø	Ø	/	-	pur	3177	N/A	-	/	/	-	=	-	/	-	=
b	G4	EN2	No	Surface ligne filetage main Planche	Ø	Ø	Ø	Ø	/	-	pur	3169	N/A	-	/	/	-	=	-	/	-	=
b	G5	EN2	No	Surface ligne filetage main Bac rinçage	Ø	Ø	Ø	Ø	/	-	pur	2343	3856	+	Ø	/	-	PPNA	+	Ø	-	PPNA
b	G6	EN2	No	Surface ligne saumon Darneuse Holac	Ø	Ø	Ø	Ø	/	-	pur	3132	N/A	-	/	/	-	=	-	/	-	=
b	G7	EN2	No	Surface ligne saumon pont pesée saumons	Ø	Ø	Ø	Ø	/	-	pur	4781	N/A	-	Ø	/	-	=	-	/	-	=
b	G9	EN2	No	Ligne saumon siphon étêteuse	Ø	Ø	Ø	Ø	/	-	pur	3573	N/A	-	/	/	-	=	-	/	-	=
b	G10	EN2	No	Surface ligne blanc machine bac rinçage	-LE	-LE	Ø	-LE	/	-	pur	35,1	N/A	-	Ø	/	-	=	-	/	-	=
b	I2	EN2	No	Rouleau sous tapis sortie parage	Ø	-LA(1)	+LB	-MB	*L.welshimeri*	-	pur	2849	N/A	-	/	/	-	=	-	/	-	=
b	I10	EN2	No	Cloison tunnel 4	Ø	Ø	Ø	-LE	/	-	pur	2309	N/A	-	/	/	-	=	-	/	-	=
b	I11	EN2	No	Pelle jaune entrée T4	Ø	Ø	-LE	-LE	/	-	pur	2271	N/A	-	/	/	-	=	-	/	-	=
b	I14	EN2	No	Aimant rouillé ligne 4	Ø	Ø	Ø	Ø	/	-	pur	2244	N/A	-	/	/	-	=	-	/	-	=
b	I16	EN2	No	Tablier Fab	Ø	-LE	Ø	Ø	/	-	pur	2392	N/A	-	-MA	*L.innocua*	-	=	-	*L.innocua*	-	=
b	I18	EN2	No	Ventilo refroidisseur 4	+LB*	-LD(1)	+MB	-LB	*L.innocua*	-	pur 1/10	N/A 33,0	N/A N/A	inh -	-MB	*L.innocua*	inh -	=	inh -	/	inh -	=
b	I4	EN1	No	Surface humide tunnel 3	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	pur	2532	1510	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	I5	EN1	No	Caniveau zone filmeuse	+MA	+LA	+MA	+MA	*L.monocytogenes*	+	pur	2494	1893	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	I12	EN1	No	Tuyau arrosage entrée T4	+MA	+LA	+MB	+MB	*L.monocytogenes*	+	pur	2896	2045	+	+MB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	D3	EN2	No	Surface table inox	+LB	+LB	+HB	+MA	*L.monocytogenes* *L.innocua*	+	pur	3337	2590	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
b	D7	EN2	No	Surface sale accrochage	+LB	+LB	+LB	+MB	*L.monocytogenes* *L.innocua*	+	pur	3590	3672	+	Ø (Fraser : Ø)	/	-	PPND	-	/	-	ND
b	G2	EN2	No	Surface ligne saumon pont pesée filets	+MB*	+MA	+MB*	+MB*	*L.monocytogenes*	+	pur	3243	2426	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	G3	EN2	No	Surface ligne saumon Booder 51	+LA	+LA	+MB*	+MB*	*L.monocytogenes*	+	pur	3005	1765	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=

Protocol 2 (LSB - Standard II lysis) Extension study (IPL 2006)																					
ENVIRONMENTAL PRODUCTS																					
Type	**Ref**	**Cat**	**CA**	**Product (in French)**	**Reference method**						**Alternative method LSB, Standard II lysis (T0)**							**Agreement**	**Alternative method LSB, Standard II lysis after 72 h**			**Agreement**
					Fraser 1/2		Fraser		Identifications	Result	DNA	Direct lysis		Result	Confirmations	*Identifications*	Result		Result	*Identifications*	Result	
					P1	AL1	P2	AL2				Ct C.int	Ct FAM		Streaking onto RLM							
b	G8	EN2	No	Surface ligne saumon tapis bleu	+MB*	+MA	+HB*	+MA	*L.monocytogenes*	+	pur	2888	1606	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	G11	EN2	No	Ligne saumon siphon Boader 200	+MB*	+MB*	+LB*	+LB*	*L.monocytogenes* *L.innocua*	+	pur	N/A	1563	+	+HA	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
b	G12	EN2	No	Ligne saumon tapis déchets	+MB*	+MB*	+MB*	+LB*	*L.monocytogenes* *L.innocua*	+	pur	N/A	1499	+	+HA	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
b	G13	EN2	No	Surface ligne saumon étêteuse	Ø	+LA(4)	+HA	+MA	*L.monocytogenes*	+	pur	3515	N/A	-	Ø	/	-	ND	-	/	-	ND
b	G14	EN2	No	Ligne saumon tapis parage	+LB*	+LA	+MB*	+MB*	*L.monocytogenes*	+	pur	N/A	1479	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	G15	EN2	No	Surface ligne saumon Boader 200	+HB*	+MA	+MB*	+MB*	*L.monocytogenes* *L.innocua*	+	pur	N/A	1490	+	+HA	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
b	I1	EN2	No	Rouleau sous tapis parage1	+LB*	+LB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	pur	3398	2927	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
b	I3	EN2	No	Tapis tunnel 3	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	pur	2485	1691	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	I7	EN2	No	Tapis parage zone mélange	+MA	+MA	+MB	+MB	*L.monocytogenes*	+	pur	2525	1747	+	+HB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	I9	EN2	No	Pelle zone mélange	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	pur	2725	1899	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	E11	EN2	No	Eponge plumeuse	+LA(4)	+LA	+LB	+LA	*L.monocytogenes*	+	pur	N/A	1696	+	+HB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	E12	EN2	No	Eponge salle d'accrochage	+LB	+LB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	pur	N/A	2114	+	+HB	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
c	B17	EN3	No	Résidus maïs	-HE	-ME	-ME	-ME	/	-	pur	1883	N/A	-	/	/	-	=	-	/	-	=
c	C11	EN3	No	Résidus table inox	-ME	+MB	+HB	+MB	*L.ivanovii*	-	pur 1/10	N/A 26.96	N/A 38.30	inh +	-HC	*L.ivanovii souche pure = nég*	inh -	PPNA	inh +	*L.ivanovii souche pure = -*	inh -	PPNA
c	D2	EN3	No	Résidus poivrons	Ø	Ø	-LE	Ø	/	-	pur	1821	N/A	-	Ø	/	-	=	-	/	-	=
c	D5	EN3	No	Résidus sol	+LB	-LB	+MB	-MB	*L.welshimeri*	-	pur	3372	N/A	-	+HA(48 h)	*L.welshimeri*	-	=	-	/	-	=
c	E13	EN3	No	Résidus bac échaudoir	-LE	-LE	-LE	-LE	/	-	pur	3631	N/A	-	Ø	/	-	=	-	/	-	=
c	F6	EN3	No	Déchets de parage de gorge de porc	Ø	Ø	Ø	Ø	/	-	pur	2794	N/A	-	Ø	/	-	=	-	/	-	=
c	I15	EN3	No	Résidus tapis Mec Parma	Ø	Ø	Ø	Ø	/	-	pur	2275	N/A	-	-ME	/	-	=	-	/	-	=
c	E10	EN3	No	Résidus poisson bac sale	+LB(1)	+LA	+HA	+MB	*L.monocytogenes*	+	pur	1947	2570	+	+MB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	F1	EN3	No	Résidus pour fabrication pâté	+MA	+MB	+HB	+HB	*L.monocytogenes*	+	pur	2636	2546	+	+HB	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
c	F2	EN3	No	Résidus foie et cœur de porc	+MB	+MB	+HB	+HB	*L.monocytogenes* *L.innocua* *L.welshimeri*	+	pur	2274	1961	+	+HB	*L.monocytogenes* *L.innocua* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.innocua* *L.welshimeri*	+	=
c	F3	EN3	No	Résidus pour fabrication pâté	+LB	+LB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	pur	2385	2142	+	+HB	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
c	F4	EN3	No	Résidus gras de porc	+MB	+MA	+HB	+MB	*L.monocytogenes* *L.welshimeri*	+	pur	2303	1900	+	+HB	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
c	F5	EN3	No	Résidus crépinette	+LA	+LA	+HA	+MA	*L.monocytogenes*	+	pur	2798	2906	+	+HB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	I6	EN3	No	Résidus caniveau zone mélange	+MA	+MA	+MB	+MB	*L.monocytogenes* *L.innocua*	+	pur	4392	2057	+	+MB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	I8	EN3	No	Résidus trémie zone mélange	+LB*	+LB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	pur	2725	2361	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
c	I17	EN3	No	Résidus bac déchets entrée Gyro	+MB*	+LB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	pur	2587	2517	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=

Protocol 2 (LSB - Standard II lysis) - Environmental samples

Protocol 2 (LSB - Standard II lysis)
Renewal study (ISHA 2017)

ENVIROMNENTAL SAMPLES

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Standard II lysis								Confirmation ISO 16140-2				Concordance RM/AM
							Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Identification	Final result	
				Strain	Type	Level	O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam			
a	134	T0	Processed water 1	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	32,15	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
a	135	T0	Processed water 2	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	30,65	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
a	136	T0	Processed water 3	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	34,87	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
a	137	T0	Processed water 4	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	31,56	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
a	179	T0	Processed water 1	LIS 4.2	se	2,4	3h+Ø	2h-Ø	3h+Ø	2h-Ø	L.m	+	30,98	18,45	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	3h+Ø	L.m	+	PA
a	181	T0	Processed water 2	LIS 4.2	se	2,4	3h+Ø	3h-Ø	2h+Ø	2h-Ø	L.m	+	30,65	19,45	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+Ø	3h+Ø	L.m	+	PA
a	183	T0	Processed water 3	LIS 4.2	se	2,4	3h+Ø	3h-Ø	2h+Ø	2h-Ø	L.m	+	31,65	17,47	+	2h+Ø	3h+Ø	2h+Ø	L.m	+	3h+Ø	3h+Ø	L.m	+	PA
a	185	T0	Processed water 4	LIS 4.44	se	3,0	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	33,59	16,98	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	3h+Ø	L.m	+	PA
a	187	T0	Processed water 5	LIS 4.44	se	3,0	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	32,87	19,05	+	2h+Ø	3h+Ø	2h+Ø	L.m	+	3h+Ø	4h+Ø	L.m	+	PA
a	189	T0	Processed water 6	LIS 4.44	se	3,0	3h+Ø	2h-Ø	3h+Ø	2h-Ø	L.m	+	33,48	19,23	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	3h+Ø	4h+Ø	L.m	+	PA
a	191	T0	Processed water 7	LIS 4.50	se	1,8	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	33,67	16,23	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	3h+Ø	L.m	+	PA
a	193	T0	Processed water 8	LIS 4.50	se	1,8	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	33,05	18,69	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	3h+Ø	L.m	+	PA
c	145	T0	Residue 1	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	32,45	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
c	147	T0	Residue 2	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	32,69	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
c	149	T0	Residue 3	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	32,51	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
c	195	T0	Residue	LIS 4.50	se	1,8	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	33,09	18,16	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	4h+Ø	L.m	+	PA

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Standard II lysis								Confirmation ISO 16140-2				Concordance RM/AM
							Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Identification	Final result	
				Strain	Type	Level	O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam			
a	179	T72h	Processed water 1	LIS 4.2	se	2,4	3h+Ø	2h-Ø	3h+Ø	2h-Ø	L.m	+	34,7	18,96	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	4h+Ø	4h+Ø	L.m	+	PA
a	181	T72h	Processed water 2	LIS 4.2	se	2,4	3h+Ø	3h-Ø	2h+Ø	2h-Ø	L.m	+	30,87	18,46	+	2h+Ø	3h+Ø	2h+Ø	L.m	+	4h+Ø	4h+Ø	L.m	+	PA
a	183	T72h	Processed water 3	LIS 4.2	se	2,4	3h+Ø	3h-Ø	2h+Ø	2h-Ø	L.m	+	32,56	17,68	+	2h+Ø	3h+Ø	2h+Ø	L.m	+	3h+Ø	4h+Ø	L.m	+	PA
a	185	T72h	Processed water 4	LIS 4.44	se	3,0	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	32,49	18,23	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	3h+Ø	4h+Ø	L.m	+	PA
a	187	T72h	Processed water 5	LIS 4.44	se	3,0	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	30,15	18,43	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	3h+Ø	L.m	+	PA
a	189	T72h	Processed water 6	LIS 4.44	se	3,0	3h+Ø	2h-Ø	3h+Ø	2h-Ø	L.m	+	33,12	17,99	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	4h+Ø	3h+Ø	L.m	+	PA
a	191	T72h	Processed water 7	LIS 4.50	se	1,8	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	33,45	18,96	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+Ø	4h+Ø	L.m	+	PA
a	193	T72h	Processed water 8	LIS 4.50	se	1,8	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	32,65	17,01	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	3h+Ø	3h+Ø	L.m	+	PA
c	195	T72h	Residue	LIS 4.50	se	1,8	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	33,19	16,49	+	2h+Ø	3h+Ø	2h+Ø	L.m	+	3h+Ø	3h+Ø	L.m	+	PA

Protocol 3 (LSB - Easy II lysis) - Meat products

Protocol 3 (LSB - Easy II lysis) Extension study (IPL 2006)																							
MEAT PRODUCTS																							
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Easy II lysis (T0)							Agreement	Alternative method LSB, Easy II lysis (after 72 h at 2 - 8°C)			Agreement
					Fraser 1/2		Fraser		Identifications	Result	ADN	Direct lysis		Result	Confirmations		Result		Result	Identifications	Result	
					P1	AL1	P2	AL2				Ct C. int	Ct FAM		Streaking onto RLM	Identifications						
a	A8	PC1	No	Emincé de porc	Ø	Ø	Ø	Ø	/	-	pur	2776	N/A	-	/	/	-	=	-	/	-	=
a	B7	PC1	No	Escalope de veau	Ø	Ø	Ø	Ø	/	-	pur	2633	4165	+	Ø (Fraser : Ø)	/	-	PPNA	+	/	-	PPNA
a	E4	PC1	No	Viande de bœuf hachée	-LE	-ME	-LE	-LE	/	-	pur	3146	N/A	-	Ø	/	-	=	-	/	-	=
a	K5	PC1	No	Haché de bœuf	Ø	-LE	Ø	Ø	/	-	pur	2253	N/A	-	-LA	*L.welshimeri*	-	=	-	*L.welshimeri*	-	=
a	K8	PC1	No	Magret de canard	Ø	Ø	+MB	+MB	*L.innocua*	-	pur	2305	N/A	-	-MA	*L.innocua*	-	=	-	*L.innocua*	-	=
a	M9	PC1	No	Viande de cheval	Ø	-LE	+LB	-LB	*L.innocua*	-	pur	2704	N/A	-	/	/	-	=	-	/	-	=
a	M10	PC1	No	Haché tartare de bœuf	Ø	Ø	Ø	Ø	/	-	pur	2622	N/A	-	/	/	-	=	-	/	-	=
a	M12	PC1	No	Foie de porc	Ø	-LE	+LA	-LA	*L.welshimeri*	-	pur	2577	N/A	-	/	/	-	=	-	/	-	=
a	N28	PC1	No	Viande hachée de cheval	Ø	Ø	Ø	Ø	/	-	pur	2385	N/A	-	/	/	-	=	-	/	-	=
a	C5	PC1	No	Viande hachée	Ø	Ø	+HB	+HB	*L.monocytogenes* *L.innocua*	+	pur	2908	N/A	-	+LA(48 h)	*L.monocytogenes* *L.innocua*	-	ND	-	/	-	ND
a	L1	PC1	No	Entrecôte de bœuf	+LA	+LA(5)	+HA	+MA	*L.monocytogenes* *L.innocua*	+	pur	2483	3573	+	+LB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
a	L3	PC1	No	Escalope de volaille	+LB	+LB	+MB	+MB	*L.monocytogenes* *L.welshimeri*	+	pur	2406	2500	+	+MB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
a	M6	PC1	No	Viande de boeuf	+LB*	+LB*	+MB*	+LB*	*L.monocytogenes* *L.innocua*	+	pur	2700	2983	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
a	M11	PC1	No	Joue de bœuf	+LB*	+LB*	+LB*	+MB*	*L.monocytogenes* *L.innocua*	+	pur	2608	3134	+	+LB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
a	N3	PC1	No	Steak surgelé	+MA	+LB*	+MB*	+MC*	*L.monocytogenes* *L.innocua*	+	pur	2219	N/A	-	-MA	*L.innocua*	-	ND	-	*L.innocua*	-	ND
a	N22	PC1	No	Viande hachée	+LB	+LB	+LB	+MA	*L.monocytogenes*	+	pur	2390	2563	+	+HB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
a	O7	PC1	No	Viande hachée de bœuf	+LB*	+LB*	+HB*	+MB*	*L.monocytogenes* *L.welshimeri*	+	pur	2626	3219	+	+LB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
a	O11	PC1	No	Manchons de canard	+LB*	+LB*	+MB*	+MB*	*L.monocytogenes* *L.welshimeri*	+	pur	2743	2605	+	+MB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
a	O12	PC1	No	Escalope de volaille	+LA	-LA	+HA	-MA	*L.welshimeri*	-	pur	2766	3012	+	+MB*	*L.monocytogenes* *L.welshimeri*	+	PD	+	*L.monocytogenes* *L.welshimeri*	+	PD
a	O13	PC1	No	Cuisse de poulet	+MB*	+MB*	+MB*	+MC*	*L.monocytogenes* *L.innocua*	+	pur	2721	2612	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
a	O14	PC1	No	Cuisse de dinde	-LE	+LB	-ME	-ME	*L.monocytogenes* *L.welshimeri*	+	pur	2665	2485	+	+HB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
a	Q14	PC1	No	Viande hachée	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	pur	2809	2582	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	M23	PC1	No	Sauté de porc	Ø	Ø	Ø	Ø	/	-	pur	2508	N/A	-	/	/	-	=	-	/	-	=
b	K7	PC2	No	Chipolatas	Ø	Ø	Ø	-LE	/	-	pur	2222	N/A	-	Ø	/	-	=	-	/	-	=
b	O16	PC2	No	Cuisse de poulet crue marinée à la provençale	Ø	-LE	Ø	Ø	/	-	pur	2790	N/A	-	/	/	-	=	-	/	-	=
b	S8	PC2	No	Tripes à la provençale	Ø	Ø	Ø	-LE	/	-	pur	2401	N/A	-	Ø (Fraser : Ø)	/	-	=				
b	U2	PC2	No	Merguez	Ø	Ø	Ø	Ø	/	-	pur	3348	N/A	-	/	/	-	=				
b	U4	PC2	No	Boudin blanc	-LE	-LE	-ME	-ME	/	-	pur	3211	N/A	-	/	/	-	=				
b	R13	PC3	No	Emincé de poulet curry	Ø	Ø	Ø	Ø	/	-	pur	2861	N/A	-	/	/	-	=				

Protocol 3 (LSB - Easy II lysis) Extension study (IPL 2006)																							
MEAT PRODUCTS																							
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Easy II lysis (T0)							Agreement	Alternative method LSB, Easy II lysis (after 72 h at 2 - 8°C)			Agreement
					Fraser 1/2		Fraser		Identifications	Result	ADN	Direct lysis		Result	Confirmations		Result		Result	Identifications	Result	
					P1	AL1	P2	AL2				Ct C. int	Ct FAM		Streaking onto RLM	Identifications						
b	R14	PC3	No	Emincé de poulet curry	-LE	-LE	-ME	-ME	/	-	pur	2906	N/A	-	/	/	-	=				
b	R17	PC3	No	Tripes au calvados	Ø	Ø	Ø	Ø	/	-	pur	3041	N/A	-	/	/	-	=				
b	T4	PC3	No	Côte de porc cuisinée	Ø	Ø	Ø	Ø	/	-	pur	3116	N/A	-	/	/	-	=				
b	T7	PC3	No	Mouton aux haricots	Ø	Ø	Ø	Ø	/	-	pur	3130	N/A	-	/	/	-	=				
b	B6	PC1	No	Sauté de porc	-LE	-LE	+MB	-MA	*L.innocua*	-	pur	2518	3295	+	+MB	*L.monocytogenes* *L.innocua*	+	PD	+	*L.monocytogenes* *L.innocua*	+	PD
b	A9	PC2	No	Chair à saucisse	+LA(3)	+LA(5)	+HA	+MA	*L.monocytogenes*	+	pur	2845	N/A	-	Ø	/	-	ND	-	/	-	ND
b	K4	PC2	No	Merguez crue	+MB	+MB*	+HB	+HB*	*L.monocytogenes* *L.welshimeri*	+	pur	2206	1985	+	+HB	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
b	M8	PC2	No	Merguez	+LB*	+LB*	+LB*	+MB*	*L.monocytogenes* *L.welshimeri*	+	pur	2708	2640	+	+MB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	N1	PC2	No	Chipolatas	Ø	Ø	Ø	Ø	/	-	pur	2317	3855	+	+LA	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
b	N2	PC2	No	Rôti de veau Orloff	+LA	+LA	+HA	+MA	*L.monocytogenes*	+	pur	2280	3617	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	N23	PC2	No	Chipolatas	+LA(2)	+LA(1)	+HA	+MA	*L.monocytogenes*	+	pur	2368	3100	+	+MB	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
b	O4	PC2	No	Merguez	Ø	-LE	Ø	-LE	/	-	pur	2591	3532	+	+LB	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
b	O15	PC2	No	Saucisses de veau	+LB	-LB	+HB	-MA	*L.welshimeri*	-	pur	2720	3289	+	+LB*	*L.monocytogenes* *L.welshimeri*	+	PD	+	*L.monocytogenes* *L.welshimeri*	+	PD
b	O17	PC2	No	Ailes de poulet marinées au curry	+MA	-LA	+HA	-MA	*L.innocua*	-	pur	2737	2529	+	+MB*	*L.monocytogenes* *L.innocua*	+	PD	+	*L.monocytogenes* *L.innocua*	+	PD
b	P6	PC2	No	Chipolatas aux herbes	Ø	Ø	+LA	+MA	*L.monocytogenes*	+	pur	2656	3208	+	+MB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
b	P7	PC2	No	Merguez	+LB	+LB	+HB*	+MB	*L.monocytogenes* *L.welshimeri*	+	pur	2609	2762	+	+HB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
b	P8	PC2	No	Hamburger à cuire	+MB	+MB	+HC*	+LB	*L.monocytogenes* *L.welshimeri*	+	pur	2625	2306	+	+HB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
b	R15	PC2	No	Merguez	+MA	+MA	+MB*	+MB*	*L.monocytogenes* *L.welshimeri*	+	pur	2721	2425	+	+MB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
b	S9	PC2	No	Chipolatas	+LB*	+LB*	+MB*	+MB*	*L.monocytogenes* *L.welshimeri*	+	pur	2362	3660	+	+LA	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
b	T5	PC2	No	Saucisse fumée à cuire	+MB*	+MB*	+HB*	+HB*	*L.monocytogenes* *L.innocua*	+	pur	2953	2505	+	+HB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
b	T6	PC2	No	Boulettes bœuf et porc à cuire	+LB	+MC	+HA	+MA	*L.monocytogenes*	+	pur	3122	N/A	-	Ø	/	-	ND	-	/	-	ND
b	K9	PC3	No	Sauté de cheval à l'indienne	Ø	Ø	+MB	+MB*	*L.monocytogenes* *L.welshimeri*	+	pur	3519	2620	+	+MB*	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
c	A11	PC3	No	Saucisson au poivre	Ø	Ø	-LE	-LE	/	-	pur	2913	N/A	-	Ø	/	-	=	-	/	-	=
c	K6	PC3	No	Foie gras	Ø	-LE	Ø	-LE	/	-	pur	2245	N/A	-	Ø	/	-	=	-	/	-	=
c	L4	PC3	No	Noix de jambon aux herbes	Ø	+LB	-LE	-ME	*Bacillus*	-	pur	2365	N/A	-	-LB	*Bacillus*	-	=	-	/	-	=
c	L5	PC3	No	Lardons	+LB	+LA	+HB	+HA	*L.welshimeri*	-	pur	2341	N/A	-	-LA	*L.welshimeri*	-	=	-	/	-	=
c	L6	PC3	No	Pâté à l'échalote	Ø	Ø	Ø	-LE	/	-	pur	2335	N/A	-	Ø	/	-	=	-	/	-	=
c	L7	PC3	No	Potjevlesh	-LE	-LE	-LE	-ME	/	-	pur	2423	N/A	-	Ø	/	-	=	-	/	-	=
c	L9	PC3	No	Pâté de campagne	-ME	-ME	-ME	-ME	/	-	pur	2368	N/A	-	-ME	/	-	=	-	/	-	=
c	O5	PC3	No	Pâté de campagne	+LA	+LB*	+MB	+MA	*L.ivanovii* *L.innocua*	-	pur	3274	N/A	-	Ø	/	-	=	-	/	-	=
c	O6	PC3	No	Jambon fumé	Ø	Ø	Ø	Ø	/	-	pur	2602	N/A	-	/	/	-	=	-	/	-	=

Protocol 3 (LSB - Easy II lysis) Extension study (IPL 2006)																							
MEAT PRODUCTS																							
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Easy II lysis (T0)							Agreement	Alternative method LSB, Easy II lysis (after 72 h at 2 - 8°C)			Agreement
					Fraser 1/2		Fraser		*Identifications*	Result	ADN	Direct lysis		Result	Confirmations		Result		Result	*Identifications*	Result	
					P1	AL1	P2	AL2				Ct C. int	Ct FAM		Streaking onto RLM	*Identifications*						
c	O8	PC3	No	Bacon	Ø	Ø	-ME	-LE	/	-	pur	2640	N/A	-	-LA	*L.welshimeri*	-	=	+	*L.welshimeri*	-	PPNA
c	O9	PC3	No	Lardons	+LA(2)	Ø	+HB	-MA	*L.welshimeri*	-	pur	2815	N/A	-	-LB	*L.welshimeri*	-	=	-	/	-	=
c	L2	PC3	No	Rosette de porc	Ø	+LA(1)	+HB	+HB*	*L.monocytogenes* *L.welshimeri*	+	pur	2431	3802	+	+LA(1) (Fraser : +MB*)	*L.monocytogenes* *L.welshimeri*	+	=	+	*L.monocytogenes* *L.welshimeri*	+	=
c	M7	PC3	No	Jambon fumé	Ø	Ø	Ø	Ø	/	-	pur	2672	3134	+	+LB	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
c	M13	PC3	No	Chorizo	-LE	-LE	+HA	-LA	*L.innocua*	-	pur	2535	3658	+	+LB	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
c	N24	PC3	No	Rôti de veau	Ø	Ø	+LA	-MA	*L.welshimeri*	-	pur	2426	N/A	-	+LA	*L.monocytogenes*	-	=	+	*L.monocytogenes*	+	PD
c	O10	PC3	No	Poitrine fumée	+LA	-LA	+MB*	+MB*	*L.monocytogenes* *L.welshimeri*	+	pur	2736	3441	+	+MB*	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=

Protocol 3 (LSB and Easy II lysis) - Meat products

Protocol 3 (LSB - Easy II lysis) Renewal study (ISHA 2017)																										
MEAT PRODUCTS																										
ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Easy II lysis								Additional pathway of confirmation ISO 16140-2:2016				Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confir-mation a	Confirmation b			Final result	Fraser		Confirmation	Final result	
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam	Identification		
c	169	T0	Cooked ham high quality	LIS 4.26	se	2,4	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	34,07	18,22	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	171	T0	Auvergne Ham	LIS 4.26	se	2,4	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	36,18	27,52	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	173	T0	Cooked and derinded ham high quality	LIS 4.26	se	2,4	0Ø	0Ø	0Ø	0Ø	/	-	33,25	26,18	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PD
c	175	T0	Cooked ham	LIS 4.27	se	2,8	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,32	31,5	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	177	T0	Serrano ham	LIS 4.27	se	2,8	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	34,7	24,08	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Easy II lysis after storage 72h at 5°C								Additional pathway of confirmation ISO 16140-2:2016				Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confir-mation a	Confirmation b			Final result	Fraser		Confirmation	Final result	
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam	Identification		
c	169	T72h	Cooked ham high quality	LIS 4.26	se	2,4	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	31,98	19,56	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	171	T72h	Auvergne Ham	LIS 4.26	se	2,4	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	35,16	22,76	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	173	T72h	Cooked and derinded ham high quality	LIS 4.26	se	2,4	0Ø	0Ø	0Ø	0Ø	/	-	34,56	18,45	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PD
c	175	T72h	Cooked ham	LIS 4.27	se	2,8	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	35,23	18,96	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	177	T72h	Serrano ham	LIS 4.27	se	2,8	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	35,89	27,15	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA

Protocol 3 (LSB - Easy II lysis) - Dairy products

Protocol 3 (LSB - Easy II lysis) Extension study (IPL 2006)																						
DAIRY PRODUCTS																						
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Easy II lysis (T0)							Agreement	Alternative method LSB, Easy II lysis (after 72 h at 2 - 8°C)			Agreement
					Fraser 1/2		Fraser		Identifications	Result	ADN	Direct lysis		Result	Confirmations		Result		Result	Identifications	Result	
					P1	AL1	P2	AL2				Ct C. int	Ct FAM		Streaking onto RLM	Identifications						
a	N26	PL1	No	Palet de Bourgo (au lait cru)	Ø	-LE	Ø	Ø	/	-	pur	2362	N/A	-	-LE	/	-	=	-	/	-	=
a	P5	PL1	No	Maroilles au lait cru	-LE	-LE	-ME	-LE	/	-	pur	2643	N/A	-	/	/	-	=		/		
a	R3	PL2	No	Valençay (fromage de chèvre)	Ø	Ø	Ø	Ø	/	-	pur	2861	N/A	-	/	/	-	=				
a	R4	PL2	No	Selles sur Cher	Ø	Ø	Ø	Ø	/	-	pur	2827	N/A	-	/	/	-	=				
a	R6	PL2	No	Selles sur Cher	Ø	Ø	-LE	Ø	/	-	pur	2789	N/A	-	/	/	-	=				
a	P3	PL1	No	Maroilles au lait cru	+LB	+LB	+MB	+MA	*L.monocytogenes*	+	pur	2594	4126	+	+LB*	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	P4	PL1	No	Maroilles au lait cru	Ø	-LE	+MA	+LA	*L.monocytogenes*	+	pur	2558	3301	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	Q24	PL2	7,2	Rocamadour au lait cru	Ø	Ø	+LA	+LA	*L.monocytogenes*	+	pur	2916	3509	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	C8	PL3	No	Lait cru	+LA(1)	Ø	+HA	-LA	*L.welshimeri*	-	pur	2911	N/A	-	-LB	*L.welshimeri*	-	=	-	*L.welshimeri*	-	=
b	O19	PL3	No	Lait cru	Ø	Ø	-LE	Ø	/	-	pur	2598	N/A	-	/	/	-	=	-	/	-	=
b	B15	PL3	No	Lait cru	+LA	+LA	+HA	+MA	*L.monocytogenes*	+	pur	2341	3079	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	B16	PL3	No	Lait cru	+MA	+MA	+MB	+MA	*L.monocytogenes*	+	pur	2266	2163	+	+MB	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
b	E7	PL3	No	Lait cru	Ø	Ø	-LE	-LE	/	-	pur	2953	2033	+	+HA	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
b	O27	PL3	10,8	Lait cru	+LA	+LA	+HA	+MA	*L.monocytogenes*	+	pur	2809	2443	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	O28	PL3	13,5	Lait cru	+LA	+LB	+MA	+MB	*L.monocytogenes*	+	pur	2692	2120	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	A2	PL1	No	Camembert	Ø	Ø	Ø	Ø	/	-	pur	2882	N/A	-	Ø	/	-	=	-	/	-	=
c	A3	PL1	No	Munster	Ø	Ø	Ø	-LE	/	-	pur	2807	N/A	-	+HB	/	-	=	-	/	-	=
c	B2	PL1	No	Epoisses	-LE	-LE	-LE	-LE	/	-	pur	2671	N/A	-	Ø	/	-	=	-	/	-	=
c	B5	PL1	No	Munster	Ø	-LE	Ø	Ø	/	-	pur	2331	N/A	-	/	/	-	=	-	/	-	=
c	M24	PL1	No	Pont l'Evêque	Ø	Ø	Ø	Ø	/	-	pur	2614	N/A	-	/	/	-	=	-	/	-	=
c	M25	PL1	No	Livarot	Ø	Ø	Ø	Ø	/	-	pur	2664	N/A	-	/	/	-	=	-	/	-	=
c	O3	PL1	No	Rond du vinage	Ø	Ø	Ø	-LE	/	-	pur	2650	N/A	-	/	/	-	=	-	/	-	=
c	Q27	PL1	No	St Paulin	Ø	Ø	Ø	Ø	/	-	pur	2962	N/A	-	/	/	-	=				
c	Q28	PL1	No	Munster pasteurisé	Ø	-LE	Ø	Ø	/	-	pur	3225	N/A	-	/	/	-	=				
c	Q29	PL1	No	Brie pasteurisé	Ø	-LE	Ø	Ø	/	-	pur	2858	N/A	-	/	/	-	=				
c	Q30	PL1	No	Fromage à raclette pasteurisé	Ø	-LE	Ø	Ø	/	-	pur	3078	N/A	-	/	/	-	=				
c	A1	PL2	No	Fromage de chèvre Ste Maure	Ø	Ø	Ø	Ø	/	-	pur	2546	N/A	-	/	/	-	=	-	/	-	=
c	A4	PL2	No	Féta nature	Ø	Ø	Ø	Ø	/	-	pur	2817	N/A	-	/	/	-	=	-	/	-	=
c	A6	PL2	No	Fromage de chèvre Chabichou	Ø	Ø	Ø	-LE	/	-	pur	2868	N/A	-	/	/	-	=	-	/	-	=
c	Q18	PL2	No	Bûche de chèvre	-LE	-LE	-LE	-LE	/	-	pur	2894	N/A	-	/	/	-	=				
c	R5	PL2	No	Pigouille (fromage de chèvre)	-LE	-LE	Ø	-LE	/	-	pur	2820	N/A	-	/	/	-	=				
c	R7	PL2	No	Pigouille (fromage de chèvre)	Ø	Ø	-LE	Ø	/	-	pur	2833	N/A	-	/	/	-	=				
c	S1	PL3	No	Lait infantile en poudre	Ø	Ø	Ø	Ø	/	-	pur	2382	N/A	-	/	/	-	=				
c	S2	PL3	No	Lait infantile en poudre	Ø	Ø	Ø	-LE	/	-	pur	2291	N/A	-	/	/	-	=				
c	A10	PL1	No	Maroilles	+LB	+LA	+MB	+MA	*L.monocytogenes*	+	pur	2795	27,04	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	B1	PL1	No	Epoisses	+LA	+MA	+MA	+MA	*L.monocytogenes*	+	pur	3035	3810	+	+MB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=

Protocol 3 (LSB - Easy II lysis) Extension study (IPL 2006)																							
DAIRY PRODUCTS																							
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Easy II lysis (T0)							Agreement	Alternative method LSB, Easy II lysis (after 72 h at 2 - 8°C)			Agreement
					Fraser 1/2		Fraser		Identifications	Result	ADN	Direct lysis		Result	Confirmations		Result		Result	Identifications	Result	
					P1	AL1	P2	AL2				Ct C. int	Ct FAM		Streaking onto RLM	Identifications						
c	B3	PL1	No	Reblochon	Ø	-LE	Ø	Ø	/	-	pur	2571	3714	+	+MA	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
c	C2	PL1	No	Munster	+MA	+MA	+MB	+MA	*L.monocytogenes*	+	pur	2778	2469	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	C4	PL1	No	Maroilles	+LB(2)	Ø	+LB	+MA	*L.monocytogenes*	+	pur	2918	31,17	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	N18	PL1	No	Cœur de Neufchâtel	-LE	-LE	-LE	-LE	/	-	pur	2395	2492	+	+MA	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
c	P20	PL1	6	Saint Paulin	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	pur	2537	2386	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	Q15	PL1	5,4	Brie de Meaux	Ø	-LE	+MA	+MA	*L.monocytogenes*	+	pur	2844	N/A	-	+LA	*L.monocytogenes*	-	ND	+	*L.monocytogenes*	+	=
c	E6	PL2	No	Ossau Iraty	+LA	+LA	+HB	+MB*	*L.monocytogenes L.innocua*	+	pur	3006	2179	+	+HB	*L.monocytogenes L.innocua*	+	=	+	*L.monocytogenes L.innocua*	+	=
c	E8	PL2	No	Fromage de chèvre	+MB	+MB	+MB	+MB	*L.monocytogenes*	+	pur	3010	1949	+	+HB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	O23	PL2	5,4	Bûche de chèvre	+LA	+MC*	+HA	+MA	*L.monocytogenes*	+	pur	2693	2722	+	+MB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	O24	PL2	10,8	Crottin de Chavignol	-LE	+LA(1)	-ME	+LB	*L.monocytogenes*	+	pur	3228	3836	+	+LA	*L.monocytogenes*	+	=	-	*L.monocytogenes*	-	ND
c	P21	PL2	9	Fromage de chèvre	+LB	+MD	+HB	+MA	*L.monocytogenes*	+	pur	2484	2238	+	+MB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	Q9	PL2	8,8	Bûche de chèvre	+LB	+LB	+MC	+MB	*L.monocytogenes*	+	pur	2925	2769	+	+LB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	Q13	PL3	3,6	Glace chocolat	+LC	+LC	+HB	+MB	*L.monocytogenes*	+	pur 1/10	N/A 33.20	N/A 27.33	inh +	+MA	*L.monocytogenes*	inh +	=	+	*L.monocytogenes*	+	=

Protocol 3 (LSB - Easy II lysis) - Dairy products

Protocol 3 (LSB - Easy II lysis) Renewal study (ISHA 2017)																									
DAIRY PRODUCTS																									
ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Easy II lysis								Additional pathway of confirmation ISO 16140-2:2016				Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Confirmation	Final result	
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam	Identification		
a	62	T0	Neuf Châtel raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	38,02	N/A	-	0L	0L	0L	/	-	A	0L	/	/	NA
a	64	T0	Camembert of Normandie raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	37,92	N/A	-	0L	0L	0L	/	-	A	0L	/	/	NA
a	66	T0	Coulommiers raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	35,64	N/A	-	0L	0L	0L	/	-	A	0L	/	/	NA
a	68	T0	Comté raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	35,65	N/A	-	0L	0L	0L	/	-	A	0L	/	/	NA
a	70	T0	Comté raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	37,9	N/A	-	0L	0L	0L	/	-	A	0L	/	/	NA
a	72	T0	Morbier raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	33,85	N/A	-	0L	0L	0L	/	-	A	0Ø	/	/	NA
a	57	T0	Neuf châtel raw milk	LIS 4.60	se	2,2	3h+L	3h-L	3h+L	4h-Ø	L.m	+	35,17	22,03	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	3h+L	4h-Ø	L.m	+	PA
a	59	T0	Camembert of Normandie raw milk	LIS 4.60	se	2,2	2h+M	3h-L	3h+L	4h-L	L.m	+	N/A-32,99	N/A-21,52	IH/+*	4h+Ø	3h+M	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
a	61	T0	Coulommiers raw milk	LIS 4.60	se	2,2	3h+L	3h-L	3h+L	4h-Ø	L.m	+	34,31	28,31	+	4h+L	3h+L	4h+L	L.m	+	3h+L	3h-L	L.m	+	PA
a	63	T72h	Comté raw milk	LIS 4.56	se	1,8	0M	0M	0L	0M	L.m	-	34,4	26,3	+	3h+Ø	3h+L	3h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+	PD
a	65	T0	Comté raw milk	LIS 4.56	se	1,8	2h+M	3h-L	3h+L	4h-Ø	L.m	+	34,43	35,42	+	3h+M	3h+L	3h+M	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
a	67	T0	Morbier raw milk	LIS 4.56	se	1,8	3h+L	3h-L	3h+L	4h-Ø	L.m	+	35,19	31,5	+	3h+L	3h+L	3h+L	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
a	69	T0	Reblochon raw milk	LIS 4.32	se	3,0	3h+L	4h-L	3h+Ø	4h-Ø	L.m	+	37,19	N/A	-	3h+L	3h+L	3h+L	L.m	-	3h+L	3h-Ø	L.m	+	ND
a	71	T0	Mountain tome cheese raw milk	LIS 4.32	se	3,0	3h+L	3h-M	3h+Ø	4h-L	L.m	+	34,49	32,62	+	3h+L	3h+L	3h+L	L.m	+	3h+L	3h-Ø	L.m	+	PA
a	73	T0	Raclette raw milk	LIS 4.32	se	3,0	4h+H	3h-M	3h+M	4h-L	L.m	+	38,08	39,12	+	3h+L	3h+L	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	90	T0	Raw milk	/	/	/	0L	0M	0Ø	0Ø	/	-	37,04	N/A	-	0L	0L	0L	/	-	A	0L	/	/	NA
b	92	T0	Raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	33,87	N/A	-	0L	0L	0L	/	-	A	0L	/	/	NA
b	94	T0	Raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	34,9-33,89	42,74-N/A	+/-	0L	0L	0L	/	-	A	0L	/	/	PPNA
b	96	T0	Raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	36,37	N/A	-	0L	0L	0L	/	-	A	0L	/	/	NA
b	98	T0	Raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	38,18	N/A	-	0L	0L	0L	/	-	A	0L	/	/	NA
b	100	T0	Raw milk	/	/	/	0L	0L	0Ø	0Ø	/	-	38,08	N/A	-	0L	0L	0L	/	-	A	0L	/	/	NA
b	102	T0	Raw milk butter	/	/	/	0M	0M	0Ø	0Ø	/	-	37,99	N/A	-	0L	0L	0L	/	-	A	0L	/	/	NA
b	104	T0	Raw milk butter	/	/	/	0M	0L	0Ø	0Ø	/	-	36,86	N/A	-	0L	0L	0L	/	-	A	0L	/	/	NA
b	75	T0	Raw milk	LIS 4.59	se	2,4	2h+M	3h-L	3h+Ø	4h-Ø	L.m	+	33,71	N/A	-	3h+L	3h+L	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	77	T0	Raw milk	LIS 4.59	se	2,4	2h+M	3h-L	3h+Ø	4h-Ø	L.m	+	34,32	25,17	+	3h+L	3h+L	3h+L	L.m	+	3h+L	4h-Ø	L.m	+	PA
b	79	T0	Raw milk	LIS 4.59	se	2,4	4h+H	3h-M	3h+L	4h-L	L.m	+	35,35	28,72	+	3h+L	4h+Ø	3h+L	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
b	81	T0	Raw milk	LIS 4.23	se	3,2	3h+L	3h-L	3h+Ø	4h-Ø	L.m	+	35,6	29,48	+	3h+L	3h+M	3h+L	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
b	83	T0	Raw milk	LIS 4.23	se	3,2	3h+M	3h-M	3h+M	4h-L	L.m	+	34,4	28,3	+	3h+M	3h+L	3h+M	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
b	85	T0	Raw milk	LIS 4.23	se	3,2	3h+M	3h-M	3h+L	4h-L	L.m	+	34,15	26,64	+	3h+L	3h+L	3h+L	L.m	+	3h+L	3h-L	L.m	+	PA
b	87	T0	Raw milk butter	LIS 4.62	se	2,6	3h+M	3h-L	3h+L	4h-Ø	L.m	+	35,1	22,16	+	4h+Ø	4h+L	4h+Ø	L.m	+	3h+L	4h-Ø	L.m	+	PA
b	89	T0	Raw milk butter	LIS 4.62	se	2,6	3h+M	3h-L	3h+L	4h-Ø	L.m	+	32,88	21,67	+	4h+L	4h+L	4h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA

Protocol 3 (LSB - Easy II lysis)
Renewal study (ISHA 2017)

DAIRY PRODUCTS

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Easy II lysis after storage 72h at 5°C								Additional pathway of confirmation ISO 16140-2:2016				Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Confirmation	Final result	
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam	Identification		
a	57	T72h	Neuf Châtel raw milk	LIS 4.60	se	2,2	3h+L	3h-L	3h+L	4h-Ø	L.m	+	34,56	19,45	+	3h+L	3h+L	3h+L	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
a	59	T72h	Camembert of Normandie raw milk	LIS 4.60	se	2,2	2h+M	3h-L	3h+L	4h-L	L.m	+	N/A-31,09	N/A-18,12	IH/+*	4h+Ø	3h+L	4h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
a	61	T72h	Coulommiers raw milk	LIS 4.60	se	2,2	3h+L	3h-L	3h+L	4h-Ø	L.m	+	30,25	18,67	+	4h+Ø	4h+L	4h+Ø	L.m	+	3h+Ø	3h-L	L.m	+	PA
a	63	T72h	Comté raw milk	LIS 4.56	se	1,8	0M	0M	0L	0M	L.m	-	33,26	20,36	+	4h+L	4h+L	4h+L	L.m	+	3h+Ø	4h-Ø	L.m	+	PD
a	65	T72h	Comté raw milk	LIS 4.56	se	1,8	2h+M	3h-L	3h+L	4h-Ø	L.m	+	33,857	22,36	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
a	67	T72h	Morbier raw milk	LIS 4.56	se	1,8	3h+L	3h-L	3h+L	4h-Ø	L.m	+	32,98	18,64	+	3h+M	3h+M	3h+M	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
a	69	T72h	Rebelochon raw milk	LIS 4.32	se	3,0	3h+L	4h-L	3h+Ø	4h-Ø	L.m	+	34,06	N/A	-	3h+L	3h+L	3h+L	L.m	-	3h+Ø	3h-L	L.m	+	ND
a	71	T72h	Mountain tome cheese raw milk	LIS 4.32	se	3,0	3h+L	3h-M	3h+Ø	4h-L	L.m	+	34,59	18,21	+	3h+M	3h+L	3h+M	L.m	+	3h+Ø	3h-L	L.m	+	PA
a	73	T72h	Raclette raw milk	LIS 4.32	se	3,0	4h+H	3h-M	3h+M	4h-L	L.m	+	31,25	20,36	+	3h+L	3h+Ø	3h+L	L.m	+	3h+L	4h-Ø	L.m	+	PA
b	75	T72h	Raw milk	LIS 4.59	se	2,4	2h+M	3h-L	3h+Ø	4h-Ø	L.m	+	31,25	20,36	+	3h+L	3h+Ø	3h+L	L.m	+	3h+L	4h-Ø	L.m	+	PA
b	77	T72h	Raw milk	LIS 4.59	se	2,4	2h+M	3h-L	3h+Ø	4h-Ø	L.m	+	35,26	17,96	+	3h+M	3h+L	3h+M	L.m	+	4h+Ø	3h-Ø	L.m	+	PA
b	79	T72h	Raw milk	LIS 4.59	se	2,4	4h+H	3h-M	3h+L	4h-L	L.m	+	32,58	1743	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+L	4h-Ø	L.m	+	PA
b	81	T72h	Raw milk	LIS 4.23	se	3,2	3h+L	3h-L	3h+Ø	4h-Ø	L.m	+	33,05	21,36	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+L	4h-Ø	L.m	+	PA
b	83	T72h	Raw milk	LIS 4.23	se	3,2	3h+M	3h-M	3h+M	4h-L	L.m	+	33,09	25,64	+	3h+L	3h+L	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	85	T72h	Raw milk	LIS 4.23	se	3,2	3h+M	3h-M	3h+L	4h-L	L.m	+	34,56	24,12	+	3h+L	3h+L	3h+L	L.m	+	3h+L	3h-L	L.m	+	PA
b	87	T72h	Raw milk butter	LIS 4.62	se	2,6	3h+M	3h-L	3h+L	4h-Ø	L.m	+	33,12	19,84	+	3h+L	3h+L	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	89	T72h	Raw milk butter	LIS 4.62	se	2,6	3h+M	3h-L	3h+L	4h-Ø	L.m	+	37,08	17,58	+	4h+Ø	4h+L	4h+Ø	L.m	+	3h+L	3h-L	L.m	+	PA

Protocol 3 (LSB - Easy II lysis) - Seafood products

Protocol 3 (LSB - Easy II lysis) Extension study (IPL 2006) SEAFOOD PRODUCTS																						
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Easy II lysis (T0)							Agreement	Alternative method LSB, Easy II lysis (after 72 h at 2 - 8°C)			Agreement
					Fraser 1/2		Fraser		Identifications	Result	ADN	Direct lysis		Result	Confirmations		Result		Result	Identifications	Result	
					P1	AL1	P2	AL2				Ct C. int	Ct FAM		Streaking onto RLM	Identifications						
a	B18	PP1	No	Filet de tilapia	+LA	-LA	+MA	-MA	*L.innocua*	-	pur	2818	N/A	-	-MA	*L.innocua*	-	=	-	/	-	=
a	G16	PP1	No	Saumon frais	Ø	Ø	Ø	Ø	/	-	pur	3176	N/A	-	Ø	/	-	=	-	/	-	=
a	G17	PP1	No	Saumon frais	Ø	Ø	Ø	Ø	/	-	pur	3272	N/A	-	/	/	-	=	-	/	-	=
a	G18	PP1	No	Saumon frais	Ø	Ø	Ø	Ø	/	-	pur	3051	N/A	-	/	/	-	=	-	/	-	=
a	G19	PP1	No	Saumon frais	Ø	Ø	Ø	Ø	/	-	pur	3240	N/A	-	/	/	-	=	-	/	-	=
a	R18	PP1	No	Filet de flétan	-LE	Ø	-ME	-LE	/	-	pur	2826	N/A	-	/	/	-	=				
a	T11	PP1	No	Filet de sabre	-LE	-LE	Ø	Ø	/	-	pur	3118	N/A	-	/	/	-	=				
a	K2	PP3	No	Tartare de saumon	Ø	-LE	Ø	Ø	/	-	pur	2250	N/A	-	Ø	/	-	=	-	/	-	=
a	E3	PP1	No	Harengs	-LE	Ø	-ME	Ø	/	-	pur	3129	3720	+	+LB	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
a	G20	PP1	No	Saumon frais	+LA	+LA	+HB*	+MB*	*L.monocytogenes*	+	pur	3002	2474	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	H1	PP1	No	Saumon frais	+LA	+LA	+HA	+MB	*L.monocytogenes* *L.innocua*	+	pur	2588	2361	+	+HB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
a	H2	PP1	No	Saumon frais	+LA	+LA	+HA	+HA	*L.monocytogenes*	+	pur	2513	2505	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	H3	PP1	No	Saumon frais	+LA	+LA	+HA	+MA	*L.monocytogenes*	+	pur	2414	2268	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	H4	PP1	No	Saumon frais	+LA	+LA	+HA	+MA	*L.monocytogenes*	+	pur	2610	3492	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	H5	PP1	No	Saumon frais	+LA	+LA	+HA	+MA	*L.monocytogenes*	+	pur	2415	2102	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	M20	PP1	No	Darnes de lieu noir	+LA(4)	+LA	+LB	+LA	*L.monocytogenes*	+	pur	2598	3164	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	N8	PP1	No	Cocktail de fruits de mer surgelé	Ø	-ME	+HA	+MB*	*L.monocytogenes* *L.innocua*	+	pur	2267	3239	+	+LB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
a	N19	PP1	No	Cocktail de fruits de mer surgelé	Ø	+LB(2)	+LA	+MB	*L.monocytogenes*	+	pur	2445	3022	+	+LB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
b	C1	PP2	No	Saumon fumé	Ø	-LE	Ø	Ø	/	-	pur	2644	N/A	-	-LE (Fraser : -LA)	*L.innocua*	-	=	-	/	-	=
b	K10	PP2	No	Saumon fumé	Ø	Ø	Ø	-LE	/	-	pur	3474	4108	+	Ø	/	-	PPNA	-	/	-	=
b	N9	PP2	No	Saumon fumé d'Irlande	-LE	Ø	-ME	-ME	/	-	pur	2443	N/A	-	Ø	/	-	=	-	/	-	=
b	Q21	PP2	No	Truite fumée	Ø	Ø	Ø	-LE	/	-	pur	2913	N/A	-	/	/	-	=				
b	Q22	PP2	No	Sardines fumées	Ø	Ø	Ø	Ø	/	-	pur	2946	N/A	-	/	/	-	=				
b	Q23	PP2	No	Saumon fumé	Ø	Ø	Ø	Ø	/	-	pur	2768	N/A	-	/	/	-	=				
b	R19	PP2	No	Thon fumé	Ø	Ø	Ø	Ø	/	-	pur	2996	N/A	-	/	/	-	=				
b	T9	PP2	No	Saumon fumé	Ø	Ø	Ø	Ø	/	-	pur	3102	N/A	-	/	/	-	=				
b	A15	PP3	No	Harengs marinés	Ø	Ø	-ME	Ø	/	-	pur	3461	N/A	-	-LE	/	-	=	-	/	-	=
b	C6	PP3	No	Harengs marinés	Ø	Ø	-LE	Ø	/	-	pur	2745	N/A	-	Ø	/	-	=	-	/	-	=
b	M18	PP1	No	Haddock	+LB	+LB	+LB	+LA	*L.monocytogenes*	+	pur	2593	3260	+	+LB*	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	A13	PP2	No	Flétan fumé	Ø	+LA	+HB	+MA	*L.monocytogenes*	+	pur	2806	3107	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	A14	PP2	No	Saumon fumé	+LA	+LB	+HA	+MB	*L.monocytogenes*	+	pur	2871	N/A	-	+HA	*L.monocytogenes*	-	ND	-	/	-	ND
b	B8	PP2	No	Saumon fumé	+LA	+LA	+HA	+HA	*L.monocytogenes*	+	pur	2234	3667	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	B9	PP2	No	Saumon fumé	+LA(3)	+LA(2)	+HA	+MA	*L.monocytogenes*	+	pur	2085	2498	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	C3	PP2	No	Lardons de saumon fumé	Ø	+LA	+LB	+MB	*L.monocytogenes*	+	pur	2528	28,64	+	+LA(48 h)	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=

Protocol 3 (LSB - Easy II lysis)
Extension study (IPL 2006)

SEAFOOD PRODUCTS

Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Easy II lysis (T0)							Agreement	Alternative method LSB, Easy II lysis (after 72 h at 2 - 8°C)			Agreement
					Fraser 1/2		Fraser		Identifications	Result	ADN	Direct lysis		Result	Confirmations		Result		Result	Identifications	Result	
					P1	AL1	P2	AL2				Ct C. int	Ct FAM		Streaking onto RLM	Identifications						
b	L8	PP2	No	Saumon fumé	Ø	Ø	+HB	+HA	*L.innocua*	-	pur	2324	2468	+	+MB*	*L.monocytogenes L.innocua*	+	PD	+	*L.monocytogenes L.innocua*	+	PD
b	M16	PP2	No	Eglefin fumé	+LB*	+LB*	+LB*	+LB*	*L.monocytogenes L.innocua*	+	pur	2663	3391	+	-LA (Fraser : +MB*)	*L.monocytogenes L.innocua*	+	=	+	*L.monocytogenes L.innocua*	+	=
b	M17	PP2	No	Sprats fumés	+MA	+MA	+HA	+HA	*L.monocytogenes*	+	pur	2594	2273	+	+LB	*L.monocytogenes*	+	=	inh +	*L.monocytogenes*	inh +	=
b	R20	PP2	No	Saumon fumé d'Ecosse	Ø	Ø	Ø	Ø	/	-	pur	28,22	4512	+	+LA	*L.monocytogenes*	+	PD	+	*L.monocytogenes*	+	PD
b	S5	PP2	No	Eglefin fumé	Ø	-LE	-LE	-LE	/	-	pur	2326	2761	+	+MB*	*L.monocytogenes L.innocua*		PD	+	*L.monocytogenes L.innocua*	+	PD
b	M19	PP3	No	Kippers	+LA(2)	+LB(2)	+LA	+LA	*L.monocytogenes*	+	pur	2597	3709	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	T10	PP1	No	Miettes de crabe	Ø	Ø	-LE	Ø	/	-	pur	3111	N/A	-	/	/	-	=				
c	S13	PP2	No	Nonnettes de poissons fumés	-LE	-LE	-LE	-ME	/	-	pur	2290	N/A	-	/	/	-	=				
c	B10	PP3	No	Rillettes de thon	Ø	Ø	Ø	Ø	/	-	pur	2131	N/A	-	/	/	-	=	-	/	-	=
c	C7	PP3	No	Tarama	-LE	-LE	-ME	-LE	/	-	pur	3184	N/A	-	Ø	/	-	=	-	/	-	=
c	M14	PP3	No	Filet de poisson à la provençale	-LE	-LE	Ø	-LE	/	-	pur	3519	N/A	-	-LA	*L.innocua*	-	=	-	*L.innocua*	-	=
c	M21	PP3	No	Accras de morue	Ø	Ø	-LE	-LE	/	-	pur	2506	N/A	-	/	/	-	=	-	/	-	=
c	S4	PP3	No	Tartare de saumon à la moutarde	-LE	-LE	-ME	-ME	/	-	pur	2240	N/A	-	/	/	-	=				
c	T8	PP3	No	Coquilles de saumon frais	Ø	Ø	Ø	Ø	/	-	pur	3144	N/A	-	/	/	-	=				
c	S3	PP2	No	Canapés de saumon fumé	-LE	-ME	-LE	-ME	/	-	pur	2288	N/A	-	/	/	-	=				
c	K3	PP1	No	Crevettes cuites	+MB	+LB*	+MB	+MB*	*L.monocytogenes L.innocua*	+	pur	2270	2529	+	+MB*	*L.monocytogenes L.innocua*	+	=	+	*L.monocytogenes L.innocua*	+	=
c	M15	PP1	No	Crevettes cuites	+LB*	+MB*	+MB *	+LB*	*L.monocytogenes L.innocua*	+	pur	2617	2839	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	S19	PP2	No	Paniers au saumon fumé	+LC	+LB*	+MB *	+MB*	*L.monocytogenes L.innocua*	+	pur	3006	2606	+	+HB	*L.monocytogenes L.innocua*	+	=	+	*L.monocytogenes L.innocua*	+	=
c	E2	PP3	No	Terrine langoustines	+HA	+MB	+HB	+MB	*L.monocytogenes*	+	pur	2816	1856	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	K1	PP3	No	Accras de morue	+MA	+MA	+HA	+HA	*L.monocytogenes*	+	pur	2208	1832	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	N7	PP3	No	Brochettes de saumon frais	+LB	+LA	+MA	+MA	*L.monocytogenes*	+	pur	2254	4233	+	Ø (Fraser : Ø) RLspp : +HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	N20	PP3	No	Calamars à la romaine	+LB	+LB	+LB*	+MB*	*L.monocytogenes L.innocua*	+	pur	2465	2434	+	+MB*	*L.monocytogenes L.innocua*	+	=	+	*L.monocytogenes L.innocua*	+	=
c	N25	PP3	No	Poisson à la bordelaise	+MD	+MB*	+HA	+MB*	*L.monocytogenes L.innocua*	+	pur	2335	2320	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=

Protocol 3 (LSB - Easy II lysis) Seafood products

Protocol 3 (LSB - Easy II lysis) Renewal study (ISHA 2017)																									
SEAFOOD PRODUCTS																									
ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Easy II lysis								Additional pathway of confirmation ISO 16140-2:2016				Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirma-tion a	Confirmation b			Final result	Fraser		Confirmation	Final result	
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam	Identification		
a	86	T0	Salmon filet	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,81	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
a	88	T0	Cod filed		/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,02	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
c	74	T0	Stick with crab flavour	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,26	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/	NA
c	101	T0	Stick with crab flavour	LIS 4.83	se	2,8	3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	33,78	28,38	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
c	103	T0	Rillette of sardines	LIS 4.83	se	2,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	34,24	26,15	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
c	105	T0	Tarama with cod eggs	LIS 4.83	se	2,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	35,81	36,93	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Easy II lysis after storage 72h at 5°C								Additional pathway of confirmation ISO 16140-2:2016				Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirma-tion a	Confirmation b			Final result	Fraser		Confirmation	Final result	
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam	Identification		
c	101	T72h	Stick with crab flavour	LIS 4.83	se	2,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	35,87	29,65	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	103	T72h	Rillette of sardines	LIS 4.83	se	2,8	3h+Ø	4h-Ø	3h+Ø	3h-Ø	L.m	+	33,02	24,13	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	105	T72h	Tarama with cod eggs	LIS 4.83	se	2,8	3h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	33,65	27,18	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+	PA

Protocol 3 (LSB - Easy II lysis) - Vegetable products

Protocol 3 (LSB - Easy II lysis) Extension study (IPL 2006) VEGETABLE PRODUCTS																						
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Easy II lysis (T0)							Agreement	Alternative method LSB, Easy II lysis (after 72 h at 2 - 8°C)			Agreement
					Fraser 1/2		Fraser		Identifications	Result	ADN	Direct lysis		Result	Confirmations		Result		Result	Identifications	Result	
					P1	AL1	P2	AL2				Ct C. int	Ct FAM		Streaking onto RLM	Identifications						
a	A7	PV1	No	Haricots verts surgelés	Ø	Ø	Ø	Ø	/	-	pur	2801	N/A	-	/	/	-	=	-	/	-	=
a	O21	PV1	No	Mélange de poivrons surgelés	-LE	-LE	-ME	-LE	/	-	pur	2823	N/A	-	/	/	-	=	-	/	-	=
a	O22	PV1	No	Légumes pour potage surgelés	Ø	Ø	Ø	Ø	/	-	pur	2773	N/A	-	/	/	-	=	-	/	-	=
a	J8	PV2	No	Epinards branches	+LA	-LA	+MA	-MA	*L.welshimeri*	-	pur	2595	N/A	-	-LB	*L.welshimeri*	-	=	-	*L.welshimeri*	-	=
a	Q16	PV2	No	Chou rouge	Ø	Ø	Ø	Ø	/	-	pur	2907	N/A	-	/	/	-	=				
a	S12	PV2	No	Carottes râpées	-LE	-LE	-ME	-ME	/	-	pur	2282	N/A	-	/	/	-	=				
a	S17	PV3	No	Petits paniers de légumes surgelés	Ø	-LE	Ø	Ø	/	-	pur		N/A	-	/	/	-	=				
a	R9	PV3	No	Haricots verts surgelés	Ø	Ø	Ø	Ø	/	-	pur	2824	N/A	-	/	/	-	=				
a	N14	PV1	No	Champignons surgelés	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	pur	2721	N/A	-	Ø	/	-	ND	-	/	-	ND
a	J4	PV2	No	Epinards branches	+LA(3)	+LB(3)	+MA	+MA	*L.monocytogenes*	+	pur	2713	2908	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	J5	PV2	No	Epinards hachés	+LB	+LB	+MB	+MA	*L.monocytogenes*	+	pur	2706	2821	+	+LB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	Q7	PV2	5,2	Carottes râpées	+LB(2)	Ø	+HA	+MA	*L.monocytogenes*	+	pur	2903	3225	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	Q26	PV2	No	Salade composée	Ø	Ø	Ø	Ø	/	-	pur	3021	N/A	-	/	/	-	=				
b	S11	PV2	No	Mélange salade, maïs, carottes	Ø	Ø	Ø	Ø	/	-	pur	2342	N/A	-	/	/	-	=				
b	M4	PV3	No	Pommes de terre précuites	Ø	Ø	Ø	Ø	/	-	pur	2639	N/A	-	/	/	-	=	-	/	-	=
b	R10	PV3	No	Courgettes précuites surgelées	Ø	Ø	-LE	-LE	/	-	pur	2825	N/A	-	/	/	-	=				
b	J2	PV2	No	Poêlée de légumes frais	+LB	+MB*	+MB	+MB*	*L.monocytogenes L.innocua*	+	pur	2556	2311	+	+MB*	*L.monocytogenes L.innocua*	+	=	+	*L.monocytogenes L.innocua*	+	=
b	Q1	PV2	10	Salade 4ème gamme	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	pur	2948	2975	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	M1	PV3	No	Poêlée champêtre	+LA	+MB	+MA	+MA	*L.monocytogenes*	+	pur	2777	2955	+	+MB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	M5	PV3	No	Pommes de terre précuites	+LB	+MA	+LB	+MB	*L.monocytogenes*	+	pur	2495	1986	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	O2	PV3	No	Pommes de terre précuites	+MA	+MA	+HA	+MA	*L.monocytogenes*	+	pur	2556	N/A	-	Ø	/	-	ND	-	/	-	ND
b	O20	PV3	No	Pommes de terre précuites	+MA	+MA	+HA	+MA	*L.monocytogenes*	+	pur	2596	2074	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	P9	PV3	16	Poêlée romaine	Ø	-LE	+HA	+LA	*L.monocytogenes*	+	pur	2212	2212	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	Q8	PV3	6,5	Poêlée de légumes	+LB	+LB	+MB	+MB	*L.monocytogenes*	+	pur	2882	2523	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	N15	PV2	No	Jardinière de légumes	Ø	Ø	Ø	-LE	/	-	pur	2367	N/A	-	/	/	-	=	-	/	-	=
c	R11	PV2	No	Fond de Pommes de terre à farcir	+LA	+LA	+LB*	+LB*	*L.innocua*	+	pur	2789	N/A	-	Ø (Fraser : Ø)	/	-	=	-	/	-	=
c	L10	PV3	No	Mousse aux trois légumes	-LE	-LE	-ME	-ME	/	-	pur	2338	N/A	-	-ME	/	-	=	-	/	-	=
c	N17	PV3	No	Coucous (semoule et légumes)	-LE	-LE	-LE	-ME	/	-	pur	2474	N/A	-	/	/	-	=	-	/	-	=
c	Q17	PV3	No	Salade de pennes napolitaine	Ø	Ø	-LE	-ME	/	-	pur	2945	N/A	-	/	/	-	=				
c	Q19	PV3	No	Céleri rémoulade	-LE	-LE	-ME	-ME	/	-	pur	2905	N/A	-	/	/	-	=				
c	Q20	PV3	No	Concombre, carottes et chou en sauce	Ø	Ø	Ø	Ø	/	-	pur	2853	N/A	-	/	/	-	=				
c	R8	PV3	No	Tapenade Olives et Tomates	Ø	Ø	-LE	-LE	/	-	pur	2927	N/A	-	/	/	-	=				

Protocol 3 (LSB - Easy II lysis) Extension study (IPL 2006)																						
VEGETABLE PRODUCTS																						
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Easy II lysis (T0)							Agreement	Alternative method LSB, Easy II lysis (after 72 h at 2 - 8°C)			Agreement
					Fraser 1/2		Fraser		*Identifications*	Result	ADN	Direct lysis		Result	Confirmations		Result		Result	*Identifications*	Result	
					P1	AL1	P2	AL2				Ct C. int	Ct FAM		Streaking onto RLM	*Identifications*						
c	S14	PV3	No	Légumes façon paysanne	-LE	-LE	Ø	-ME	/	-	pur	2366	N/A	-	Ø (Fraser : Ø)	/	-	=				
c	S16	PV3	No	Purée de légumes du soleil	-LE	-LE	-LE	-ME	/	-	pur	2381	N/A	-	/	/	-	=				
c	T1	PV3	No	Pommes de terre et poivrons sauce curry	Ø	-LE	-LE	-LE	/	-	pur	3133	N/A	-	/	/	-	=				
c	T3	PV2	No	Mélange quatre légumes	Ø	-LE	Ø	Ø	/	-	pur	3098	N/A	-	/	/	-	=				
c	J1	PV2	No	Petits pois	+LB	+LB*	+MB	+MB*	*L.monocytogenes L.innocua*	+	pur	2481	2268	+	+MB*	*L.monocytogenes L.innocua*	+	=	+	*L.monocytogenes L.innocua*	+	=
c	P10	PV3	16	Purée chou-fleur, brocolis	+LB	+MA	+MB	+LB	*L.monocytogenes*	+	pur	2195	2195	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	Q2	PV3	15	Riz et légumes en julienne	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	pur	2836	2655	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	Q6	PV3	3,9	Gratin de chou-fleur	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	pur	2874	2839	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	T2	PV3	No	Carottes râpées sauce vinaigrette	Ø	-LE	Ø	Ø	/	-	pur	3103	N/A	-	/	/	-	=				

Protocol 3 (LSB - Easy II lysis) Vegetable products

Protocol 3 (LSB - Easy II lysis)
Renewal study (ISHA 2017)

VEGETABLE PRODUCTS

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Easy II lysis								Additional pathway of confirmation ISO 16140-2:2016				Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Confirmation	Final result	
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam	Identification		
a	106	T0	Banana	/	/	/	0L	0L	0Ø	0Ø	/	-	35,95	N/A	-	0L	0L	0L	/	-	0Ø	0Ø	/	-	NA
a	108	T0	Grape	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	32,31-34,01	34,07-N/A	+/-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA (PP)
a	111	T0	Banana	LIS 4.10	se	1,6	3h+M	3h-L	3h+I	4h-L	L.m	+	34,59	31,15	+	3h+L	3h-L	3h+L	L.m	+	4h+L	4h-L	L.m	+	PA
a	113	T0	Grape	LIS 4.10	se	1,6	3h+L	4h-L	4h+L	4h-L	L.m	+	36,8	33,12	+	2h+M	3h-L	2h+M	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
a	115	T0	Tomato	LIS 4.10	se	1,6	4h+Ø	4h-L	4h+L	4h-Ø	L.m	+	33,91	23,89	+	3h+L	4h-Ø	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
a	117	T0	Plums red	LIS 4.35	se	2,0	3h+Ø	4h-Ø	3h+I	4h-Ø	L.m	+	34,58	25,47	+	4h+L	4h-L	4h+L	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
a	119	T0	Pear	LIS 4.35	se	2,0	3h+M	4h-Ø	4h+L	4h-L	L.m	+	34,39	20,63	+	3h+L	4h-L	3h+L	L.m	+	4h+L	4h-L	L.m	+	PA
a	121	T0	Yellow plum	LIS 4.35	se	2,0	3h+Ø	4h-Ø	4h+L	4h-L	L.m	+	34,44	35,75	+	3h+L	3h-L	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
a	123	T0	Estar apple	LIS 4.17	se	1,8	3h+M	4h-L	4h+L	4h-L	L.m	+	39,21	19,88	+	4h+L	4h-L	4h+L	L.m	+	4h+L	4h-L	L.m	+	PA
a	125	T0	Canada grey apple	LIS 4.17	se	1,8	3h+Ø	4h-Ø	4h+L	4h-L	L.m	+	33,78	30,18	+	3h+L	4h-L	3h+L	L.m	+	4h+Ø	3h-Ø	L.m	+	PA
b	116	T0	Julienne of vegetables	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,55	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
b	118	T0	Grated carrot	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,95	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
b	120	T0	Sliced cucumber	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,71	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
b	122	T0	Prepared lettuce heart	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,25	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
b	124	T0	Mix of young sprouts	/	/	/	0L	0L	0Ø	0Ø	/	-	33,53	N/A	-	0L	0L	0L	/	-	0Ø	0Ø	/	-	NA
b	126	T0	Sliced leek	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,69	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
b	133	T0	Julienne of vegetables	LIS 4.80	se	3,0	3h+M	4h-L	3h+L	4h-L	L.m	+	37,59	15,46	+	3h+L	4h-Ø	3h+L	L.m	+	4h+L	4h-L	L.m	+	PA
b	135	T0	Grated carrot	LIS 4.81	se	2,6	3h+M	4h-L	3h+L	4h-L	L.m	+	33,73	32,06	+	3h+L	4h-Ø	3h+L	L.m	+	4h+L	4h-L	L.m	+	PA
b	137	T0	Sliced cucumber	LIS 4.81	se	2,6	3h+L	4h-L	4h+Ø	4h-Ø	L.m	+	34,73	28,49	+	3h+L	4h-L	3h+L	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
c	159	T0	Wax bean	LIS 4.78	se	3,2	4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	35,53	N/A	+	0Ø	0Ø	0Ø	/	A	/	/	/	/	ND
c	161	T0	peas steamed	LIS 4.78	se	3,2	4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	32,12	20,99	+	4h+Ø	3h-Ø	4h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
c	163	T0	Green lentils cooked	LIS 4.78	se	3,2	4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	32,97	23,88	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	165	T0	Green beans	LIS 4.79	se	2,6	4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	33,32	24,25	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Easy II lysis after storage 72h at 5°C								Additional pathway of confirmation ISO 16140-2:2016				Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirma-tion a	Confirmation b			Final result	Fraser		Confirmation	Final result	
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam	Identification		
a	111	T72h	Banana	LIS 4.10	se	1,6	3h+M	3h-L	3h+I	4h-L	L.m	+	33,06	29,13	+	3h+L	3h-L	3h+L	L.m	+	3h+Ø	4h-L	L.m	+	PA
a	113	T72h	Grape	LIS 4.10	se	1,6	3h+L	4h-L	4h+L	4h-L	L.m	+	34,01	30,56	+	3h+L	3h-L	3h+L	L.m	+	4h+L	4h-L	L.m	+	PA
a	115	T72h	Tomato	LIS 4.10	se	1,6	4h+Ø	4h-L	4h+L	4h-Ø	L.m	+	33,98	24,62	+	3h+L	4h-Ø	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
a	117	T72h	Plums red	LIS 4.35	se	2,0	3h+Ø	4h-Ø	3h+I	4h-Ø	L.m	+	33,56	26,13	+	4h+L	4h-Ø	4h+L	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
a	119	T72h	Pear	LIS 4.35	se	2,0	3h+M	4h-Ø	4h+L	4h-L	L.m	+	33,47	18,59	+	4h+L	4h-Ø	4h+L	L.m	+	4h+L	4h-L	L.m	+	PA
a	121	T72h	Yellow plum	LIS 4.35	se	2,0	3h+Ø	4h-Ø	4h+L	4h-L	L.m	+	33,54	28,13	+	3h+L	3h-L	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
a	123	T72h	Estar apple	LIS 4.17	se	1,8	3h+M	4h-L	4h+L	4h-L	L.m	+	33,09	18,48	+	4h+L	4h-L	4h+L	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
a	125	T72h	Canada grey apple	LIS 4.17	se	1,8	3h+Ø	4h-Ø	4h+L	4h-L	L.m	+	34,12	24,12	+	3h+L	4h-L	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	133	T72h	Julienne of vegetables	LIS 4.80	se	3,0	3h+M	4h-L	3h+L	4h-L	L.m	+	33,78	23,65	+	4h+L	4h-Ø	4h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	135	T72h	Grated carrot	LIS 4.81	se	2,6	3h+M	4h-L	3h+L	4h-L	L.m	+	34,81	23,58	+	3h+L	4h-Ø	3h+L	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
b	137	T72h	Sliced cucumber	LIS 4.81	se	2,6	3h+L	4h-L	4h+Ø	4h-Ø	L.m	+	34,74	25,16	+	1h+L	1h-L	1h+L	L.m	+	3h+Ø	3h-Ø	L.m	+	PA
c	159	T72h	Wax bean	LIS 4.78	se	3,2	4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	33,89	N/A	+	0Ø	0Ø	0Ø	/	-	4h+Ø	4h-Ø	L.m	+	ND
c	161	T72h	peas steamed	LIS 4.78	se	3,2	4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	33,14	19,56	+	4h+Ø	3h-Ø	4h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+	PA
c	163	T72h	Green lentils cooked	LIS 4.78	se	3,2	4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	36,02	24,12	+	4h+Ø	3h-Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA
c	165	T72h	Green beans	LIS 4.79	se	2,6	4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	34,05	23,64	+	4h+Ø	4h-Ø	4h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+	PA

Protocol 3 (LSB - Easy II lysis) - RTE/RTRH

Protocol 3 (LSB - Easy II lysis) Extension study (IPL 2006)																						
RTE - RTRH																						
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Easy II lysis (T0)							Agreement	Alternative method LSB, Easy II lysis (after 72 h at 2 - 8°C)			Agreement
					Fraser 1/2		Fraser		Identifications	Result	ADN	Direct lysis		Result	Confirmations		Result		Result	Identifications	Result	
					P1	AL1	P2	AL2				Ct C. int	Ct FAM		Streaking onto RLM	Identifications						
a	S7	PP3	No	Crevettes en taboulé	-LE	-LE	Ø	-LE	/	-	pur	2443	N/A	-	/	/	-	=				
a	N4	PP3	No	Faluche au thon	+LA	+LA	+HA	+MA	*L.monocytogenes*	+	pur	2145	2713	+	+LA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	N5	PP3	No	Faluche aux crevettes	+LA	+LB	+HA	+MB	*L.monocytogenes*	+	pur	2199	3049	+	+LB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
a	N6	PP3	No	Faluche aux crevettes	+LB	+LB	+HA	+MB	*L.monocytogenes*	+	pur	2210	2877	+	+LB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	B14	PC3	No	Couscous (merguez cuites, légumes, semoule)	Ø	Ø	Ø	Ø	/	-	pur	2368	N/A	-	-LE	/	-	=	-	/	-	=
b	S10	PC2	No	Tomates farcies prêtes à cuire	Ø	-LE	+HA	-MB	*L.innocua*	-	pur	2366	2868	+	+MB*	*L.monocytogenes* *L.innocua*	+	PD	+	*L.monocytogenes* *L.innocua*	+	PD
b	R16	PC3	No	Crépinettes au vin blanc	+LA	-LA	+LB	-LB	*L.welshimeri*	-	pur	2919	3047	+	+MB*	*L.welshimeri* *L.monocytogenes*	+	PD	inh +	*L.welshimeri* *L.monocytogenes*	inh +	PD
b	B13	PV3	No	Pommes de terre rissolées	Ø	Ø	Ø	Ø	/	-	pur	2455	3036	+	+MB	*L.monocytogenes* *L.innocua*	+	PD	+	*L.monocytogenes* *L.innocua*	+	PD
b	Q4	PV3	25	Gâteau de céleri	+LB	+LB	+HA	+MA	*L.monocytogenes*	+	pur	2699	2135	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	S15	PV3	No	Flans de chou-fleur	-LE	Ø	-ME	-ME	/	-	pur	2291	N/A	-	Ø (Fraser : Ø)	/	-	=				
c	E1	PL3	No	Tartelettes fruits	+MA	-MA	+MA	-MA	*L.innocua*	-	pur	3184	N/A	-	-HB	*L.innocua*	-	=	-	/	-	=
c	R1	PL3	No	Religieuses au café	-LE	-LE	-LE	-ME	/	-	pur	2970	N/A	-	/	/	-	=				
c	R2	PL3	No	Riz au lait	Ø	Ø	Ø	Ø	/	-	pur	2793	N/A	-	/	/	-	=				
c	S18	PP3	No	Petits paniers au poisson	-LE	-LE	-ME	-ME	/	-	pur	3143	N/A	-	/	/	-	=				
c	N10	PL3	No	Tartelette framboise	+LB	+LA	+HA	+MA	*L.monocytogenes*	+	pur	2338	N/A	-	Ø	/	-	ND	-	/	-	ND

Protocol 3 (LSB - Easy II lysis) RTE/RTRH

Protocol 3 (LSB - Easy II lysis) Renewal study (ISHA 2017)																								
RTE/RTRH																								
ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Easy II lysis								Confirmation ISO 16140-2			
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Identification	Final result
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam		
a	2	T0	Tabouleh with chicken	/	/	/	0L	0L	0L	0L	/	-	33,41	N/A	-	0M	0M	0M	/	-	0L	0L	/	/
a	4	T0	strabourgeoise salad	/	/	/	0L	0L	0Ø	0Ø	/	-	33,4	N/A	-	0L	0L	0L	/	-	0L	0L	/	/
a	6	T0	Pièmontaise with ham	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,44	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/
a	8	T0	Sandwich with salmon and chives	/	/	/	0M	0M	0Ø	0M	/	-	33,35	N/A	-	0M	0L	0M	/	-	0L	0L	/	/
a	10	T0	Sandwich with ham and Emmental	/	/	/	0M	0M	0M	0M	/	-	33,62	N/A	-	0Ø	0Ø	0Ø	/	-	0M	0M	/	/
a	12	T0	Sandwich with tuna and crudities	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,52	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/
a	14	T0	Sandwich with ham and butter	/	/	/	0L	0Ø	0Ø	0Ø	/	-	34	N/A	-	0L	0L	0L	/	-	0L	0L	/	/
a	16	T0	Sandwich with rosette and butter	/	/	/	0L	0L	0Ø	0Ø	/	-	33,94	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/
a	18	T0	Sandwich with chicken and crudities	/	/	/	0L	0Ø	0Ø	0Ø	/	-	N/A-33,76	N/A-N/A	-	0L	0L	0L	/	-	0L	0L	/	/
a	20	T0	Sandwich with ham and cheddar	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,67	N/A	-	0L	0L	0L	/	-	0L	0L	/	/
a	1	T0	Tabouleh with chicken	LIS 4.6	se	2,2	4h+M	4h-M	4h+M	4h-M	L.m	+	34,38	26,84	+	3h+L	3h+M	3h+L	L.m	+	3h+M	4h-M	L.m	+
a	3	T0	strabourgeoise salad	LIS 4.6	se	2,2	3h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	34,56	28,31	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+
a	5	T0	Pièmontaise with ham	LIS 4.6	se	2,2	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	34,66	26,16	+	3h+Ø	2h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+
a	7	T0	Sandwich with salmon and chives	LIS 4.24	se	2,8	3h+Ø	4h-M	3h+Ø	3h-Ø	L.m	+	36,86	28,65	-	3h+L	3h+L	3h+L	L.m	+	3h+Ø	3h-Ø	L.m	+
a	9	T0	Sandwich with ham and Emmental	LIS 4.24	se	2,8	4h+Ø	4h-M	3h+Ø	4h-Ø	L.m	+	35,86	31,58	+	3h+L	3h+Ø	3h+L	L.m	+	3h+L	3h-L	L.m	+
a	11	T0	Sandwich with tuna and crudities	LIS 4.24	se	2,8	3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	34,71	28,39	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+L	4h-L	L.m	+
a	13	T0	Sandwich with ham and butter	LIS 4.86	se	1,8	2h+L	3h-Ø	3h+Ø	3h-Ø	L.m	+	34,32	25,41	+	2h+L	2h+Ø	2h+L	L.m	+	2h+Ø	3h-Ø	L.m	+
a	15	T0	Sandwich with rosette and butter	LIS 4.86	se	1,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,8	29,54	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+
a	17	T0	Sandwich with chicken and crudities	LIS 4.86	se	1,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	34,63	30,89	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+
b	22	T0	Pizza with three cheeses	/	/	/	0L	0L	0Ø	0Ø	/	-	33,82	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/
b	24	T0	Pizza with ham and cheese	/	/	/	0L	0Ø	0Ø	0Ø	/	-	33,41	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/
b	26	T0	Pizza with three melting cheeses	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	36,51	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/
b	28	T0	Pizza with comté, emmental and lardons	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	34,11	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/
b	30	T0	Pizza with ham and mushroom	/	/	/	0L	0L	0Ø	0Ø	/	-	37,31	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/
b	32	T0	Flammekueche with smoked lardons	/	/	/	0L	0L	0Ø	0Ø	/	-	38,23	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/
b	34	T0	Croissant with ham	/	/	/	0L	0M	0L	0L	/	-	39,6	N/A	-	0L	0Ø	0L	/	-	0M	0M	/	/
b	36	T0	Lorrain quiche	/	/	/	0L	0L	0Ø	0Ø	/	-	33,46	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/
b	38	T0	Flaky goat cheese	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,08	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/
b	40	T0	Provencal pastry	/	/	/	0M	0M	0M	0M	/	-	38,2	N/A	-	0L	0L	0L	/	-	0L	0M	/	/
b	23	T0	Pizza with three cheeses	LIS 4.88	se	2,2	3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	34,52	28,03	+	2h+Ø	3h+Ø	2h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+
b	25	T0	Pizza with ham and cheese	LIS 4.89	se	2,6	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	35,28	26,27	+	3h+Ø	2h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+
b	27	T0	Pizza with three melting cheeses	LIS 4.89	se	2,6	3h+Ø	4h-Ø	3h+Ø	3h-Ø	L.m	+	36,15	22,14	+	3h+Ø	2h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+
b	29	T0	Pizza with comté, emmental and lardons	LIS 4.89	se	2,6	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	33,87	27,76	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+
b	31	T0	Pizza with ham and mushroom	LIS 4.46	se	2	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,56	27,47	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+
b	33	T0	Flammekueche with smoked lardons	LIS 4.46	se	2	2h+L	4h-M	2h+Ø	2h-M	L.m	+	33,22	21,18	+	2h+L	2h+M	2h+L	L.m	+	2h+L	3h-L	L.m	+
c	42	T0	Raspberries tart	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	37,24	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/
c	44	T0	Apples tart	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,76	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/
c	46	T0	Mille-feuilles	/	/	/	0L	0L	0Ø	0Ø	/	-	34,05	N/A	-	0L	0Ø	0L	/	-	0L	0L	/	/
c	48	T0	Donuts with pastry cream	/	/	/	0L	0Ø	0Ø	0Ø	/	-	37,86	N/A	-	0Ø	0Ø	0Ø	/	-	0L	0L	/	/
c	50	T0	Pudding	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	34/ 40,04	46,32-N/A	+/-	0L	0Ø	0L	/	-	0L	0L	/	/
c	52	T0	Stick with pastry cream	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	38,6	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	/
c	35	T0	Raspberries tart	LIS 4.46	se	2	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	34,42	27,94	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+
c	37	T0	Apple pie	LIS 4.7	se	2,8	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	34,63	N/A-24,82	-	3h+Ø	4h+Ø	3h+Ø	L.m	-	3h+Ø	4h-Ø	L.m	+
c	39	T0	Mille-feuilles	LIS 4.7	se	2,8	4h+M	4h-M	4h+M	4h-M	L.m	+	34,99	36,24	+	3h+M	4h+M	3h+M	L.m	+	3h+M	4h-M	L.m	+

Protocol 3 (LSB - Easy II lysis)
Renewal study (ISHA 2017)

RTE/RTRH

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Easy II lysis								Confirmation ISO 16140-2			
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Identification	Final result
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam		
c	41	T0	Savarin with rum and pastry cream	LIS 4.7	se	2,8	4h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	36,32	31,73	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+
c	43	T0	Pudding	LIS 4.93	se	3,2	4h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	34,6	28	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+
c	45	T0	Choux with pastry cream	LIS 4.93	se	3,2	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	34,06	25,55	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+
c	47	T0	Strawberries tart	LIS 4.93	se	3,2	3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	34,52	21,53	+	2h+Ø	2h+Ø	2h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+
c	49	T0	Savarin with rhum and pastry cream	LIS 4.91	se	1,6	3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	36,79/33,56	N/A/24,99	IV/+	3h+Ø	3h+Ø	3h+Ø	L.m	P	3h+Ø	3h-Ø	L.m	+
c3	51	T0	Choux with pastry cream	LIS 4.91	se	1,6	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,97	22,01	+	3h+Ø	3h+Ø	3h+Ø	L.m	P	3h+Ø	4h-Ø	L.m	+
c3	53	T0	Pudding	LIS 4.91	se	1,6	3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	33,75	22,25	+	3h+Ø	3h+Ø	3h+Ø	L.m	P	3h+Ø	4h-Ø	L.m	+

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Easy II lysis								Confirmation ISO 16140-2			
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Identification	Final result
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam		
a	1	T72h	Tabouleh with chicken	LIS 4.6	se	2,2	4h+M	4h-M	4h+M	4h-M	L.m	+	33,25	21,03	+	3h+L	3h+L	3h+L	L.m	+	3h+L	4h-L	L.m	+
a	3	T72h	Strabourgeoise salad	LIS 4.6	se	2,2	3h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	32,98	25,61	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+
a	5	T72h	Pièmontaise with ham	LIS 4.6	se	2,2	4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,48	18,54	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+
a	7	T72h	Sandwich with salmon and chives	LIS 4.24	se	2,8	3h+Ø	4h-M	3h+Ø	3h-Ø	L.m	+	34,25	26,06	+	3h+L	3h+L	3h+L	L.m	+	3h+L	3h-Ø	L.m	+
a	9	T72h	Sandwich with ham and Emmental	LIS 4.24	se	2,8	4h+Ø	4h-M	3h+Ø	4h-Ø	L.m	+	32,69	17,85	+	3h+M	3h+M	3h+M	L.m	+	3h+M	3h-M	L.m	+
a	11	T72h	Sandwich with tuna and crudities	LIS 4.24	se	2,8	3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	33,26	22,31	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+
a	13	T72h	Sandwich with ham and butter	LIS 4.86	se	1,8	2h+L	3h-Ø	3h+Ø	3h-Ø	L.m	+	33,14	18,45	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	2h+Ø	3h-Ø	L.m	+
a	15	T72h	Sandwich with rosette and butter	LIS 4.86	se	1,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,08	19,54	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+
a	17	T72h	Sandwich with chicken and crudities	LIS 4.86	se	1,8	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,95	18,36	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+
b	23	T72h	Pizza with three cheeses	LIS 4.88	se	2,2	3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	33,64	18,27	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+
b	25	T72h	Pizza with ham and cheese	LIS 4.89	se	2,6	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	33,15	21,45	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+
b	27	T72h	Pizza with three melting cheeses	LIS 4.89	se	2,6	3h+Ø	4h-Ø	3h+Ø	3h-Ø	L.m	+	33,02	28,49	+	2h+L	2h+Ø	2h+L	L.m	+	3h+Ø	3h-Ø	L.m	+
b	29	T72h	Pizza with comté, emmental and lardons	LIS 4.89	se	2,6	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	33,15	25,52	+	3h+Ø	2h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+
b	31	T72h	Pizza with ham and mushroom	LIS 4.46	se	2,0	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	34,84	29,87	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	4h+Ø	4h-Ø	L.m	+
b	33	T72h	Flammekueche with smoked lardons	LIS 4.46	se	2,0	2h+L	4h-M	2h+Ø	2h-M	L.m	+	35,02	30,88	+	3h+M	3h+M	3h+M	L.m	+	2h+L	3h-L	L.m	+
c	35	T72h	Raspberries tart	LIS 4.46	se	2,0	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	36,54	27,04	+	2h+L	2h+Ø	2h+L	L.m	+	2h+Ø	3h-Ø	L.m	+
c	37	T72h	Apples pies	LIS 4.7	se	2,8	3h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	36,28	26,28	+	2h+L	2h+Ø	2h+L	L.m	+	3h+Ø	3h-Ø	L.m	+
c	39	T72h	Mille-feuille	LIS 4.7	se	2,8	4h+M	4h-M	4h+M	4h-M	L.m	+	34,21	22,36	+	3h+L	4h+M	3h+L	L.m	+	3h+L	3h-L	L.m	+
c	41	T72h	Savarin with rhum and pastry cream	LIS 4.7	se	2,8	4h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	33,54	24,18	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+
c	43	T72h	Pudding	LIS 4.93	se	3,2	4h+Ø	4h-Ø	3h+Ø	4h-Ø	L.m	+	33,56	18,45	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	2h+Ø	4h-Ø	L.m	+
c	45	T72h	Choux with pastry cream	LIS 4.93	se	3,2	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	34,22/33,98	N/A-17,69	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+
c	47	T72h	Strawberries tart	LIS 4.93	se	3,2	3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	33,78	28,06	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+
c	49	T72h	Savarin with rhum and pastry cream	LIS 4.91	se	1,6	3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	33,15	24,06	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+
c	51	T72h	Choux with pastry cream	LIS 4.91	se	1,6	3h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	33,62	25,08	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	3h+Ø	4h-Ø	L.m	+
c	53	T72h	Pudding	LIS 4.91	se	1,6	3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	33,48	17,95	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	3h+Ø	3h-Ø	L.m	+

Protocol 3 (LSB - Easy II lysis) - Environmental products

Protocol 3 (LSB - Easy II lysis) Extension study (IPL 2006) ENVIRONMENTAL PRODUCTS																						
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Easy II lysis (T0)							Agreement	Alternative method LSB, Easy II lysis (after 72 h at 2 - 8°C)			Agreement
					Fraser 1/2		Fraser		Identifications	Result	ADN	Direct lysis		Result	Confirmations		Result		Result	Identifications	Result	
					P1	AL1	P2	AL2				Ct C. int	Ct FAM		Streaking onto RLM	Identifications						
a	D6	EN1	No	Eau de process	Ø	Ø	-LE	-LE	/	-	puree	3404	N/A	-	Ø	/	-	=	-	/	-	=
a	I13	EN1	No	Condensation centrale eau glacée	Ø	Ø	Ø	Ø	/	-	pure	2262	N/A	-	/	/	-	=	-	/	-	=
a	J9	EN1	No	Eau retour transfert hydraulique	Ø	Ø	-LE	-LE	/	-	pure	2626	N/A	-	Ø	/	-		-	/	-	
a	J10	EN1	No	Eau débordement refroidisseur	+LA	-LA	+LA	-MA	*L.innocua*	-	pure	2693	N/A	-	-LA	*L.innocua*	-	=	-	*L.innocua*	-	=
a	J11	EN1	No	Eau débordement glazurage Gyro	Ø	Ø	Ø	Ø	/	-	pure	2696	N/A	-	-LE	/	-	=	-	/	-	=
a	J12	EN1	No	Eau débordement jacuzy	Ø	Ø	-LE	-LE	/	-	pure	2708	N/A	-	Ø	/	-	=	+	Ø	-	FP
a	I19	EN1	No	Eau stagnante vibrants dispatching	+LB*	+LB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	pure	2314	2431	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
a	I20	EN1	No	Eau epierreur à contre courant L2	+LB*	+LB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	pure	2337	2467	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
b	C9	EN2	No	Surface hall déballage cartons	-LE	-LE	-ME	Ø	/	-	pure 1/10	N/A 33.84	N/A 39.72	inh -	-ME	/	inh -	=	inh -	/	inh -	=
b	C10	EN2	No	Surface bac sale	-ME	-LE	-HE	-LE	/	-	pure	3394	3926	+	-HE (Fraser : -HE)	/	-	PPNA	+	/	-	PPNA
b	D1	EN2	No	Joint Chambre froide	-LE	Ø	-ME	-LE	/	-	pure 1/10	N/A 33.15	N/A N/A	inh -	Ø	/	inh -	=	inh -	/	inh -	=
b	D4	EN2	No	Sol atelier découpe	Ø	Ø	Ø	Ø	/	-	pure	1910	N/A	-	Ø	/	-	=	-	/	-	=
b	E9	EN2	No	Surface atelier découpe poissonnerie	+MB	-MA	+HA	-MA	*L.innocua*	-	pure	1905	N/A	-	-MB	*L.innocua*	-	=	-	/	-	=
b	G1	EN2	No	Surface ligne blanc machine table tournante	Ø	Ø	Ø	Ø	/	-	pure	3141	N/A	-	/	/	-	=	-	/	-	=
b	G4	EN2	No	Surface ligne filetage main Planche	Ø	Ø	Ø	Ø	/	-	pure	3130	N/A	-	/	/	-	=	-	/	-	=
b	G5	EN2	No	Surface ligne filetage main Bac rinçage	Ø	Ø	Ø	Ø	/	-	pure	3347	N/A	-	Ø	/	-	=	-	/	-	=
b	G6	EN2	No	Surface ligne saumon Darneuse Holac	Ø	Ø	Ø	Ø	/	-	pure	3166	N/A	-	/	/	-	=	-	/	-	=
b	G7	EN2	No	Surface ligne saumon pont pesée saumons	Ø	Ø	Ø	Ø	/	-	pure	3203	N/A	-	Ø	/	-	=	-	/	-	=
b	G9	EN2	No	Ligne saumon siphon étêteuse	Ø	Ø	Ø	Ø	/	-	pure	4018	N/A	-	/	/	-	=	-	/	-	=
b	G10	EN2	No	Surface ligne blanc machine bac rinçage	-LE	-LE	Ø	-LE	/	-	pure	3484	N/A	-	Ø	/	-	=	-	/	-	=
b	I2	EN2	No	Rouleau sous tapis sortie parage	Ø	-LA(1)	+LB	-MB	*L.welshimeri*	-	pure	2304	N/A	-	/	/	-	=	-	/	-	=
b	I10	EN2	No	Cloison tunnel 4	Ø	Ø	Ø	-LE	/	-	pure	2291	N/A	-	/	/	-	=	-	/	-	=
b	I11	EN2	No	Pelle jaune entrée T4	Ø	Ø	-LE	-LE	/	-	pure	2295	N/A	-	/	/	-	=	-	/	-	=
b	I14	EN2	No	Aimant rouillé ligne 4	Ø	Ø	Ø	Ø	/	-	pure	2194	N/A	-	/	/	-	=	-	/	-	=
b	I16	EN2	No	Tablier Fab	Ø	-LE	Ø	Ø	/	-	pure	2314	N/A	-	-MA	*L.innocua*	-	=	-	*L.innocua*	-	=
b	I18	EN2	No	Ventilo refroidisseur 4	+LB*	-LD(1)	+MB	-LB	*L.innocua*	-	pure	2316	N/A	-	-MB	*L.innocua*	-	=	-	*L.innocua*	-	=
b	I4	EN1	No	Surface humide tunnel 3	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	pure	2171	1829	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	I5	EN1	No	Caniveau zone filmeuse	+MA	+LA	+MA	+MA	*L.monocytogenes*	+	pure	2223	2136	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=

Protocol 3 (LSB - Easy II lysis)
Extension study (IPL 2006)

ENVIRONMENTAL PRODUCTS

Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Easy II lysis (T0)							Agreement	Alternative method LSB, Easy II lysis (after 72 h at 2 - 8°C)			Agreement
					Fraser 1/2		Fraser		Identifications	Result	ADN	Direct lysis		Result	Confirmations		Result		Result	Identifications	Result	
					P1	AL1	P2	AL2				Ct C. int	Ct FAM		Streaking onto RLM	Identifications						
b	I12	EN1	No	Tuyau arrosage entrée T4	+MA	+LA	+MB	+MB	*L.monocytogenes*	+	pure	2303	2241	+	+MB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	D3	EN2	No	Surface table inox	+LB	+LB	+HB	+MA	*L.monocytogenes L.innocua*	+	pure	1885	2905	+	+MB*	*L.monocytogenes L.innocua*	+	=	+	*L.monocytogenes L.innocua*	+	=
b	D7	EN2	No	Surface sale accrochage	+LB	+LB	+LB	+MB	*L.monocytogenes L.innocua*	+	pure	1924	N/A	-	Ø (Fraser : Ø)	/	-	ND	-	/	-	ND
b	G2	EN2	No	Surface ligne saumon pont pesée filets	+MB*	+MA	+MB*	+MB*	*L.monocytogenes*	+	pure	3072	2473	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	G3	EN2	No	Surface ligne saumon Booder 51	+LA	+LA	+MB*	+MB*	*L.monocytogenes*	+	pure	3113	2031	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	G8	EN2	No	Surface ligne saumon tapis bleu	+MB*	+MA	+HB*	+MA	*L.monocytogenes*	+	pure	2927	1848	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	G11	EN2	No	Ligne saumon siphon Boader 200	+MB*	+MB*	+LB*	+LB*	*L.monocytogenes L.innocua*	+	pure	3018	1831	+	+HA	*L.monocytogenes L.innocua*	+	=	+	*L.monocytogenes L.innocua*	+	=
b	G12	EN2	No	Ligne saumon tapis déchets	+MB*	+MB*	+MB*	+LB*	*L.monocytogenes L.innocua*	+	pure	2925	1814	+	+HA	*L.monocytogenes L.innocua*	+	=	+	*L.monocytogenes L.innocua*	+	=
b	G13	EN2	No	Surface ligne saumon étêteuse	Ø	+LA(4)	+HA	+MA	*L.monocytogenes*	+	pure	3189	N/A	-	Ø	/	-	ND	-	/	-	ND
b	G14	EN2	No	Ligne saumon tapis parage	+LB*	+LA	+MB*	+MB*	*L.monocytogenes*	+	pure	2967	1962	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	G15	EN2	No	Surface ligne saumon Boader 200	+HB*	+MA	+MB*	+MB*	*L.monocytogenes L.innocua*	+	pure	3048	1765	+	+HA	*L.monocytogenes L.innocua*	+	=	+	*L.monocytogenes L.innocua*	+	=
b	I1	EN2	No	Rouleau sous tapis parage1	+LB*	+LB	+MB	+MB	*L.monocytogenes L.innocua*	+	pure	2291	2430	+	+MB*	*L.monocytogenes L.innocua*	+	=	+	*L.monocytogenes L.innocua*	+	=
b	I3	EN2	No	Tapis tunnel 3	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	pure	2986	1989	+	+MA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	I7	EN2	No	Tapis parage zone mélange	+MA	+MA	+MB	+MB	*L.monocytogenes*	+	pure	2316	2285	+	+HB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	I9	EN2	No	Pelle zone mélange	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	pure	2296	2165	+	+HA	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	E11	EN2	No	Eponge plumeuse	+LA(4)	+LA	+LB	+LA	*L.monocytogenes*	+	pure	3387	1853	+	+HB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
b	E12	EN2	No	Eponge salle d'accrochage	+LB	+LB	+MB	+MB	*L.monocytogenes L.innocua*	+	pure	1935	2402	+	+HB	*L.monocytogenes L.innocua*	+	=	+	*L.monocytogenes L.innocua*	+	=
c	B17	EN3	No	Résidus maïs	-HE	-ME	-ME	-ME	/	-	pure	2837	N/A	-	/	/	-	=	-	/	-	=
c	C11	EN3	No	Résidus table inox	-ME	+MB	+HB	+MB	*L.ivanovii*	-	pure	3494	3793	+	-HC	*L.ivanovii souche pure = -*	-	PPNA	+	*L.ivanovii*	-	PPNA
c	D2	EN3	No	Résidus poivrons	Ø	Ø	-LE	Ø	/	-	pure	3489	N/A	-	Ø	/	-	=	-	/	-	=
c	D5	EN3	No	Résidus sol	+LB	-LB	+MB	-MB	*L.welshimeri*	-	pure	1897	N/A	-	+HA(48 h)	*L.welshimeri*	-	=	-	/	-	=
c	E13	EN3	No	Résidus bac échaudoir	-LE	-LE	-LE	-LE	/	-	pure	3409	N/A	-	Ø	/	-	=	-	/	-	=
c	F6	EN3	No	Déchets de parage de gorge de porc	Ø	Ø	Ø	Ø	/	-	pure	3479	N/A	-	Ø	/	-	=	-	/	-	=
c	I15	EN3	No	Résidus tapis Mec Parma	Ø	Ø	Ø	Ø	/	-	pure	2314	N/A	-	-ME	/	-	=	-	/	-	=
c	E10	EN3	No	Résidus poisson bac sale	+LB(1)	+LA	+HA	+MB	*L.monocytogenes*	+	pure		3167	+	+MB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	F1	EN3	No	Résidus pour fabrication pâté	+MA	+MB	+HB	+HB	*L.monocytogenes*	+	pure		2883	+	+HB	*L.monocytogenes L.innocua*	+	=	+	*L.monocytogenes L.innocua*	+	=
c	F2	EN3	No	Résidus foie et cœur de porc	+MB	+MB	+HB	+HB	*L.monocytogenes L.innocua L.welshimeri*	+	pure	2446	2133	+	+HB	*L.monocytogenes L.innocua L.welshimeri*	+	=	+	*L.monocytogenes L.innocua L.welshimeri*	+	=
c	F3	EN3	No	Résidus pour fabrication pâté	+LB	+LB	+MB	+MB	*L.monocytogenes L.innocua*	+	pure	2654	2577	+	+HB	*L.monocytogenes L.innocua*	+	=	+	*L.monocytogenes L.innocua*	+	=
2c	F4	EN3	No	Résidus gras de porc	+MB	+MA	+HB	+MB	*L.monocytogenes L.welshimeri*	+	pure	2444	2051	+	+HB	*L.monocytogenes L.welshimeri*	+	=	+	*L.monocytogenes L.welshimeri*	+	=

Protocol 3 (LSB - Easy II lysis) Extension study (IPL 2006)																							
ENVIRONMENTAL PRODUCTS																							
Type	Ref	Cat	CA	Product (in French)	Reference method						Alternative method LSB, Easy II lysis (T0)							Agreement	Alternative method LSB, Easy II lysis (after 72 h at 2 - 8°C)			Agreement
					Fraser 1/2		Fraser		Identifications	Result	ADN	Direct lysis		Result	Confirmations		Result		Result	Identifications	Result	
					P1	AL1	P2	AL2				Ct C. int	Ct FAM		Streaking onto RLM	Identifications						
c	F5	EN3	No	Résidus crépinette	+LA	+LA	+HA	+MA	*L.monocytogenes*	+	pure	2810	3147	+	+HB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	I6	EN3	No	Résidus caniveau zone mélange	+MA	+MA	+MB	+MB	*L.monocytogenes* *L.innocua*	+	pure	2243	2212	+	+MB	*L.monocytogenes*	+	=	+	*L.monocytogenes*	+	=
c	I8	EN3	No	Résidus trémie zone mélange	+LB*	+LB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	pure	2282	2798	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=
c	I17	EN3	No	Résidus bac déchets entrée Gyro	+MB*	+LB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	pure	2307	2630	+	+MB*	*L.monocytogenes* *L.innocua*	+	=	+	*L.monocytogenes* *L.innocua*	+	=

Protocol 3 (LSB - Easy II lysis) - Environmental samples

Protocol 3 (LSB - Easy II lysis)
Renewal study (ISHA 2017)
ENVIRONMENTAL SAMPLES

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Easy II lysis								Confirmation ISO 16140-2				Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Identification	Final result	
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam			
a	134	T0	Processed water 1	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	32,56	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
a	135	T0	Processed water 2	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,98	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
a	136	T0	Processed water 3	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,48	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
a	137	T0	Processed water 4	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	33,75	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
a	179	T0	Processed water 1	LIS 4.2	se	2,4	3h+Ø	2h-Ø	3h+Ø	2h-Ø	L.m	+	34,52	18,45	+	3h+Ø	3h+Ø	3h+Ø	L.m	-	3h+Ø	3h+Ø	L.m	+	PA
a	181	T0	Processed water 2	LIS 4.2	se	2,4	3h+Ø	3h-Ø	2h+Ø	2h-Ø	L.m	+	3612	16,45	+	3h+Ø	4h+Ø	3h+Ø	L.m	-	3h+Ø	3h+Ø	L.m	+	PA
a	183	T0	Processed water 3	LIS 4.2	se	2,4	3h+Ø	3h-Ø	2h+Ø	2h-Ø	L.m	+	33,56	20,64	+	2h+Ø	3h+Ø	2h+Ø	L.m	-	3h+Ø	3h+Ø	L.m	+	PA
a	185	T0	Processed water 4	LIS 4.44	se	3,0	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	33,54/35,06	N/A-N/A	-	3h+Ø	3h+Ø	3h+Ø	L.m	-	3h+Ø	3h+Ø	L.m	+	ND
a	187	T0	Processed water 5	LIS 4.44	se	3,0	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	36,21	15,48	+	2h+Ø	3h+Ø	2h+Ø	L.m	+	3h+Ø	4h+Ø	L.m	+	PA
a	189	T0	Processed water 6	LIS 4.44	se	3,0	3h+Ø	2h-Ø	3h+Ø	2h-Ø	L.m	+	34,52	25,16	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	3h+Ø	4h+Ø	L.m	+	PA
a	191	T0	Processed water 7	LIS 4.50	se	1,8	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	32,58	18,45	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	3h+Ø	L.m	+	PA
a	193	T0	Processed water 8	LIS 4.50	se	1,8	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	33,69	22,18	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	4h+Ø	3h+Ø	L.m	+	PA
b	145	T0	Residue 1	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	32,01	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
b	147	T0	Residue 2	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	34,16	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
b	149	T0	Residue 3	/	/	/	0Ø	0Ø	0Ø	0Ø	/	-	35,49	N/A	-	0Ø	0Ø	0Ø	/	-	0Ø	0Ø	/	-	NA
c	195	T0	Residue	LIS 4.50	se	1,8	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	35,48	16,99	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	4h+Ø	L.m	+	PA

ST	SN	Time	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check LSB - Easy II lysis								Confirmation ISO 16140-2				Concordance RM/AM
				Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	iQ-Check			Confirmation a	Confirmation b			Final result	Fraser		Identification	Final result	
							O&A	Palcam	O&A	Palcam	Identification		Ct C. int	Ct FAM	Results	RLM	AL	RLM	Identification		O&A	Palcam			
a	179	T72h	Processed water 1	LIS 4.2	se	2,4	3h+Ø	2h-Ø	3h+Ø	2h-Ø	L.m	+	33,56	17,84	+	4h+Ø	3h+Ø	4h+Ø	L.m	+	4h+Ø	4h+Ø	L.m	+	PA
a	181	T72h	Processed water 2	LIS 4.2	se	2,4	3h+Ø	3h-Ø	2h+Ø	2h-Ø	L.m	+	33,18	17,05	+	2h+Ø	3h+Ø	2h+Ø	L.m	+	4h+Ø	4h+Ø	L.m	+	PA
a	183	T72h	Processed water 3	LIS 4.2	se	2,4	3h+Ø	3h-Ø	2h+Ø	2h-Ø	L.m	+	33,69	21,58	+	2h+Ø	3h+Ø	2h+Ø	L.m	+	3h+Ø	4h+Ø	L.m	+	PA

a	185	T72h	Processed water 4	LIS 4.44	se	3,0	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	33,02	N/A	-	4h+Ø	4h+Ø	4h+Ø	L.m	-	3h+Ø	4h+Ø	L.m	+	ND
a	187	T72h	Processed water 5	LIS 4.44	se	3,0	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	33,45	15,04	+	3h+Ø	3h+Ø	3h+Ø	L.m	+	3h+Ø	3h+Ø	L.m	+	PA
a	189	T72h	Processed water 6	LIS 4.44	se	3,0	3h+Ø	2h-Ø	3h+Ø	2h-Ø	L.m	+	34,01	20,14	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	4h+Ø	3h+Ø	L.m	+	PA
a	191	T72h	Processed water 7	LIS 4.50	se	1,8	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	33,47	19,45	+	3h+Ø	4h+Ø	3h+Ø	L.m	+	3h+Ø	4h+Ø	L.m	+	PA
a	193	T72h	Processed water 8	LIS 4.50	se	1,8	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	33,19	19,67	+	4h+Ø	4h+Ø	4h+Ø	L.m	+	3h+Ø	3h+Ø	L.m	+	PA
c	195	T72h	Residue	LIS 4.50	se	1,8	2h+Ø	2h-Ø	2h+Ø	2h-Ø	L.m	+	33,64	19,35	+	2h+Ø	3h+Ø	2h+Ø	L.m	+	3h+Ø	3h+Ø	L.m	+	PA

Protocols 4 and 5 (LSB – With or without FDRS - Easy II lysis) - Environmental samples

Protocols 4 and 5 (LSB -With or without FDRS - Easy II lysis) Extension study (ADRIA Développement 2019)																																	
ENVIRONMENTAL SAMPLES																																	
				Reference method NF EN ISO 11290-1♦						Alternative method: iQ-Check *Listeria monocytogenes* LSB for 18 h at 30°C																							
				Fraser 1/2		Fraser				Protocol 4 Easy II lysis				Protocol 5 FDRS Easy II lysis				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																	
Date of analysis	Réf	Product (French name)	Product	AL	Palcam	AL	Palcam	Identifications	Result	Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	AL	Palcam	Subculture in Fraser	RLM	RLSP	Identifications	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast	Type
2019	**4045**	**Eau de rinçage (environnement mer)**	**Rinsing water (seafood environment)**	st	st	st	st	/	-	-	-	-	-	-	-	-	-	st	st	-	st	-	/	-	-	-	-	**NA**	**NA**	**NA**	**NA**	a
2019	4058	Eau de rinçage découpe poulet	Rinsing water (poultry environment)	st	st	st	st	/	-	-	-	-	-	-	-	-	-	st	st	-	st	st	/	-	-	-	-	**NA**	**NA**	**NA**	**NA**	a
2019	4060	Eau process (bœuf)	Process water (beef environment)	-	-	-	-	/	-	-	-	-	-	-	-	-	-	-	-	-	-	+ (NC o n TSYEA)	/	-	-	-	-	**NA**	**NA**	**NA**	**NA**	a
2019	4061	Eau bac de lavage (bœuf)	Process water (beef environment)	st	st	st	st	/	-	-	-	-	-	-	-	-	-	st	st	-	st	st	/	-	-	-	-	**NA**	**NA**	**NA**	**NA**	a
2019	4062	Eau de rinçage végétaux	Rinsing water (vegetable environment)	st	st	-	st	/	-	-	-	-	-	-	-	-	-	st	-	-	-	+ (NC on TSYEA)	/	-	-	-	-	**NA**	**NA**	**NA**	**NA**	a
2019	**4681**	**Eau process (bœuf)**	**Process water (beef environment)**	H+	+	H+	+	*L.monocytogenes*	+	30,67	+	31,20	+	30,89	+	31,40	+	H+	+	/	+	+	*L.monocytogenes*	+	+	+	+	**PA**	**PA**	**PA**	**PA**	a
2019	**4682**	**Eau de rinçage (jambon végétal)**	**Rinsing water (vegetable environment)**	H+	+	H+	+	*L.monocytogenes*	+	32,10	+	32,33	+	31,93	+	32,44	+	H+/H-	+	/	+	+	*L.monocytogenes/ L.innocua L.innocua*	+	+	+	+	**PA**	**PA**	**PA**	**PA**	a
2019	**4683**	**Eau rinçage (thon)**	**Rinsing water (seafood environment)**	H+	+	H+	+	*L.monocytogenes*	+	31,77	+	32,27	+	32,34	+	32,65	+	H+	+	/	+	+	*L.monocytogenes*	+	+	+	+	**PA**	**PA**	**PA**	**PA**	a
2019	**4684**	**Eau rinçage (saumon)**	**Rinsing water (seafood environment)**	st	st	st	st	/	-	35,12	+	35,60	+	35,60	+	35,99	+	H+/H-	+	/	+	+	*L.monocytogenes/ L.innocua L.innocua*	+	+	+	+	**PD**	**PD**	**PD**	**PD**	a
2019	**4685**	**Eau rinçage (saumon)**	**Rinsing water (seafood environment)**	H+	+	H+	+	*L.monocytogenes*	+	31,44	+	32,01	+	31,30	+	31,76	+	H+	+	/	+	+	*L.monocytogenes*	+	+	+	+	**PA**	**PA**	**PA**	**PA**	a
2019	**4686**	**Eau rinçage (thon)**	**Rinsing water (seafood environment)**	H+	+	H+	+	*L.monocytogenes*	+	-	-	-	-	-	-	-	-	st	st	-	st	st	/	-	-	-	-	**ND**	**ND**	**ND**	**ND**	a
2019	**4687**	**Eau rinçage (thon)**	**Rinsing water (seafood environment)**	H+/H-	+	H+/H-	+	*L.monocytogenes/ L.innocua L.innocua*	+	37,22	+	38,29	+	36,20	+	36,42	+	H+/H-	+	/	+	+	*L.monocytogenes/ L.innocua L.innocua*	+	+	+	+	**PA**	**PA**	**PA**	**PA**	a
2019	**4688**	**Eau rinçage (environnement mer)**	**Rinsing water (seafood environment)**	H+	+	H+	+	*L.monocytogenes*	+	35,63	+	36,00	+	35,12	+	34,85	+	H+	+	/	+	+	*L.monocytogenes*	+	+	+	+	**PA**	**PA**	**PA**	**PA**	a
2019	**5081**	**Eau rinçage bol (environnement laitier)**	**Rinsing water (dairy environment)**	H-	+	H-	+	*L.innocua*	-	33,08	+	33,30	+	33,35	+	32,96	+	H+/H-	+	/	+	+	*L.monocytogenes /L.innocua L.innocua*	+	+	+	+	**PD**	**PD**	**PD**	**PD**	a
2019	**5086**	**Eau rinçage (environnement végétaux)**	**Rinsing water (vegetable environment)**	H+	+	H+	+	*L.monocytogenes*	+	36,28	+	36,33	+	36,06	+	36,51	+	H+	+	/	+	+	*L.monocytogenes*	+	+	+	+	**PA**	**PA**	**PA**	**PA**	a
2019	**5091**	**Eau rinçage (environnement vollaile)**	**Rinsing water (poultry environment)**	H+/H-	+	H+/H-	+	*L.monocytogenes/ L.innocua*	+	32,04	+	31,73	+	32,14	+	31,84	+	H+/H-	+	/	+	+	*L.monocytogenes/ L.innocua L.innocua*	+	+	+	+	**PA**	**PA**	**PA**	**PA**	a
2019	5591	Eau de rinçage bol (environnement carné)	Rinsing water (meat environment)	st	st	st	st	/	-	-	-	-	-	-	-	-	-	st	-	-	-	st		-	-	-	-	**NA**	**NA**	**NA**	**NA**	a
2019	5592	Eau de rinçage bol (environnement laitier)	Rinsing water (dairy environment)	st	st	-	-	/	-	-	-	-	-	-	-	-	-	H-	+	-	- (yellow)	st		-	-	-	-	**NA**	**NA**	**NA**	**NA**	a

♦ Analyses performed according to the COFRAC accreditation

Protocols 4 and 5 (LSB -With or without FDRS - Easy II lysis)
Extension study (ADRIA Développement 2019)

ENVIRONMENTAL SAMPLES

Date of analysis	Réf	Product (French name)	Product	Reference method NF EN ISO 11290-1♦						Alternative method: iQ-Check *Listeria monocytogenes* LSB for 18 h at 30°C																				Type
				Fraser 1/2		Fraser		Identifications	Result	Protocol 4 Easy II lysis				Protocol 5 FDRS Easy II lysis				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	
				AL	Palcam	AL	Palcam			Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	AL	Palcam	Subculture in Fraser	RLM	RLSP	Identifications								
2019	5593	Eau de rinçage bol (environnement végétaux)	Rinsing water (vegetable environment)	-	st	-	-	/	-	-	-	-	-	-	-	-	-	-	-	-	-	st		-	-	-	-	NA	NA	NA	NA	a
2019	5594	Eau de rinçage bol (environnement végétaux)	Rinsing water (vegetable environment)	-	st	st	st	/	-	-	-	-	-	-	-	-	-	-	-	-	-	st		-	-	-	-	NA	NA	NA	NA	a
2019	**5077**	**Eponge lame cutter (environnement laitier)**	**Sponge (dairy environment)**	st	-	st	-	/	-	32,19	+	32,08	+	32,29	+	32,23	+	H+/H-	+	/	+	+	*L.monocytogenes/ L.innocua L.innocua*	+	+	+	+	PD	PD	PD	PD	b
2019	**5078**	**Eponge paillasse découpe fromage**	**Sponge (dairy environment)**	H+/ /H-	+	H+/ /H-	+	*L.monocytogenes/ L.innocua*	+	-	-	-	-	-	-	-	-	H-	+	/	1+d/	+	*L.innocua*	-	-	-	-	ND	ND	ND	ND	b
2019	5079	Chiffonnette cutter (environnement laitier)	Wipe (dairy environment)	H-	+	H-	+	*L.innocua*	-	37,98/-/-	+/-/-	-	-	-	-	-	-	H-	+	/	-	+	*L.innocua (5x hem-)*	-	-	-	-	PPNA	NA	NA	NA	b
2019	**5082**	**Eponge cutter (environnement végétaux)**	**Sponge (vegetable environment)**	H+	+	H+	+	*L.monocytogenes*	+	33,11	+	33,20	+	33,66	+	33,04	+	H+	+	/	+	+	*L.monocytogenes*	+	+	+	+	PA	PA	PA	PA	b
2019	**5083**	**Eponge balance (environnement végétaux)**	**Sponge (vegetable environment)**	H+	+	H+	+	*L.monocytogenes*	+	33,10	+	33,24	+	33,22	+	33,40	+	H+	+	/	+	+	*L.monocytogenes*	+	+	+	+	PA	PA	PA	PA	b
2019	**5084**	**Chiffonnette outils découpe végétaux**	**Wipe (vegetable environment)**	H+	+	H+	+	*L.monocytogenes*	+	-/39,29/ 37,16	- /+/+	-/-/-	-/-/-	40,90	+	39,34	+	H+	+	/	+	+	*L.monocytogenes*	-	-	+	+	ND	ND	PA	PA	b
2019	**5087**	**Eponge cutter (environnement volaille)**	**Sponge (poultry environment)**	H+/-/H-	+	H+/-/H-	+	*L.innocua*	-	31,06	+	30,93	+	30,78	+	30,68	+	H+	+	/	+	+	*L.monocytogenes*	+	+	+	+	PD	PD	PD	PD	b
2019	5088	Eponge paillasse découpe volaille	Sponge (poultry environment)	H+/+/H-	+	H-	+	*L.monocytogenes/ L.innocua*	+	31,41	+	31,13	+	31,43	+	31,24	+	H+/H-	+	/	+	+	*L.monocytogenes/ L.innocua L.innocua*	+	+	+	+	PA	PA	PA	PA	b
2019	**5089**	**Chiffonnette balance (environnement carné)**	**Wipe (meat environment)**	H+/-/H-	+	H+/+/H-	+	*L.innocua*	-	30,56	+	30,33	+	30,02	+	29,91	+	H+	+	/	+	+	*L.monocytogenes*	+	+	+	+	PD	PD	PD	PD	b
2019	**5578**	**Chiffonnette paillasse découpe végétaux**	**Wipe after cleaning process (vegetable environment)**	H+	+	H+	+	*L.monocytogenes*	+	34,20	+	33,40	+	33,97	+	35,35	+	H+	+	/	+	+(1)	*L.monocytogenes*	+	+	+	+	PA	PA	PA	PA	b
2019	**5579**	**Chiffonnette après nettoyage plan de travail (environnement laitier)**	**Wipe (dairy environment)**	H+	+	H+	+	*L.monocytogenes*	+	33,13	+	34,73	+	33,28	+	33,29	+	H+	+	/	+	st	*L.monocytogenes*	+	+	+	+	PA	PA	PA	PA	b
2019	**5580**	**Chiffonnette cutter (environnement végétaux)**	**Wipe (vegetable environment)**	st	st	st	st	/	-	-	-	-	-	-	-	-	-	st	-	-	-	st		-	-	-	-	NA	NA	NA	NA	b
2019	5581	Chiffonnette après nettoyage balance (environnement carné)	Wipe after cleaning process (meat environment)	-	-	st	-	/	-	-	-	-	-	39,75/ -/-	+/- /-	-	-	st	-	-	-	st		-	-	-	-	NA	NA	PPNA	NA	b
2019	5582	Chiffonnette après nettoyage plan de travail (environnement carné)	Wipe after cleaning process (meat environment)	st	-	st	-	/	-	-	-	-	-	-	-	-	-	st	-	-	-	st		-	-	-	-	NA	NA	NA	NA	b
2019	5583	Chiffonnette cutter (environnement laitier)	Wipe (dairy environment)	st	-	st	-	/	-	-	-	-	-	-	-	-	-	-	-	-	-	st		-	-	-	-	NA	NA	NA	NA	b

Protocols 4 and 5 (LSB -With or without FDRS - Easy II lysis)
Extension study (ADRIA Développement 2019)

ENVIRONMENTAL SAMPLES

Date of analysis	Réf	Product (French name)	Product	Reference method NF EN ISO 11290-1♦						Alternative method: iQ-Check *Listeria monocytogenes* LSB for 18 h at 30°C																					Type
				Fraser 1/2		Fraser		Identifications	Result	Protocol 4 Easy II lysis				Protocol 5 FDRS Easy II lysis				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	
				AL	Palcam	AL	Palcam			Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	AL	Palcam	Subculture in Fraser	RLM	RLSP	Identifications									
2019	5584	Chiffonnette après nettoyage plan de travail (environnement végétaux)	Wipe after cleaning process (vegetable environment)	-	-	-	-	/	-	-	-	-	-	-	-	-	-	st	-	-	-	st		-	-	-	-	NA	NA	NA	NA	b
2019	5585	Chiffonnette paillasse (environnement végétaux)	Wipe (vegetable environment)	st	-	st	-	/	-	-	-	-	-	-	-	-	-	st	-	-	-	st		-	-	-	-	NA	NA	NA	NA	b
2019	5586	Chiffonnette balance (environnement végétaux)	Wipe (vegetable environment)	-	-	-	-	/	-	-	-	-	-	-	-	-	-	-	-	-	-	st		-	-	-	-	NA	NA	NA	NA	b
2019	5587	Eponge cutter (environnement laitier)	Sponge (dairy environment)	st	-	st	-	/	-	-	-	-	-	-	-	-	-	-	-	-	-	st		-	-	-	-	NA	NA	NA	NA	b
2019	5588	Eponge cutter (environnement végétaux)	Sponge (vegetable environment)	-	-	-	-	/	-	-	-	-	-	-	-	-	-	H-d	d	-	-	+		-	-	-	-	NA	NA	NA	NA	b
2019	**4046**	**Déchets saumon**	**Residues (seafood environment)**	H-	+	H-	+	*L.innocua*	-	41,57	+	-/-/-	42,61	37,68	+	36,71	+	H+	+(2)	/	+	+	*L.monocytogenes*	+	+	+	+	PD	PD	PD	PD	c
2019	**4047**	**Déchets poissons**	**Residues (seafood environment)**	H+	+	H+	+	*L.monocytogenes*	+	-	-	-	-	-	-	-	-	st	st	-	st	st	/	-	-	-	-	ND	ND	ND	ND	c
2019	**4048**	**Déchets pareuse**	**Residues (seafood environment)**	H+	+	H+	+	*L.monocytogenes*	+	35,91	+	37,23	+	34,82	+	34,87	+	H+/H-	+	/	+	+	*L.monocytogenes/ L.innocua*	+	+	+	+	PA	PA	PA	PA	c
2019	4049	Déchets thon	Residues (seafood environment)	H-	+	H-	+	*L.innocua*	-	-	-	-	-	-	-	-	-	H-	+	/	-	+	*L.innocua*	-	-	-	-	NA	NA	NA	NA	c
2019	**4050**	**Déchets chantilly**	**Residues (dairy environment)**	st	st	st	st	/	-	32,32	+	33,38	+	32,26	+	33,37	+	H+	+	/	+	+	*L.monocytogenes*	+	+	+	+	PD	PD	PD	PD	c
2019	**4051**	**Déchets chantilly**	**Residues (dairy environment)**	H-	+	H-	+	*L.innocua*	-	37,51	+	38,14	+	36,24	+	39,36	+	H+/H-	+	/	+	+	*L.monocytogenes/ L.innocua*	+	+	+	+	PD	PD	PD	PD	c
2019	4052	Déchets fromage	Residues (dairy environment)	H-	+	H-	+	*L.innocua*	-	-	-	-	-	-	-	-	-	H-	+	/	-	+	*L.innocua*	-	-	-	-	NA	NA	NA	NA	c
2019	4053	Déchets fromage	Residues (dairy environment)	H-	+	H-	+	*L.innocua*	-	-	-	-	-	-	-	-	-	H-	+	/	-	+	*L.innocua*	-	-	-	-	NA	NA	NA	NA	c
2019	4054	Déchets poissons	Residues (seafood environment)	-	-	-	-	/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	/	-	-	-	-	NA	NA	NA	NA	c
2019	4055	Déchets fromage	Residues (dairy environment)	-	-	-	-	/	-	-	-	-	-	-	-	-	-	st	-	-	-	st	/	-	-	-	-	NA	NA	NA	NA	c
2019	4056	Déchets poissons	Residues (seafood environment)	H-d	d	H-d	d	Gram NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	/	-	-	-	-	NA	NA	NA	NA	c
2019	4057	Déchets saumon	Residues (seafood environment)	-	-	-	st	/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	/	-	-	-	-	NA	NA	NA	NA	c
2019	4059	Déchets brocoli	Residues (vegetable environment)	st	-	-	-	/	-	-	-	-	-	-	-	-	-	st	-	-	-	+ (NC on TSYEA)	/	-	-	-	-	NA	NA	NA	NA	c
2019	**4689**	**Déchets saumon**	**Residues (seafood environment)**	H+	+	H+	+	*L.monocytogenes*	+	-	-	-	-	-	-	-	-	-	-	-	-	st	/	-	-	-	-	ND	ND	ND	ND	c
2019	**4690**	**Déchets saumon herbes**	**Residues (seafood environment)**	H+/H-	+	H+/H-	+	*L.monocytogenes/ L.innocua L.innocua*	+	-	-	-	-	-	-	-	-	st	st	-	st	st	/	-	-	-	-	ND	ND	ND	ND	c

Protocols 4 and 5 (LSB -With or without FDRS - Easy II lysis)
Extension study (ADRIA Développement 2019)

ENVIRONMENTAL SAMPLES

Date of analysis	Réf	Product (French name)	Product	Reference method NF EN ISO 11290-1♦						Alternative method: iQ-Check *Listeria monocytogenes* LSB for 18 h at 30°C																				Type
				Fraser 1/2		Fraser		Identifications	Result	Protocol 4 Easy II lysis				Protocol 5 FDRS Easy II lysis				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																
				AL	Palcam	AL	Palcam			Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	Ct FAM	Result	AL	Palcam	Subculture in Fraser	RLM	RLSP	Identifications	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast	APF Classic	APF Fast	
2019	5080	Déchets fromage	Residues (dairy environment)	H-	+	H-	+	*L.innocua*	-	-	-	-	-	-	-	-	-	H-	+	/	-	+	*L.innocua*	-	-	-	-	**NA**	**NA**	**NA**	**NA**	c
2019	**5085**	**Déchets végétaux 4è gamme**	**Residues (vegetable environment)**	H+	+	H+	+	*L.monocytogenes*	+	40,02/-/-	+/-/-	-	-	-	-	-	-	st	st	st	-	st	5x(AL/Pal/F)-	-	-	-	-	**PPND**	**ND**	**ND**	**ND**	c
2019	**5090**	**Déchets viande veau**	**Residues (veal environment)**	H+	+	H+	+	*L.monocytogenes*	+	32,28	+	33,94	+	35,89	+	36,17	+	H+/H-	+	/	+	+	*L.monocytogenes* / *L.innocua*	+	+	+	+	**PA**	**PA**	**PA**	**PA**	c
2019	5589	Poussière aspirateur (environnement laitier)	Dust (dairy environment)	H-	+	-	-	*L.seeligeri*	-	-	-	-	-	-	-	-	-	H-d	d	-	-	+	*L.seeligeri*	-	-	-	-	**NA**	**NA**	**NA**	**NA**	c
2019	5590	Poussière aspirateur (environnement laitier)	Dust (dairy environment)	st	-	st	-	/	-	-	-	-	-	-	-	-	-	st	st	-	st	st		-	-	-	-	**NA**	**NA**	**NA**	**NA**	c

Protocols 4 and 5 (LSB - FDRS - Easy II lysis)
Extension study (ADRIA Développement 2019)

ENVIRONMENTAL SAMPLES

Date of analysis	Réf	Product (French name)	Product	Reference method NF EN ISO 11290-1♦						Alternative method: iQ-Check *Listeria monocytogenes* – LSB for 18 h at 30°C + 72 h at 5°C ± 3°C																	Type
				Fraser 1/2		Fraser		Identifications	Result	Protocol 4 Easy II lysis				Protocol 5 FDRS Easy II lysis				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											
				AL	Palcam	AL	Palcam			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	4060	Eau process (bœuf)	Process water (beef environment)	-	-	-	-	/	-	41,36/40,84/39,51	+/+/+	-	-	-	-	-	-	- (5Fraser/AL/Palcam)	-	-	-	-	PPNA	NA	NA	NA	a
2019	4062	Eau de rinçage végétaux	Rinsing water (vegetable environment)	st	st	-	st	/	-	-	-	-	-	-	-	-	-	/	-	-	-	-	NA	NA	NA	NA	a
2019	**4681**	**Eau process (bœuf)**	**Process water (beef environment)**	H+	+	H+	+	*L.monocytogenes*	+	25,70	+	27,34	+	26,14	+	25,67	+	*L.monocytogenes*	+	+	+	+	PA	PA	PA	PA	a
2019	**4682**	**Eau de rinçage (jambon végétal)**	**Rinsing water (vegetable environment)**	H+	+	H+	+	*L.monocytogenes*	+	26,01	+	27,46	+	26,14	+	27,17	+	*L.monocytogenes/ L.innocua L.innocua*	+	+	+	+	PA	PA	PA	PA	a
2019	**4683**	**Eau rinçage (thon)**	**Rinsing water (seafood environment)**	H+	+	H+	+	*L.monocytogenes*	+	27,11	+	28,71	+	27,97	+	28,09	+	*L.monocytogenes*	+	+	+	+	PA	PA	PA	PA	a
2019	**4684**	**Eau rinçage (saumon)**	**Rinsing water (seafood environment)**	st	st	st	st	/	-	30,22	+	31,08	+	30,70	+	30,52	+	*L.monocytogenes/ L.innocua L.innocua*	+	+	+	+	PD	PD	PD	PD	a
2019	**4685**	**Eau rinçage (saumon)**	**Rinsing water (seafood environment)**	H+	+	H+	+	*L.monocytogenes*	+	26,45	+	27,81	+	27,65	+	27,6	+	*L.monocytogenes*	+	+	+	+	PA	PA	PA	PA	a
2019	**4686**	**Eau rinçage (thon)**	**Rinsing water (seafood environment)**	H+	+	H+	+	*L.monocytogenes*	+	-	-	-	-	-	-	-	-	/	-	-	-	-	ND	ND	ND	ND	a
2019	**4687**	**Eau rinçage (thon)**	**Rinsing water (seafood environment)**	H+/H-	+	H+/H-	+	*L.monocytogenes/ L.innocua L.innocua*	+	30,32	+	31,56	+	31,55	+	31,22	+	*L.monocytogenes/ L.innocua L.innocua*	+	+	+	+	PA	PA	PA	PA	a
2019	**4688**	**Eau rinçage (environnement mer)**	**Rinsing water (seafood environment)**	H+	+	H+	+	*L.monocytogenes*	+	29,82	+	30,88	+	30,88	+	30,8	+	*L.monocytogenes*	+	+	+	+	PA	PA	PA	PA	a
2019	**5081**	**Eau rinçage bol (environnement laitier)**	**Rinsing water (dairy environment)**	H-	+	H-	+	*L.innocua*	-	31,49	+	31,75	+	32,00	+	31,96	+	*L.monocytogenes/ L.innocua*	+	+	+	+	PD	PD	PD	PD	a
2019	**5086**	**Eau rinçage (environnement végétaux)**	**Rinsing water (vegetable environment)**	H+	+	H+	+	*L.monocytogenes*	+	32,79	+	33,06	+	33,75	+	34,18	+	*L.monocytogenes*	+	+	+	+	PA	PA	PA	PA	a
2019	**5091**	**Eau rinçage (environnement vollaile)**	**Rinsing water (poultry environment)**	H+/H-	+	H+/H-	+	*L.monocytogenes/ L.innocua*	+	29,24	+	29,75	+	33,05	+	30,03	+	*L.monocytogenes/ L.innocua*	+	+	+	+	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

♦ Analyses performed according to the COFRAC accreditation

Protocols 4 and 5 (LSB - FDRS - Easy II lysis)
Extension study (ADRIA Développement 2019)

ENVIRONMENTAL SAMPLES

Date of analysis	Réf	Product (French name)	Product	Reference method NF EN ISO 11290-1♦						Alternative method: iQ-Check *Listeria monocytogenes* – LSB for 18 h at 30°C + 72 h at 5°C ± 3°C																Type
				Fraser 1/2		Fraser		Identifications	Result	Protocol 4 Easy II lysis				Protocol 5 FDRS Easy II lysis				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											
				AL	Palcam	AL	Palcam			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	5592	Eau de rinçage bol (environnement laitier)	Rinsing water (dairy environment)	st	st	-	-	/	-	-	-	-	-	-	-	-	-	/	-	-	-	-	NA	NA	NA	NA	a
2019	**5077**	**Eponge lame cutter (environnement laitier)**	**Sponge (dairy environment)**	st	-	st	-	/	-	35,19	+	34,9	+	37,06	+	36,91	+	*L.monocytogenes/ L.innocua L.innocua*	+	+	+	+	PD	PD	PD	PD	b
2019	**5078**	**Eponge paillasse découpe fromage**	**Sponge (dairy environment)**	H+/ /H-	+	H+/ /H-	+	*L.monocytogenes/ L.innocua*	+	-	-	-	-	41,61/40,33/-	+/+/-	-	-	*L.innocua (5x hem-)*	-	-	-	-	ND	ND	PPND	ND	b
2019	5079	Chiffonnette cutter (environnement laitier)	Wipe (dairy environment)	H-	+	H-	+	*L.innocua*	-	-	-	-	-	-	-	-	-	*L.innocua*	-	-	-	-	NA	NA	NA	NA	b
2019	**5082**	**Eponge cutter (environnement végétaux)**	**Sponge (vegetable environment)**	H+	+	H+	+	*L.monocytogenes*	+	31,48	+	31,61	+	31,39	+	31,96	+	*L.monocytogenes*	+	+	+	+	PA	PA	PA	PA	b
2019	**5083**	**Eponge balance (environnement végétaux)**	**Sponge (vegetable environment)**	H+	+	H+	+	*L.monocytogenes*	+	30,85	+	30,81	+	29,44	+	31,15	+	*L.monocytogenes*	+	+	+	+	PA	PA	PA	PA	b
2019	**5084**	**Chiffonnette outils découpe végétaux**	**Wipe (vegetable environment)**	H+	+	H+	+	*L.monocytogenes*	+	39,71	+	39,91	+	37,35	+	39,44	+	*L.monocytogenes*	+	+	+	+	PA	PA	PA	PA	b
2019	**5087**	**Eponge cutter (environnement volaille)**	**Sponge (poultry environment)**	H+/-/H-	+	H+/-/H-	+	*L.innocua*	-	30,12	+	30,72	+	31,35	+	31,6	+	*L.monocytogenes*	+	+	+	+	PD	PD	PD	PD	b
2019	5088	Eponge paillasse découpe volaille	Sponge (poultry environment)	H+/+/H-	+	H-	+	*L.monocytogenes/ L.innocua*	+	30,03	+	29,7	+	29,58	+	30,2	+	*L.monocytogenes/ L.innocua*	+	+	+	+	PA	PA	PA	PA	b
2019	**5089**	**Chiffonnette balance (environnement carné)**	**Wipe (meat environment)**	H+/-/H-	+	H+/+/H-	+	*L.innocua*	-	27,57	+	27,29	+	28,41	+	28,49	+	*L.monocytogenes*	+	+	+	+	PD	PD	PD	PD	b
2019	**5578**	**Chiffonnette paillasse découpe végétaux**	**Wipe after cleaning process (vegetable environment)**	H+	+	H+	+	*L.monocytogenes*	+	30,80	+	30,91	+	30,50	+	30,79	+	*L.monocytogenes*	+	+	+	+	PA	PA	PA	PA	b
2019	**5579**	**Chiffonnette après nettoyage plan de travail (environnement laitier)**	**Wipe (dairy environment)**	H+	+	H+	+	*L.monocytogenes*	+	28,55	+	28,8	+	29,07	+	28,64	+	*L.monocytogenes*	+	+	+	+	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

Protocols 4 and 5 (LSB - FDRS - Easy II lysis)
Extension study (ADRIA Développement 2019)

ENVIRONMENTAL SAMPLES

Date of analysis	Réf	Product (French name)	Product	Reference method NF EN ISO 11290-1♦						Alternative method: iQ-Check *Listeria monocytogenes* LSB for 18 h at 30°C + 72 h at 5°C ± 3°C																	Type
				Fraser 1/2		Fraser		Identifications	Result	Protocol 4 Easy II lysis				Protocol 5 FDRS Easy II lysis				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											
				AL	Palcam	AL	Palcam			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	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)	-	-	-	-	/	-	-	-	-	-	-	-	-	-	/	-	-	-	-	NA	NA	NA	NA	b
2019	**4046**	**Déchets saumon**	**Residues (seafood environment)**	H-	+	H-	+	*L.innocua*	-	38,02	+	35,87	+	36,66	+	35,64	+	*L.monocytogenes*	+	+	+	+	PD	PD	PD	PD	c
2019	**4047**	**Déchets poissons**	**Residues (seafood environment)**	H+	+	H+	+	*L.monocytogenes*	+	-	-	-	-	-	-	-	-	/	-	-	-	-	ND	ND	ND	ND	c
2019	**4048**	**Déchets pareuse**	**Residues (seafood environment)**	H+	+	H+	+	*L.monocytogenes*	+	33,07	+	32,40	+	32,70	+	31,63	+	*L.monocytogenes/ L.innocua*	+	+	+	+	PA	PA	PA	PA	c
2019	4049	Déchets thon	Residues (seafood environment)	H-	+	H-	+	*L.innocua*	-	-	-	-	-	-	-	-	-	*L.innocua*	-	-	-	-	NA	NA	NA	NA	c
2019	**4050**	**Déchets chantilly**	**Residues (dairy environment)**	st	st	st	st	/	-	29,00	+	29,77	+	29,66	+	29,50	+	*L.monocytogenes*	+	+	+	+	PD	PD	PD	PD	c
2019	**4051**	**Déchets chantilly**	**Residues (dairy environment)**	H-	+	H-	+	*L.innocua*	-	33,57	+	34,30	+	33,16	+	32,52	+	*L.monocytogenes/ L.innocua*	+	+	+	+	PD	PD	PD	PD	c
2019	4052	Déchets fromage	Residues (dairy environment)	H-	+	H-	+	*L.innocua*	-	-	-	40,18/-/-	+/-/-	-	-	-	-	*L.innocua (5x hem-)*	-	-	-	-	NA	PPNA	NA	NA	c
2019	4053	Déchets fromage	Residues (dairy environment)	H-	+	H-	+	*L.innocua*	-	-	-	-	-	-	-	-	-	*L.innocua*	-	-	-	-	NA	NA	NA	NA	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	-	-	-	/	-	-	-	-	-	-	-	-	-	/	-	-	-	-	NA	NA	NA	NA	c
2019	**4689**	**Déchets saumon**	**Residues (seafood environment)**	H+	+	H+	+	*L.monocytogenes*	+	-	-	-	-	-	-	-	-	/	-	-	-	-	ND	ND	ND	ND	c
2019	**4690**	**Déchets saumon herbes**	**Residues (seafood environment)**	H+/H-	+	H+/H-	+	*L.monocytogenes/ L.innocua L.innocua*	+	-	-	-	-	-	-	-	-	/	-	-	-	-	ND	ND	ND	ND	c
2019	5080	Déchets fromage	Residues (dairy environment)	H-	+	H-	+	*L.innocua*	-	-	-	-	-	-	-	-	-	*L.innocua*	-	-	-	-	NA	NA	NA	NA	c
2019	**5085**	**Déchets végétaux 4è gamme**	**Residues (vegetable environment)**	H+	+	H+	+	*L.monocytogenes*	+	-	-	-	-	-	-	-	-	/	-	-	-	-	ND	ND	ND	ND	c
2019	**5090**	**Déchets viande veau**	**Residues (veal environment)**	H+	+	H+	+	*L.monocytogenes*	+	30,14	+	30,3	+	33,16	+	32,92	+	*L.monocytogenes/ L.innocua*	+	+	+	+	PA	PA	PA	PA	c

Protocols 4 and 5 (LSB - FDRS - Easy II lysis) Extension study (ADRIA Développement 2019)																												
ENVIRONMENTAL SAMPLES																												
Date of analysis	Réf	Product (French name)	Product	**Reference method NF EN ISO 11290-1♦**						**Alternative method: iQ-Check *Listeria monocytogenes***																	Type
										LSB for 18 h at 30°C + 72 h at 5°C ± 3°C																	
				Fraser 1/2		Fraser		Identifications	Result	Protocol 4 Easy II lysis				Protocol 5 FDRS Easy II lysis				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**											
				AL	Palcam	AL	Palcam			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	5589	Poussière aspirateur (environnement laitier)	Dust (dairy environment)	H-	+	-	-	*L.seeligeri*	-	-	-	-	-	-	-	-	-	/	-	-	-	-	**NA**	**NA**	**NA**	**NA**	c

Appendix 5 – Relative level of detection study: raw data (Extension study, ISHA (2017) - Extension study, ADRIA (2019))

Protocol 1 (ISHA-2017): Half Fraser - Standard II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM: iQ-Check Half Fraser- Standard II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	Results	Identification	Final result	
						O&A	Palcam	O&A	Palcam						
Meat products	O1	Ground beef	LIS.4.26	se	0	0L	0L	0L	0L	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0L	0L	0L	0L	/	-	-	/	-	
	O3					0L	0L	0L	0L	/	-	-	/	-	
	O4					0L	0L	0L	0L	/	-	-	/	-	
	O5					0L	0L	0L	0L	/	-	-	/	-	
	f1				1,2	0M	0H	0M	0L	/	-	-	/	-	RM : 15/20 AM: 15/20
	f2					4h+L	3h-L	3h+L	3h-L	L.m	+	+	L.m	+	
	f3					2h+H	2h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	f4					3h+L	3h-H	4h+L	3h-H	L.m	+	+	L.m	+	
	f5					0L	0H	0L	0L	/	-	-	/	-	
	f6					3h+M	4h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	f7					4h+L	3h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f8					0L	0L	0L	0L	/	-	-	/	-	
	f9					0M	0H	0M	0L	/	-	-	/	-	
	f10					2h+L	2h-L	4h+L	4h-M	L.m	+	+	L.m	+	
	f11					0L	0L	0M	0L	L.m	+	+	L.m	+	
	f12					2h+L	2h-L	4h+L	4h-M	L.m	+	+	L.m	+	
	f13					0L	0L	0L	0L	L.m	+	+	L.m	+	
	f14					3h+L	3h-L	4h+L	3h-M	L.m	+	+	L.m	+	
	f15					0L	0H	0M	0L	/	-	-	/	-	
	f16					4h+L	2h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f17					2h+L	2h-L	4h+L	4h-L	L.m	+	+	L.m	+	
	f18					2h+L	2h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f19					3h+L	2h-L	3h+L	4h-L	L.m	+	+	L.m	+	
	f20					2h+L	2h-M	4h+L	4h-H	L.m	+	+	L.m	+	
	F1				2,8	3h+L	3h-H	3h+L	3h-H	L.m	+	+	L.m	+	RM: 5/5 AM: 5/5
	F2					2h+L	3h-L	2h+L	2h-L	L.m	+	+	L.m	+	
	F3					1h+M	3h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	F4					3h+L	3h-L	3h+L	2h-L	L.m	+	+	L.m	+	
	F5					3h+L	3h-M	4h+L	3h-L	L.m	+	+	L.m	+	

Protocol 1 (ISHA 2017): Half Fraser - Standard II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM : iQ-Check Half Fraser standard II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	Results	Identi-fication	Final result	
						O&A	Palcam	O&A	Palcam						
Dairy products	O1	Raw milk	LIS.4.32	se	0	0M	0L	0L	0L	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0L	0L	0M	0L	/	-	-	/	-	
	O3					0L	0M	0L	0L	/	-	-	/	-	
	O4					0L	0L	0L	0M	/	-	-	/	-	
	O5					0L	0M	0L	0L	/	-	-	/	-	
	f1				0,9	4h+L	3h-L	3h+L	3h-L	L.m	+	-	/	-	RM : 14/20 AM: 15/20
	f2					4h+L	3h-L	3h+L	3h-L	L.m	+	+	L.m	+	
	f3					0L	0L	0L	0L	/	-	+	L.m	+	
	f4					0L	0L	0L	0L	/	-	+	L.m	+	
	f5					3h+L	3h-L	4h+L	3h-L	L.m	+	-	/	-	
	f6					3h+M	4h-L	3h+L	3h-M	L.m	+	+	L.m	+	
	f7					4h+L	3h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f8					0M	0L	0M	0L	/	-	-	/	-	
	f9					3h+L	3h-L	4h+L	3h-L	L.m	+	-	/	-	
	f10					2h+L	2h-L	4h+L	4h-M	L.m	+	+	L.m	+	
	f11					4h+L	3h-L	3h+L	3h-L	L.m	+	+	L.m	+	
	f12					2h+L	2h-L	4h+L	4h-M	L.m	+	+	L.m	+	
	f13					0L	0L	0L	0L	/	-	+	L.m	+	
	f14					3h+L	3h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f15					0L	0L	0L	0L	/	-	-	/	-	
	f16					4h+L	2h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f17					0L	0L	0L	0L	/	-	+	L.m	+	
	f18					2h+L	2h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f19					3h+L	2h-L	3h+L	4h-L	L.m	+	+	L.m	+	
	f20					2h+L	2h-M	4h+L	4h-L	L.m	+	+	L.m	+	
	F1				3,2	3h+L	3h-H	3h+L	3h-H	L.m	+	+	L.m	+	RM 5/5 AM 5/5
	F2					2h+L	3h-L	2h+L	2h-L	L.m	+	+	L.m	+	
	F3					1h+M	3h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	F4					3h+L	3h-L	3h+L	2h-L	L.m	+	+	L.m	+	
	F5					3h+L	3h-M	4h+L	3h-L	L.m	+	+	L.m	+	

Protocol 1 (ISHA 2017): Half Fraser - Standard II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM : iQ-Check Half Fraser- standard II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	Results	Identification	Final result	
						O&A	Palcam	O&A	Palcam						
Sea food products	O1	Cod filet	LIS.4.15	se	0	0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O3					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O4					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O5					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f1				0,7	3h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	RM : 12/20 AM: 12/20
	f2					2h+Ø	2h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f3					0Ø	0Ø	0Ø	0Ø	/	A	-	/	A	
	f4					0Ø	0Ø	0Ø	0Ø	/	A	-	/	A	
	f5					0Ø	0Ø	0Ø	0Ø	/	A	-	/	A	
	f6					0Ø	0Ø	0Ø	0Ø	/	A	-	/	A	
	f7					2h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f8					2h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	f9					0Ø	0Ø	0Ø	0Ø	/	A	-	/	A	
	f10					2h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f11					0Ø	0Ø	0Ø	0Ø	/	A	-	/	A	
	f12					0Ø	0Ø	0Ø	0Ø	/	A	-	/	A	
	f13					3h+Ø	2h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	f14					3h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f15					0Ø	0Ø	0Ø	0Ø	/	A	-	/	A	
	f16					3h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f17					2h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f18					2h+Ø	2h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	f19					3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	f20					2h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F1				2,8	3h+Ø	3hØ	3h+Ø	3hØ	L.m	+	+	L.m	+	RM 5/5 AM 5/5
	F2					4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F3					4h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	F4					3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F5					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	

Protocol 1 (ISHA 2017): Half Fraser - Standard II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM : iQ-Check Half Fraser- standard II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	Results	Identification	Final result	
						O&A	Palcam	O&A	Palcam						
Vegetal products	O1	Salad	LIS.4.35	se	0	0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O3					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O4					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O5					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f1				1	4h+Ø	4h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	RM : 13/20 AM: 13/20
	f2					4h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f3					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f4					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f5					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f6					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f7					4h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f8					4h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f9					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f10					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f11					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f12					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f13					4h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f14					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f15					4h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f16					4h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f17					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f18					3h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f19					3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	f20					4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F1				3,2	3h+Ø	3hØ	3h+Ø	3hØ	L.m	+	+	L.m	+	RM 5/5 AM 5/5
	F2					3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F3					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	F4					3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F5					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	

Protocol 1 (ISHA 2017): Half Fraser - Standard II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM : iQ-Check Half Fraser standard II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Identification	Final result	Results	Identification	Final result	
						O&A	Palcam	O&A	Palcam						
RTE-RTRH	O1	Pasta salad	LIS.4.46	se	0	0L	0L	0H	0L	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0L	0L	0H	0L	/	-	-	/	-	
	O3					0L	0L	0H	0L	/	-	-	/	-	
	O4					0L	0L	0H	0L	/	-	-	/	-	
	O5					0L	0L	0H	0L	/	-	-	/	-	
	f1				0,8	2h+L	2h-L	3h+H	3h-H	L.m	+	+	L.m	+	RM : 15/20 AM: 15/20
	f2					3h+L	3h-L	3h+L	3h-L	L.m	+	+	L.m	+	
	f3					1h+H	1h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	f4					3h+L	3h-H	3h+L	3h-H	L.m	+	+	L.m	+	
	f5					2h+L	2h-L	4h+L	4h-L	L.m	+	+	L.m	+	
	f6					3h+M	3h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	f7					3h+L	3h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f8					0L	0L	0M	0L	/	-	-	/	-	
	f9					2h+L	3h-L	3h+L	3h-M	L.m	+	+	L.m	+	
	f10					0M	0H	0M	0L	/	-	-	/	-	
	f11					0L	0L	0M	0L	/	-	-	/	-	
	f12					2h+L	1h-L	4h+L	3h-M	L.m	+	+	L.m	+	
	f13					0L	0L	0M	0L	/	-	-	/	-	
	f14					3h+L	3h-L	4h+L	3h-M	L.m	+	+	L.m	+	
	f15					3h+L	2h-L	3h+L	3h-M	L.m	+	+	L.m	+	
	f16					3h+L	2h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f17					2h+L	1h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f18					0M	0L	0M	0L	/	-	-	/	-	
	f19					3h+L	2h-L	3h+L	3h-L	L.m	+	+	L.m	+	
	f20					2h+L	2h-M	4h+L	3h-H	L.m	+	+	L.m	+	
	F1				3	3h+L	3h-H	3h+L	3h-H	L.m	+	+	L.m	+	RM 5/5 AM 5/5
	F2					2h+L	3h-L	2h+L	2h-L	L.m	+	+	L.m	+	
	F3					1h+M	3h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	F4					3h+L	3h-L	3h+L	2h-L	L.m	+	+	L.m	+	
	F5					3h+L	3h-M	4h+L	3h-L	L.m	+	+	L.m	+	

Protocol 1 (ISHA 2017): Half Fraser - Standard II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 112390-1						AM : iQ-Check Half Fraser Standard II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Confirmation	Final result	Results	Identification	Final result	
						O&A	Palcam	O&A	Palcam						
Environmetal sample	O1	Processed water	LIS.4.50	se	0	0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O3					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O4					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O5					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f1				1	3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	RM : 12/20 AM: 12/20
	f2					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f3					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f4					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f5					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f6					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f7					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f8					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f9					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f10					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f11					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f12					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f13					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f14					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f15					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f16					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f17					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f18					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f19					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f20					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	F1				3,4	3h+Ø	3hØ	4h+Ø	3hØ	L.m	+	+	L.m	+	RM 5/5 AM 5/5
	F2					4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F3					4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F4					3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F5					3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	

Protocol 2 (ISHA 2017): LSB - Standard II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM : iQ-Check LSB - Standard II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	Results	Identification	Final result	
						O&A	Palcam	O&A	Palcam						
Meat products	O1	Ground beef	LIS.4.26	se	0	0L	0L	0L	0L	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0L	0L	0L	0L	/	-	-	/	-	
	O3					0L	0L	0L	0L	/	-	-	/	-	
	O4					0L	0L	0L	0L	/	-	-	/	-	
	O5					0L	0L	0L	0L	/	-	-	/	-	
	f1				1,2	0M	0H	0M	0L	/	-	+	L.m	+	RM : 15/20 AM: 15/20
	f2					4h+L	3h-L	3h+L	3h-L	L.m	+	+	L.m	+	
	f3					2h+H	2h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	f4					3h+L	3h-H	4h+L	3h-H	L.m	+	-	/	-	
	f5					0L	0H	0L	0L	/	-	+	L.m	+	
	f6					3h+M	4h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	f7					4h+L	3h-L	4h+L	3h-L	L.m	+	-	/	-	
	f8					0L	0L	0L	0L	/	-	+	L.m	+	
	f9					0M	0H	0M	0L	/	-	+	L.m	+	
	f10					2h+L	2h-L	4h+L	4h-M	L.m	+	+	L.m	+	
	f11					0L	0L	0M	0L	L.m	+	-	/	-	
	f12					2h+L	2h-L	4h+L	4h-M	L.m	+	-	/	-	
	f13					0L	0L	0L	0L	L.m	+	+	L.m	+	
	f14					3h+L	3h-L	4h+L	3h-M	L.m	+	+	L.m	+	
	f15					0L	0H	0M	0L	/	-	+	L.m	+	
	f16					4h+L	2h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f17					2h+L	2h-L	4h+L	4h-L	L.m	+	+	L.m	+	
	f18					2h+L	2h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f19					3h+L	2h-L	3h+L	4h-L	L.m	+	-	/	-	
	f20					2h+L	2h-M	4h+L	4h-H	L.m	+	+	L.m	+	
	F1				2,8	3h+L	3h-H	3h+L	3h-H	L.m	+	+	L.m	+	RM: 5/5 AM: 5/5
	F2					2h+L	3h-L	2h+L	2h-L	L.m	+	+	L.m	+	
	F3					1h+M	3h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	F4					3h+L	3h-L	3h+L	2h-L	L.m	+	+	L.m	+	
	F5					3h+L	3h-M	4h+L	3h-L	L.m	+	+	L.m	+	

Protocol 2 (ISHA 2017): LSB - Standard II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM : iQ-Check LSB - Standard II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	Results	Identifi-cation	Final result	
						O&A	Palcam	O&A	Palcam						
Dairy products	O1	Raw milk	LIS.4.32	se	0	0M	0L	0L	0L	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0L	0L	0M	0L	/	-	-	/	-	
	O3					0L	0M	0L	0L	/	-	-	/	-	
	O4					0L	0L	0L	0M	/	-	-	/	-	
	O5					0L	0M	0L	0L	/	-	-	/	-	
	f1				0,9	4h+L	3h-L	3h+L	3h-L	L.m	+	+	L.m	+	RM : 14/20 AM: 11/20
	f2					4h+L	3h-L	3h+L	3h-L	L.m	+	+	L.m	+	
	f3					0L	0L	0L	0L	/	-	-	/	-	
	f4					0L	0L	0L	0L	/	-	-	/	-	
	f5					3h+L	3h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f6					3h+M	4h-L	3h+L	3h-M	L.m	+	+	L.m	+	
	f7					4h+L	3h-L	4h+L	3h-L	L.m	+	-	/	-	
	f8					0M	0L	0M	0L	/	-	+	L.m	+	
	f9					3h+L	3h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f10					2h+L	2h-L	4h+L	4h-M	L.m	+	-	/	-	
	f11					4h+L	3h-L	3h+L	3h-L	L.m	+	+	L.m	+	
	f12					2h+L	2h-L	4h+L	4h-M	L.m	+	-	/	-	
	f13					0L	0L	0L	0L	/	-	-	/	-	
	f14					3h+L	3h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f15					0L	0L	0L	0L	/	-	-	/	-	
	f16					4h+L	2h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f17					0L	0L	0L	0L	/	-	+	L.m	+	
	f18					2h+L	2h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f19					3h+L	2h-L	3h+L	4h-L	L.m	+	-	/	-	
	f20					2h+L	2h-M	4h+L	4h-L	L.m	+	-	/	-	
	F1				3,2	3h+L	3h-H	3h+L	3h-H	L.m	+	+	L.m	+	RM 5/5 AM 5/5
	F2					2h+L	3h-L	2h+L	2h-L	L.m	+	+	L.m	+	
	F3					1h+M	3h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	F4					3h+L	3h-L	3h+L	2h-L	L.m	+	+	L.m	+	
	F5					3h+L	3h-M	4h+L	3h-L	L.m	+	+	L.m	+	

Protocol 2 (ISHA 2017): LSB - Standard II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM : iQ-Check LSB - Standard II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	Results	Identifi-cation	Final result	
						O&A	Palcam	O&A	Palcam						
Sea food products	O1	Cod filet	LIS.4.15	se	0	0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O3					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O4					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O5					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f1				0,7	3h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	RM : 12/20 AM: 11/20
	f2					2h+Ø	2h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f3					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f4					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f5					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f6					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f7					2h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f8					2h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	f9					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f10					2h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	-	/	-	
	f11					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f12					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f13					3h+Ø	2h-Ø	3h+Ø	4h-Ø	L.m	+	-	/	-	
	f14					3h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f15					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f16					3h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f17					2h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f18					2h+Ø	2h-Ø	3h+Ø	4h-Ø	L.m	+	-	/	-	
	f19					3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	f20					2h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	-	/	-	
	F1				2,8	3h+Ø	3hØ	3h+Ø	3hØ	L.m	+	+	L.m	+	RM 5/5 AM 5/5
	F2					4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F3					4h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	F4					3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F5					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	

Protocol 2 (ISHA 2017): LSB - Standard II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM : iQ-Check LSB - Standard II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	Results	Identifi-cation	Final result	
						O&A	Palcam	O&A	Palcam						
Vegetal products	O1	Salad	LIS.4.35	se	0	0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O3					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O4					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O5					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f1				1	4h+Ø	4h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	RM : 13/20 AM: 11/20
	f2					4h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f3					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f4					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f5					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f6					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f7					4h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f8					4h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f9					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f10					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f11					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f12					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f13					4h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f14					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f15					4h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f16					4h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f17					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f18					3h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f19					3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	f20					4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F1				3,2	3h+Ø	3hØ	3h+Ø	3hØ	L.m	+	+	L.m	+	RM 5/5 AM 5/5
	F2					3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F3					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	F4					3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F5					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	

Protocol 2 (ISHA 2017): LSB - Standard II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM : iQ-Check LSB - Standard II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	Results	Identifi-cation	Final result	
						O&A	Palcam	O&A	Palcam						
RTE-RTRH	O1	Pasta salad	LIS.4.46	se	0	0L	0L	0H	0L	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0L	0L	0H	0L	/	-	-	/	-	
	O3					0L	0L	0H	0L	/	-	-	/	-	
	O4					0L	0L	0H	0L	/	-	-	/	-	
	O5					0L	0L	0H	0L	/	-	-	/	-	
	f1				0,8	2h+L	2h-L	3h+H	3h-H	L.m	+	-	/	-	RM : 15/20 AM: 14/20
	f2					3h+L	3h-L	3h+L	3h-L	L.m	+	+	L.m	+	
	f3					1h+H	1h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	f4					3h+L	3h-H	3h+L	3h-H	L.m	+	+	L.m	+	
	f5					2h+L	2h-L	4h+L	4h-L	L.m	+	+	L.m	+	
	f6					3h+M	3h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	f7					3h+L	3h-L	4h+L	3h-L	L.m	+	-	/	-	
	f8					0L	0L	0M	0L	/	-	-	/	-	
	f9					2h+L	3h-L	3h+L	3h-M	L.m	+	+	L.m	+	
	f10					0M	0H	0M	0L	/	-	-	/	-	
	f11					0L	0L	0M	0L	/	-	+	L.m	+	
	f12					2h+L	1h-L	4h+L	3h-M	L.m	+	+	L.m	+	
	f13					0L	0L	0M	0L	/	-	-	/	-	
	f14					3h+L	3h-L	4h+L	3h-M	L.m	+	+	L.m	+	
	f15					3h+L	2h-L	3h+L	3h-M	L.m	+	+	L.m	+	
	f16					3h+L	2h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f17					2h+L	1h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f18					0M	0L	0M	0L	/	-	-	/	-	
	f19					3h+L	2h-L	3h+L	3h-L	L.m	+	+	L.m	+	
	f20					2h+L	2h-M	4h+L	3h-H	L.m	+	+	L.m	+	
	F1				3	3h+L	3h-H	3h+L	3h-H	L.m	+	+	L.m	+	RM 5/5 AM 5/5
	F2					2h+L	3h-L	2h+L	2h-L	L.m	+	+	L.m	+	
	F3					1h+M	3h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	F4					3h+L	3h-L	3h+L	2h-L	L.m	+	+	L.m	+	
	F5					3h+L	3h-M	4h+L	3h-L	L.m	+	+	L.m	+	

Protocol 2 (ISHA 2017): LSB - Standard II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM : iQ-Check LSB - Standard II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	Results	Identification	Final result	
						O&A	Palcam	O&A	Palcam						
Environmetal sample	O1	Processed water	LIS.4.50	se	0	0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O3					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O4					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O5					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f1				1	3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	RM : 12/20 AM: 10/20
	f2					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f3					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f4					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f5					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	-	/	-	
	f6					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	-	/	-	
	f7					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f8					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f9					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f10					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f11					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f12					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f13					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f14					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f15					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	-	/	-	
	f16					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	-	/	-	
	f17					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f18					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f19					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f20					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	F1				3,4	3h+Ø	3hØ	4h+Ø	3hØ	L.m	+	+	L.m	+	RM 5/5 AM 5/5
	F2					4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F3					4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F4					3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F5					3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	P	+	L.m	P	

Protocol 3 (ISHA 2017): LSB - Easy II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM : iQ-Check LSB Easy II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	Results	Identification	Final result	
						O&A	Palcam	O&A	Palcam						
Meat products	O1	Ground beef	LIS.4.26	se	0	0L	0L	0L	0L	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0L	0L	0L	0L	/	-	-	/	-	
	O3					0L	0L	0L	0L	/	-	-	/	-	
	O4					0L	0L	0L	0L	/	-	-	/	-	
	O5					0L	0L	0L	0L	/	-	-	/	-	
	f1				1,2	0M	0H	0M	0L	/	-	+	L.m	+	RM : 15/20 AM: 15/20
	f2					4h+L	3h-L	3h+L	3h-L	L.m	+	+	L.m	+	
	f3					2h+H	2h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	f4					3h+L	3h-H	4h+L	3h-H	L.m	+	-	/	-	
	f5					0L	0H	0L	0L	/	-	+	L.m	+	
	f6					3h+M	4h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	f7					4h+L	3h-L	4h+L	3h-L	L.m	+	-	/	-	
	f8					0L	0L	0L	0L	/	-	+	L.m	+	
	f9					0M	0H	0M	0L	/	-	+	L.m	+	
	f10					2h+L	2h-L	4h+L	4h-M	L.m	+	+	L.m	+	
	f11					0L	0L	0M	0L	L.m	+	-	/	-	
	f12					2h+L	2h-L	4h+L	4h-M	L.m	+	-	/	-	
	f13					0L	0L	0L	0L	L.m	+	+	L.m	+	
	f14					3h+L	3h-L	4h+L	3h-M	L.m	+	+	L.m	+	
	f15					0L	0H	0M	0L	/	-	+	L.m	+	
	f16					4h+L	2h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f17					2h+L	2h-L	4h+L	4h-L	L.m	+	+	L.m	+	
	f18					2h+L	2h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f19					3h+L	2h-L	3h+L	4h-L	L.m	+	-	/	-	
	f20					2h+L	2h-M	4h+L	4h-H	L.m	+	+	L.m	+	
	F1				2,8	3h+L	3h-H	3h+L	3h-H	L.m	+	+	L.m	+	RM: 5/5 AM: 5/5
	F2					2h+L	3h-L	2h+L	2h-L	L.m	+	+	L.m	+	
	F3					1h+M	3h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	F4					3h+L	3h-L	3h+L	2h-L	L.m	+	+	L.m	+	
	F5					3h+L	3h-M	4h+L	3h-L	L.m	+	+	L.m	+	

Protocol 3 (ISHA 2017): LSB - Easy II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM : iQ-Check LSB EasyII lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	Results	Identifi-cation	Final result	
						O&A	Palcam	O&A	Palcam						
Dairy products	O1	Raw milk	LIS.4.32	se	0	0M	0L	0L	0L	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0L	0L	0M	0L	/	-	-	/	-	
	O3					0L	0M	0L	0L	/	-	-	/	-	
	O4					0L	0L	0L	0M	/	-	-	/	-	
	O5					0L	0M	0L	0L	/	-	-	/	-	
	f1				0,9	4h+L	3h-L	3h+L	3h-L	L.m	+	+	L.m	+	RM : 14/20 AM: 11/20
	f2					4h+L	3h-L	3h+L	3h-L	L.m	+	+	L.m	+	
	f3					0L	0L	0L	0L	/	-	-	/	-	
	f4					0L	0L	0L	0L	/	-	-	/	-	
	f5					3h+L	3h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f6					3h+M	4h-L	3h+L	3h-M	L.m	+	+	L.m	+	
	f7					4h+L	3h-L	4h+L	3h-L	L.m	+	-	/	-	
	f8					0M	0L	0M	0L	/	-	+	L.m	+	
	f9					3h+L	3h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f10					2h+L	2h-L	4h+L	4h-M	L.m	+	-	/	-	
	f11					4h+L	3h-L	3h+L	3h-L	L.m	+	+	L.m	+	
	f12					2h+L	2h-L	4h+L	4h-M	L.m	+	-	/	-	
	f13					0L	0L	0L	0L	/	-	-	/	-	
	f14					3h+L	3h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f15					0L	0L	0L	0L	/	-	-	/	-	
	f16					4h+L	2h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f17					0L	0L	0L	0L	/	-	+	L.m	+	
	f18					2h+L	2h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f19					3h+L	2h-L	3h+L	4h-L	L.m	+	-	/	-	
	f20					2h+L	2h-M	4h+L	4h-L	L.m	+	-	/	-	
	F1				3,2	3h+L	3h-H	3h+L	3h-H	L.m	+	+	L.m	+	RM 5/5 AM 5/5
	F2					2h+L	3h-L	2h+L	2h-L	L.m	+	+	L.m	+	
	F3					1h+M	3h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	F4					3h+L	3h-L	3h+L	2h-L	L.m	+	+	L.m	+	
	F5					3h+L	3h-M	4h+L	3h-L	L.m	+	+	L.m	+	

Protocol 3 (ISHA 2017): LSB - Easy II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM : iQ-Check LSB Easy II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	Results	Identification	Final result	
						O&A	Palcam	O&A	Palcam						
Seafood products	O1	Cod filet	LIS.4.15	se	0	0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O3					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O4					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O5					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f1				0,7	3h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	RM : 12/20 AM: 10/20
	f2					2h+Ø	2h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f3					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f4					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f5					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f6					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f7					2h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f8					2h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	f9					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f10					2h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	-	/	-	
	f11					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f12					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f13					3h+Ø	2h-Ø	3h+Ø	4h-Ø	L.m	+	-	/	-	
	f14					3h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f15					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f16					3h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f17					2h+Ø	2h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f18					2h+Ø	2h-Ø	3h+Ø	4h-Ø	L.m	+	-	/	-	
	f19					3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	f20					2h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	-	/	-	
	F1				2,8	3h+Ø	3hØ	3h+Ø	3hØ	L.m	+	+	L.m	+	RM 5/5 AM 5/5
	F2					4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F3					4h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	F4					3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F5					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	

Protocol 3 (ISHA 2017): LSB - Easy II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM : iQ-Check LSB Easy II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	Results	Identifi-cation	Final result	
						O&A	Palcam	O&A	Palcam						
Vegetal products	O1	Salad	LIS.4.35	se	0	0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O3					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O4					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O5					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f1				1	4h+Ø	4h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	RM : 13/20 AM: 11/20
	f2					4h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f3					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f4					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f5					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f6					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f7					4h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f8					4h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f9					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f10					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f11					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f12					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f13					4h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f14					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f15					4h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f16					4h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f17					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f18					3h+Ø	4h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f19					3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	f20					4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F1				3,2	3h+Ø	3hØ	3h+Ø	3hØ	L.m	+	+	L.m	+	RM 5/5 AM 5/5
	F2					3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F3					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	F4					3h+Ø	3h-Ø	3h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F5					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	

Protocol 3 (ISHA 2017): LSB - Easy II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM : iQ-Check LSB Easy II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Identi-fication	Final result	Results	Identifi-cation	Final result	
						O&A	Palcam	O&A	Palcam						
RTE-RTRH	O1	Pasta salad	LIS.4.46	se	0	0L	0L	0H	0L	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0L	0L	0H	0L	/	-	-	/	-	
	O3					0L	0L	0H	0L	/	-	-	/	-	
	O4					0L	0L	0H	0L	/	-	-	/	-	
	O5					0L	0L	0H	0L	/	-	-	/	-	
	f1				0,8	2h+L	2h-L	3h+H	3h-H	L.m	+	-	/	-	RM : 15/20 AM: 14/20
	f2					3h+L	3h-L	3h+L	3h-L	L.m	+	+	L.m	+	
	f3					1h+H	1h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	f4					3h+L	3h-H	3h+L	3h-H	L.m	+	+	L.m	+	
	f5					2h+L	2h-L	4h+L	4h-L	L.m	+	+	L.m	+	
	f6					3h+M	3h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	f7					3h+L	3h-L	4h+L	3h-L	L.m	+	-	/	-	
	f8					0L	0L	0M	0L	/	-	-	/	-	
	f9					2h+L	3h-L	3h+L	3h-M	L.m	+	+	L.m	+	
	f10					0M	0H	0M	0L	/	-	-	/	-	
	f11					0L	0L	0M	0L	/	-	+	L.m	+	
	f12					2h+L	1h-L	4h+L	3h-M	L.m	+	+	L.m	+	
	f13					0L	0L	0M	0L	/	-	-	/	-	
	f14					3h+L	3h-L	4h+L	3h-M	L.m	+	+	L.m	+	
	f15					3h+L	2h-L	3h+L	3h-M	L.m	+	+	L.m	+	
	f16					3h+L	2h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f17					2h+L	1h-L	4h+L	3h-L	L.m	+	+	L.m	+	
	f18					0M	0L	0M	0L	/	-	-	/	-	
	f19					3h+L	2h-L	3h+L	3h-L	L.m	+	+	L.m	+	
	f20					2h+L	2h-M	4h+L	3h-H	L.m	+	+	L.m	+	
	F1				3	3h+L	3h-H	3h+L	3h-H	L.m	+	+	L.m	+	RM 5/5 AM 5/5
	F2					2h+L	3h-L	2h+L	2h-L	L.m	+	+	L.m	+	
	F3					1h+M	3h-M	3h+L	3h-M	L.m	+	+	L.m	+	
	F4					3h+L	3h-L	3h+L	2h-L	L.m	+	+	L.m	+	
	F5					3h+L	3h-M	4h+L	3h-L	L.m	+	+	L.m	+	

Protocol 3 (ISHA 2017): LSB - Easy II lysis

Category	SN	Sample	Contamination			RM: NF EN ISO 11290-1						AM : iQ-Check LSB - Easy II lysis			Number of positive results per method
			Strain	Type	Level	Half Fraser		Fraser		Confir-mation	Final result	Results	Identi-fication	Final result	
						O&A	Palcam	O&A	Palcam						
Environmetal sample	O1	Processed water	LIS.4.50	se	0	0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	RM : 0/5 AM : 0/5
	O2					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O3					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O4					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	O5					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f1				1	3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	RM : 12/20 AM: 10/20
	f2					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f3					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f4					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f5					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	-	/	-	
	f6					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	-	/	-	
	f7					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f8					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f9					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f10					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	-	/	-	
	f11					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f12					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f13					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f14					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f15					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	-	/	-	
	f16					3h+Ø	3h-Ø	3h+Ø	3h-Ø	L.m	+	-	/	-	
	f17					0Ø	0Ø	0Ø	0Ø	/	-	+	L.m	+	
	f18					3h+Ø	3h-Ø	4h+Ø	3h-Ø	L.m	+	+	L.m	+	
	f19					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	f20					0Ø	0Ø	0Ø	0Ø	/	-	-	/	-	
	F1				3,4	3h+Ø	3hØ	4h+Ø	3hØ	L.m	+	+	L.m	+	RM 5/5 AM 5/5
	F2					4h+Ø	4h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F3					4h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F4					3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	
	F5					3h+Ø	3h-Ø	4h+Ø	4h-Ø	L.m	+	+	L.m	+	

Protocol 4 (ADRIA 2019): LSB - Easy II lysis

Production environmental samples: Process water **ADRIA Développement (Extension, 2019)**

***L. monocytogenes* Ad2503** Aerobic mesophilic flora :8,0.10^2 CFU/g

Sample N°	Inoculation level	Reference method: ISO 11290-1/A1♦						Alternative method: iQ-Check *Listeria monocytogenes*												
		Fraser 1/2		Fraser 1		Final result	Positive / total	Easy II lysis without FDRS LSB 18h 30°C				Confirmation					Final result without FDRS		Positive / total	
								APF Classic		APF Fast										
		O&A	Palcam	O&A	Palcam			Ct FAM	Result	Ct FAM	Result	AL	Palcam	RLM	RLSP	Result	APF Classic	APF Fast	APF Classic	APF Fast
4575	0	-	-	-	-	-	0/5	-	-	-	-	st	st	-	st	-	-	-	0/5	0/5
4576		st	-	-	-	-		-	-	-	-	st	st	-	st	-	-	-		
4577		-	-	-	-	-		-	-	-	-	st	-	-	st	-	-	-		
4578		-	-	st	-	-		-	-	-	-	st	st	-	st	-	-	-		
4579		st	-	st	-	-		-	-	-	-	st	st	-	st	-	-	-		
4648	0,7	st	-	st	-	-	11/20	36,15	+	37,52	+	H+	+	+	+	+	+	+	6/20	7/20
4649		H+	+	H+	+	+		-	-	-	-	st	st	st	st	-	-	-		
4650		st	-	st	-	-		37,83	+	36,73	+	H+	+	+	+	+	+	+		
4651		H+	+	H+	+	+		-	-	-	-	st	st	st	st	-	-	-		
4652		st	-	st	-	-		37,68	+	37,44	+	H+	+	+	+	+	+	+		
4653		H+	+	H+	+	+		-	-	-	-	st	-	st	st	-	-	-		
4654		H+	+	H+	+	+		-	-	-	-	st	st	-	st	-	-	-		
4655		st	-	-	-	-		40,40	+	38,89	+	H+	+	+	+	+	+	+		
4656		st	-	st	-	-		-	-	-	-	st	st	st	st	-	-	-		
4657		H+	+	H+	+	+		-	-	-	-	st	-	-	st	-	-	-		
4658		H+	+	H+	+	+		-	-	-	-	st	st	-	st	-	-	-		
4659		H+	+	H+	+	+		-	-	-	-	st	st	-	st	-	-	-		
4660		st	-	-	-	-		-	-	-	-	st	st	st	st	-	-	-		
4661		st	-	-	-	-		-	-	-	-	st	st	-	st	-	-	-		
4662		H+	+	H+	+	+		37,81	+	39,27	+	H+	+	+	+	+	+	+		
4663		st	-	st	-	-		-	-	-	-	st	st	st	st	-	-	-		
4664		H+	+	H+	+	+		-	-	-	-	st	st	-	st	-	-	-		
4665		st	-	st	-	-		37,59	+	42,77	+	H+	+	+	+	+	+	+		
4666		H+	+	H+	+	+		-	-	-	-	st	st	-	st	-	-	-		
4667		H+	+	H+	+	+		-/41,29/39,66	-/+/+	39,12	+	H+	+	+	+	+	-	+		
4668	2,7	st	st	st	st	-	4/5	35,10	+	36,29	+	H+	+	+	+	+	+	+	5/5	5/5
4669		H+	+	H+	+	+		36,03	+	37,18	+	H+	+	+	+	+	+	+		
4670		H+	+	H+	+	+		38,78	+	38,15	+	H+	+	+	+	+	+	+		
4671		H+	+	H+	+	+		36,35	+	36,87	+	H+	+	+	+	+	+	+		
4672		H+	+	H+	+	+		37,32	+	36,37	+	H+	+	+	+	+	+	+		

♦ Analyses performed according to the COFRAC accreditation

Protocol 5 (ADRIA 2019): LSB - Easy II lysis

Production environmental samples: Process water **ADRIA Développement (Extension, 2019)**

***L. monocytogenes* Ad2503** Aerobic mesophilic flora :8,0.10^2 CFU/g

Sample N°	Inoculation level	Reference method: ISO 11290-1/A1♦						Alternative method: iQ-Check *Listeria monocytogenes*								
		Fraser 1/2		Fraser 1		Final result	Positive / total	Easy II with FDRS LSB 18h 30°C				Confirmation	Final result with FDRS		Positive / total	
								APF Classic		APF Fast						
		O&A	Palcam	O&A	Palcam			Ct FAM	Result	Ct FAM	Result		APF Classic	APF Fast	APF Classic	APF Fast
4575	0	-	-	-	-	-	0/5	-	-	-	-	-	-	-	0/5	0/5
4576		st	-	-	-	-		-	-	-	-	-	-	-		
4577		-	-	-	-	-		-	-	-	-	-	-	-		
4578		-	-	st	-	-		-	-	-	-	-	-	-		
4579		st	-	st	-	-		-	-	-	-	-	-	-		
4648	0,7	st	-	st	-	-	11/20	36,28	+	37,02	+	+	+	+	6/20	7/20
4649		H+	+	H+	+	+		-	-	-	-	-	-	-		
4650		st	-	st	-	-		35,48	+	36,77	+	+	+	+		
4651		H+	+	H+	+	+		-	-	-	-	-	-	-		
4652		st	-	st	-	-		36,18	+	37,71	+	+	+	+		
4653		H+	+	H+	+	+		-	-	-	-	-	-	-		
4654		H+	+	H+	+	+		-	-	-	-	-	-	-		
4655		st	-	-	-	-		38,14	+	39,78	+	+	+	+		
4656		st	-	st	-	-		-	-	-	-	-	-	-		
4657		H+	+	H+	+	+		-	-	-	-	-	-	-		
4658		H+	+	H+	+	+		-	-	-	-	-	-	-		
4659		H+	+	H+	+	+		-	-	-	-	-	-	-		
4660		st	-	-	-	-		-	-	-	-	-	-	-		
4661		st	-	-	-	-		-	-	-	-	-	-	-		
4662		H+	+	H+	+	+		38,20	+	38,72	+	+	+	+		
4663		st	-	st	-	-		-	-	-	-	-	-	-		
4664		H+	+	H+	+	+		-	-	-	-	-	-	-		
4665		st	-	st	-	-		38,42	+	37,54	+	+	+	+		
4666		H+	+	H+	+	+		-	-	-	-	-	-	-		
4667		H+	+	H+	+	+		-/38,36/-	-/+/-	41,27	+	+	-	+		
4668	2,7	st	st	st	st	-	4/5	35,59	+	37,18	+	+	+	+	5/5	5/5
4669		H+	+	H+	+	+		36,11	+	36,55	+	+	+	+		
4670		H+	+	H+	+	+		37,24	+	37,03	+	+	+	+		
4671		H+	+	H+	+	+		37,15	+	38,19	+	+	+	+		
4672		H+	+	H+	+	+		36,93	+	36,28	+	+	+	+		

♦ Analyses performed according to the COFRAC accreditation

Appendix 6 – Inclusivity and exclusivity study: raw data
(Initial validation study, IPL (2005 - 2006) - Extension study, ADRIA (2019))

INCLUSIVITY - Half Fraser (Initial validation - IPL 2005)						
Code	Strain	Origin	Inoculation level	Pure DNA		Results
				Ct FAM	Ct C. int	
A20	*Listeria monocytogenes*	Raw milk cheese	6,9	21,4	35,4	+
L11	*Listeria monocytogenes*	Spinach	6,1	25,0	34,8	+
L121	*Listeria monocytogenes*	Cheese	6,5	26,7	35,5	+
L123	*Listeria monocytogenes*	Mozzarella	7,4	27,1	34,6	+
L124	*Listeria monocytogenes*	Perch fillet	7,4	27,8	34,0	+
L125	*Listeria monocytogenes*	Fried vegetables	10,9	28,6	33,9	+
L130	*Listeria monocytogenes*	Minced meat	6,9	25,6	34,3	+
L20	*Listeria monocytogenes*	Salmon	7,1	27,5	35,5	+
L25	*Listeria monocytogenes*	Hen	8,8	29,0	34,6	+
L69	*Listeria monocytogenes*	Sausage	8,8	26,7	33,8	+
L70	*Listeria monocytogenes*	Smoked salmon	5,9	25,7	34,5	+
L7	*Listeria monocytogenes* 1/2a	Munster	10,8	28,1	34,8	+
L10	*Listeria monocytogenes* 1/2a	Rillettes	7,6	28,1	35,0	+
L116	*Listeria monocytogenes* 1/2a	Fish	5,4	22,1	34,6	+
L119	*Listeria monocytogenes* 1/2a	Munster	13,3	28,4	33,6	+
L12	*Listeria monocytogenes* 1/2a	Smoked salmon	7,1	30,6	34,5	+
L129	*Listeria monocytogenes* 1/2a	Fried potatoes	5,1	29,3	34,5	+
L4	*Listeria monocytogenes* 1/2a	ATTCC 35152	8,3	27,0	33,9	+
L40	*Listeria monocytogenes* 1/2a	Munster	6,9	27,0	35,9	+
L42	*Listeria monocytogenes* 1/2a	Chicken cutlet	9,5	29,0	34,4	+
L43	*Listeria monocytogenes* 1/2a	Minced meat	6,3	27,7	33,8	+
L44	*Listeria monocytogenes* 1/2a	Sausage	5,7	27,9	33,6	+
L45	*Listeria monocytogenes* 1/2a	Rabbit terrine	6,1	25,9	34,1	+
L47	*Listeria monocytogenes* 1/2a	Fried potatoes	5,2	30,4	34,6	+
L5	*Listeria monocytogenes* 1/2a	Smoked salmon baccn	5,5	25,9	35,6	+
L6	*Listeria monocytogenes* 1/2a	Pizza	5,4	30,7	34,5	+
L13	*Listeria monocytogenes* 1/2b	Pork ear	4,9	24,8	34,4	+
L37	*Listeria monocytogenes* 1/2b	Raw milk maroilles	6,0	22,9	35,4	+
L48	*Listeria monocytogenes* 1/2b	Pork tongue	7,6	32,1	34,3	+
L49	*Listeria monocytogenes* 1/2b	Chicken liver cream	4,3	32,5	34,6	+
L51	*Listeria monocytogenes* 1/2b	Ripened cheese	3,9	33,5	34,6	+
L52	*Listeria monocytogenes* 1/2b	SLCC 2755	2,7	33,4	33,7	+
L117	*Listeria monocytogenes* 1/2c	Montbéliard sausage	5,0	21,9	34,0	+
L14	*Listeria monocytogenes* 1/2c	Minced meat	4,9	33,2	33,8	+
L15	*Listeria monocytogenes* 1/2c	Beef	6,8	25,5	34,6	+
L17	*Listeria monocytogenes* 1/2c	Pork breast	9,2	29,5	34,5	+
L18	*Listeria monocytogenes* 1/2c	Munster	2,7	30,8	34,1	+
L53	*Listeria monocytogenes* 1/2c	Chopped steak	4,4	30,7	33,9	+
L54	*Listeria monocytogenes* 1/2c	Beef Burgundy	8,4	29,4	34,4	+

INCLUSIVITY - Half Fraser (Initial validation - IPL 2005)						
Code	Strain	Origin	Inoculation level	Pure DNA		Results
				Ct FAM	Ct C. int	
L55	*Listeria monocytogenes* 3b	SLCC 2540	8,7	30,7	33,0	+
L56	*Listeria monocytogenes* 3c	SLCC 2479	9,1	26,4	33,9	+
L57	*Listeria monocytogenes* 4a	ATCC 19114	5,4	42,3	33,5	+
L32	*Listeria monocytogenes* 4b	Munster	7,1	25,6	34,3	+
L33	*Listeria monocytogenes* 4b	ATCC 19115	4,3	29,3	34,4	+
L58	*Listeria monocytogenes* 4b	Salad	6,1	27,1	34,6	+
L60	*Listeria monocytogenes* 4d	ATCC	7,8	30,7	33,6	+
L61	*Listeria monocytogenes* 4e	ATCC 19118	7,3	31,8	34,1	+
L62	*Listeria monocytogenes* 4e	Reblochon	7,4	28,2	34,3	+
L63	*Listeria monocytogenes* 4e	Munster	7,0	27,3	34,9	+
L67	*Listeria monocytogenes* 7	SLCC 2482	8,3	30,4	33,5	+

AL: Agar *Listeria* RLM: RAPID'*L.mono* RLSP: RAPID'*Listeria* spp.

INCLUSIVITY Extension study (ADRIA Développement - 2019)												
						LSB for 18h at 30°C - FDRS Easy II Protocol						
N°	Strain	Species	Reference	Molecular serotypes	Origin	Inoculation level in 225ml LSB broth	CT FAM	Result	10µl AL	10 µl Palcam	0,1ml RLM	0,1ml RLSP
1	*Listeria*	*monocytogenes*	153	VI b	Soft cheese (Munster)	35	24,98	+	H+	+	+	+
2	*Listeria*	*monocytogenes*	1011/1410	II a	Frozen broccoli	31	26,09	+	H+	+	+	+
3	*Listeria*	*monocytogenes*	1972/2399	VI b	Puff pastry with mushrooms	28	28,24	+	H+	+	+	+
4	*Listeria*	*monocytogenes*	1973/2400	VI b	Puff pastry egg and ham (Quiche lorraine)	16	26,04	+	H+	+	+	+
5	*Listeria*	*monocytogenes*	2407/3139	IV b	Tripes with tomatoes	27	25,41	+	H+	+	+	+
6	*Listeria*	*monocytogenes*	2760/3145	II a	Raw bacon	29	25,84	+	H+	+	+	+
7	*Listeria*	*monocytogenes*	32.183	II b	Croque-Monsieur	32	24,56	+	H+	+	+	+
8	*Listeria*	*monocytogenes*	38/181	II a	Toulouse sausages	22	25,68	+	H+	+	+	+
9	*Listeria*	*monocytogenes*	5721/6179	IV b	Smoked bacon	18	26,25	+	H+	+	+	+
10	*Listeria*	*monocytogenes*	7111/7516	IV b	Pâté (Rillettes)	36	24,29	+	H+	+	+	+
11	*Listeria*	*monocytogenes*	850/109	II a	RTE food (deli salad with seafood)	16	27,43	+	H+	+	+	+
12	*Listeria*	*monocytogenes*	877/113	II a	Environmental sample (pastry)	14	26,79	+	H+	+	+	+
13	*Listeria*	*monocytogenes*	913/1048	IV b	Black pudding	9	28,85	+	H+	+	+	+
14	*Listeria*	*monocytogenes*	A00C014	II a	Sausage	35	26,38	+	H+	+	+	+
15	*Listeria*	*monocytogenes*	A00C022	II a	Merguez	20	26,38	+	H+	+	+	+
16	*Listeria*	*monocytogenes*	A00C024	II a	Sausage	21	24,76	+	H+	+	+	+
17	*Listeria*	*monocytogenes*	A00C036	II a	Poultry (guinea)	13	25,14	+	H+	+	+	+
18	*Listeria*	*monocytogenes*	A00C039	II a	Sausages	11	25,11	+	H+	+	+	+
19	*Listeria*	*monocytogenes*	A00C040	IV b	Cooked delicatessen (Museau)	21	26,22	+	H+	+	+	+
20	*Listeria*	*monocytogenes*	A00C041	La	Sausage	15	25,38	+	H+	+	+	+
21	*Listeria*	*monocytogenes*	A00C042	IV b	Raw sausage	23	25,51	+	H+	+	+	+
22	*Listeria*	*monocytogenes*	A00C043	II a	Smoked Bacon	35	26,40	+	H+	+	+	+
23	*Listeria*	*monocytogenes*	A00C044	II b	Poultry (duck)	36	28,68	+	H+	+	+	+
24	*Listeria*	*monocytogenes*	A00C052	II b	RTE food (Osso bucco with turkey)	20	24,55	+	H+	+	+	+
25	*Listeria*	*monocytogenes*	A00C053	II a	Gizzards	37	25,82	+	H+	+	+	+
26	*Listeria*	*monocytogenes*	A00C054	IV b	Beef hart	34	29,34	+	H+	+	+	+
27	*Listeria*	*monocytogenes*	A00C055	II a	Raw sausages	23	31,48	+	H+	+	+	+

INCLUSIVITY Extension study (ADRIA Développement - 2019)												
						LSB for 18h at 30°C - FDRS Easy II Protocol						
N°	Strain	Species	Reference	Molecular serotypes	Origin	Inoculation level in 225ml LSB broth	CT FAM	Result	10µl AL	10 µl Palcam	0,1ml RLM	0,1ml RLSP
28	*Listeria*	*monocytogenes*	A00E008	II a	Environmental sample	19	31,34	+	H+	+	+	+
29	*Listeria*	*monocytogenes*	A00E049	II a	Environmental sample (smoked salmon)	25	31,62	+	H+	+	+	+
30	*Listeria*	*monocytogenes*	A00E082	II a	Environmental sample (smoked salmon)	22	31,42	+	H+	+	+	+
31	*Listeria*	*monocytogenes*	A00L097	II a	Milk	40	33,06	+	H+	+	+	+
32	*Listeria*	*monocytogenes*	A00M009	II a	Smoked salmon	23	33,06	+	H+	+	+	+
33	*Listeria*	*monocytogenes*	A00M032	IV b	Smoked salmon	25	31,90	+	H+	+	+	+
34	*Listeria*	*monocytogenes*	A00M045	II a	Smoked salmon	26	32,73	+	H+	+	+	+
35	*Listeria*	*monocytogenes*	A00M088	II a	Smoked salmon	40	29,63	+	H+	+	+	+
36	*Listeria*	*monocytogenes*	Ad235	II b	Poultry	26	30,41	+	H+	+	+	st (24h) + (48 h)
37	*Listeria*	*monocytogenes*	Ad253	II b	Hard cheese	42	34,53	+	H+	+	+	st (24h) + (48 h)
38	*Listeria*	*monocytogenes*	Ad260	II a	Semi hard cheese	23	32,20	+	H+	+	+	+
39	*Listeria*	*monocytogenes*	Ad265	II b	Tong	26	32,13	+	H+	+	+	+
40	*Listeria*	*monocytogenes*	Ad266	II a	Poultry	36	31,23	+	H+	+	+	+
41	*Listeria*	*monocytogenes*	Ad267	II b	Dry sausage	21	36,43	+	H+	+	+	+
42	*Listeria*	*monocytogenes*	Ad268	IV b	Cured ham	20	29,19	+	H+	+	+	+
43	*Listeria*	*monocytogenes*	Ad270	IV b	Fermented sausage	37	30,36	+	H+	+	+	+
44	*Listeria*	*monocytogenes*	Ad272	IV b	Fermented sausage	28	- (1/10) 33,32	invalid (1/10) +	H+	+	+	+
45	*Listeria*	*monocytogenes*	Ad273	II b	Cured delicatessen	21	30,33	+	H+	+	+	+
46	*Listeria*	*monocytogenes*	Ad274	II a	Ready-to-eat food (Asiatic meal)	22	28,85	+	H+	+	whites colonies	+
47	*Listeria*	*monocytogenes*	Ad534	II b	Fruits	21	29,18	+	H+	+	+	+
48	*Listeria*	*monocytogenes*	Ad548	II a	Environment (seafood)	25	30,06	+	H+	+	+	+
49	*Listeria*	*monocytogenes*	Ad623	II b	Bread crumbs	20	- (1/10) 30,20	invalid (1/10) +	H+	+	+	+
50	*Listeria*	*monocytogenes*	Ad665	II a	Raw milk	32	29,01	+	H+	+	+	+

EXCLUSIVITY (2005) (Initial validation - IPL 2005)													
Code	Strain		Origin	Inoculation level into 225 ml of Half Fraser	Pure DNA		Results	Streaking onto TSAYE	Inoculation level into 225 ml	Pure DNA		Results	Streaking onto TSAYE
					Ct FAM	Ct C. int				Ct FAM	Ct C. int		
L64	*Listeria*	*innocua*	Epoisses	6,70E+04	N/A	33,5	-	/	/	/	/	/	/
L71	*Listeria*	*innocua*	Avesnes dumpling	6,70E+04	N/A	33	-	/	/	/	/	/	/
L78	*Listeria*	*innocua*	Cockerel	3,40E+04	N/A	31,6	-	/	/	/	/	/	/
L77	*Listeria*	*innocua 6a*	Toulouse sausage	6,80E+04	N/A	33,3	-	/	/	/	/	/	/
L76	*Listeria*	*innocua 6b*	Chopped steak	1,80E+04	N/A	33,4	-	/	/	/	/	/	/
L80	*Listeria*	*ivanovii*	Collection	2,60E+04	N/A	33,2	-	/	/	/	/	/	/
L151	*Listeria*	*ivanovii*	Ground beef pavement	6,20E+04	N/A	33,2	-	/	/	/	/	/	/
L133	*Listeria*	*ivanovii*	Roquefort	7,90E+04	N/A	33,2	-	/	/	/	/	/	/
L146	*Listeria*	*grayii*	Collection	3,60E+04	N/A	33,7	-	/	/	/	/	/	/
L143	*Listeria*	*grayii*	Frozen fries	2,20E+04	N/A	33,7	-	/	/	/	/	/	/
L142	*Listeria*	*seeligeri*	Raw milk cheese	5,90E+04	N/A	34,3	-	/	/	/	/	/	/
L84	*Listeria*	*seeligeri*	Chopped steak	7,80E+04	N/A	34,4	-	/	/	/	/	/	/
L91	*Listeria*	*welshimeri*	Rosette	1,25E+05	N/A	34,9	-	/	/	/	/	/	/
L99	*Listeria*	*welshimeri*	Sausage	1,02E+05	N/A	34,8	-	/	/	/	/	/	/
L87	*Listeria*	*welshimeri*	Chopped steak	7,70E+04	N/A	33,9	-	/	/	/	/	/	/
L83	*Listeria*	*seeligeri*	Pork tongue in jelly	7,50E+05	N/A	33,7	-	/	/	/	/	/	/
BA1	*Bacillus*	*cereus*	Egg	9,00E+04	N/A	31,2	-	+	/	/	/	/	/
BA5	*Bacillus*	*sphaericus*	Meat product	2,00E+04	N/A	33,8	-	+	/	/	/	/	/
BA4	*Bacillus*	*stearothermophilus*	Dairy product	1,10E+05	N/A	31,2	-	+	/	/	/	/	/
15	*Brochotrix*		Minced meat	4,80E+04	N/A	33,8	-	+	/	/	/	/	/
Le3	*Candida*	*albicans*	Collection	7,30E+04	N/A	31,4	-	+	/	/	/	/	/
26	*Corynebacteria*	*aquaticum*	Raw milk cheese	6,70E+04	N/A	31,0	-	+	/	/	/	/	/
3	*Corynebacteria*	*spp.*	Collection	1,60E+05	N/A	31,9	-	+	/	/	/	/	/
E1	*Enterococcus*	*faecalis*	Egg	7,30E+04	N/A	34	-	+	/	/	/	/	/
E6	*Enterococcus*	*faecalis*	ATCC 19433 Collection	2,40E+05	N/A	31,2	-	+	/	/	/	/	/

EXCLUSIVITY (2005) (Initial validation - IPL 2005)												
Code	Strain	Origin	Inoculation level into 225 ml of Half Fraser	Pure DNA		Results	Streaking onto TSAYE	Inoculation level into 225 ml	Pure DNA		Results	Streaking onto TSAYE
				Ct FAM	Ct C. int				Ct FAM	Ct C. int		
E2	*Enterococcus faecium*	ATCC 3286 Collection	2,50E+05 1,40E+05	31,5 33,7	37,6 38,8	+ +	+ +	4,60E+04	N/A	34,5	-	+
E7	*Enterococcus faecium*	CIP 5433 Collection	2,60E+05	N/A	31,3	-	+	/	/	/	/	/
L139	*Jonesia denitrificans*	Collection	3,20E+05	N/A	33,6	-	+	/	/	/	/	/
22	*Lactobacillus plantarum*	Dairy product	2,00E+05	N/A	31,4	-	+	/	/	/	/	/
M3	*Micrococcus spp.*	Environment	6,80E+04	N/A	33,9	-	+	/	/	/	/	/
32	*Rhodococcus aqui*	Meat product	3,80E+04	N/A	33,7	-	+	/	/	/	/	/
Le5	*Saccharymoces cerevisiae*	Coffee extract	1,10E+05	N/A	33,9	-	+	/	/	/	/	/
ST17	*Staphylococcus aureus*	Yogurt	2,20E+04	N/A	33,8	-	+	/	/	/	/	/

EXCLUSIVITY (Extension study - IPL (2006)							
Code	Strain		Origin	Inoculation level in nutritive broth	Pure DNA		Results
					Ct FAM	Ct C. int	
L1	*Listeria*	*grayi*	Frozen fries	1,00E+05	N/A	25,75	-
L140	*Listeria*	*grayi*	ATCC 19120	1,00E+05	N/A	25,71	-
L142	*Listeria*	*innocua*	Gozgonzola	1,00E+05	N/A	25,87	-
L146	*Listeria*	*innocua*	Smoked halibut	1,00E+06	N/A	25,23	-
L147	*Listeria*	*innocua*	Epoisses	3,00E+05	N/A	24,92	-
L154	*Listeria*	*innocua*	Epoisses	4,50E+05	N/A	25,79	-
L155	*Listeria*	*innocua*	Spinach	4,00E+05	N/A	25,88	-
L157	*Listeria*	*innocua*	Avesnes dumplings	4,00E+05	N/A	25,85	-
L158	*Listeria*	*innocua*	Cockerel	3,50E+05	N/A	25,96	-
L159	*Listeria*	*innocua 6a*	Toulouse sausage	4,00E+05	N/A	25,44	-
L173	*Listeria*	*innocua 6b*	Grounded beef	4,50E+05	N/A	26,39	-
L175	*Listeria*	*innocua 6a*	ATCC 33090	1,50E+05	N/A	26,26	-
L180	*Listeria*	*ivanovii*	Grounded beef	4,50E+05	N/A	25,98	-
L182	*Listeria*	*ivanovii*	Smear environment	1,02E+05	N/A	25,71	-
L3	*Listeria*	*ivanovii*	Collection	3,70E+05	N/A	25,05	-
L82	*Listeria*	*ivanovii*	Anti-bird net	1,50E+05	N/A	26,55	-
(C11)	*Listeria*	*ivanovii*	Environmental waste	1,00E+06	N/A	30,27	-
L85	*Listeria*	*seeligeri*	Sewer water	1,00E+05	N/A	24,98	-
L86	*Listeria*	*seeligeri*	Grounded beef	1,40E+05	N/A	25,51	-
L87	*Listeria*	*seeligeri 1/2b*	Tongue	3,00E+05	N/A	25,20	-
L90	*Listeria*	*welshimeri*	Spread dough	1,00E+05	N/A	25,52	-
L91	*Listeria*	*welshimeri*	Ham	1,00E+05	N/A	25,40	-
BA2	*Bacillus*	*cereus*	Beet	3,00E+05	N/A	25,70	-
BA4	*Bacillus*	*stearothermophilus*	Dairy product	3,00E+05	N/A	24,72	-
BA5	*Bacillus*	*sphaericus*	Meat product	2,00E+05	N/A	25,37	-
BA7	*Bacillus*	*coagulans*	Collection	5,00E+05	N/A	25,49	-
E1	*Enterococcus*	*faecalis*	Egg product	3,00E+05	N/A	25,97	-
E2	*Enterococcus*	*faecium*	ATCC 3286 Collection	3,00E+05	N/A	26,30	-
E3	*Streptococcus*	*bovis*	Collection	2,30E+05	N/A	25,24	-
E6	*Enterococcus*	*faecalis*	ATCC 19433 Collection	4,00E+05	N/A	26,40	-
E7	*Enterococcus*	*faecium*	PAC 5433 Collection	6,70E+05	N/A	25,47	-
33	*Lactobacillus*	*casei*	Dairy product	2,30E+05	N/A	25,63	-
L139	*Jonesia*	*denitrificans*	Collection	1,60E+05	N/A	25,62	-
Le1	*Rhodotorula*	*rubra*	Pastry	2,00E+05	N/A	25,66	-
Le3	*Candida*	*albicans*	Collection	9,00E+05	N/A	25,22	-
ST3	*Staphylococcus*	*epidermidis*	Yogurt	4,80E+05	N/A	25,35	-

Appendix 7 – Artificial contamination of samples - Enrichment in LSB II broth (Extension study, 2023)

Date of analysis	N° Sample	Product (French name)	Product	Artificial contaminations					Global result *Listeria monocytogenes*					Category	Type
				Strain	Origin	Injury protocol	Inoculation level CFU/sample		Without FDRS		With FDRS		Result		
							Numeration	Mean	CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW			
2022	3803	Salade Manhattan pâte, crudités, œuf, poulet rôti, carottes et fromage	RTE (Salad with chicken, eggs, paste...)	*Listeria monocytogenes* Ad494 *Listeria welshimeri* 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	Piémontaise au jambon	RTE (Salad with potatoes, ham…)	*Listeria monocytogenes* Ad494 *Listeria welshimeri* 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	*Listeria monocytogenes* Ad1492 *Listeria innocua* 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	*Listeria monocytogenes* Ad1492 *Listeria innocua* 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	*Listeria monocytogenes* Ad1193 *Listeria innocua* Ad644	Omelet / 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	*Listeria monocytogenes* Ad1757 *Listeria* seeligeri 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	*Listeria monocytogenes* Ad1193 *Listeria innoccua* 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	*Listeria monocytogenes* Ad551 *Listeria innocua* 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	*Listeria monocytogenes* Ad1757 *Listeria seeligeri* 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)	*Listeria monocytogenes* Ad551 *Listeria innocua* 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
2023	813	Crème anglaise à la vanille	Custard	*Listeria monocytogenes* Ad1757	Egg product	Seeding storage 48h at 3°C	4-5-4-3-5	4,1	+	+	+	+	+	1	c
2023	814	Mousse fraise	Strawberry mousse	*Listeria monocytogenes* Ad1757	Egg product	Seeding storage 48h at 3°C	4-5-4-3-5	4,1	+	+	+	+	+	1	c
2023	815	Eclair au chocolat	Pastry	*Listeria monocytogenes* Ad1757	Egg product	Seeding storage 48h at 3°C	4-5-4-3-5	4,1	+	+	+	+	+	1	c
2023	3760	Chiffonnette hall techno production pâté fini (porc) après nettoyage	Wipe after cleaning process	*Listeria monocytogenes* 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	*Listeria innocua* Ad1251	Environment (pork/bovine)	Seeding storage 72h at 3°C	5-2-1-3-4	3,0	+	+	+	+	+	2	a
2022	3762	Chiffonnette VHS2 table transfert environnement carné, après nettoyage	Wipe after cleaning process	*Listeria monocytogenes* Ad1255	Environment (pork/bovine)	Seeding storage 72h at 3°C	3-0-1-3-3	2,0	+	+	+	+	+	2	a
2022	3763	Chiffonnette pompe production crème glacée avant nettoyage	Wipe before cleaning process	*Listeria monocytogenes* Ad615	Dairy environment	Seeding storage 72h at 3°C	2-3-4-1-0	2,0	+	+	+	+	+	2	a
2022	3764	Chiffonnette pompe production crème glacée après nettoyage	Wipe after cleaning process	*Listeria monocytogenes* 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	*Listeria monocytogenes* Ad615	Dairy environment	Seeding storage 72h at 3°C	2-3-4-1-0	2,0	+	+	+	+	+	2	a
2023	723	Chiffonnette de surface réception UPM, après nettoyage	Wipe after cleaning process	*Listeria monocytogenes* 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	*Listeria monocytogenes* 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	*Listeria monocytogenes* Ad2503 *Listeria seeligeri* 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

Date of analysis	N° Sample	Product (French name)	Product	Artificial contaminations					Global result *Listeria monocytogenes*					Category	Type
				Strain	Origin	Injury protocol	Inoculation level CFU/sample		Without FDRS		With FDRS		Result		
							Numeration	Mean	CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW			
2023	823	Chiffonnette environnement laitier (production glace) avant nettoyage	Wipe before cleaning process	*Listeria monocytogenes* Ad550 *Listeria seeligeri* 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
2023	824	Chiffonnette environnement porc (production pâté)	Wipe before cleaning process	*Listeria monocytogenes* Ad2503 *Listeria seeligeri* 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	Déchet viande bovine	Wastes (Meat)	*Listeria monocytogenes* Ad1255	Environment (pork/bovine)	Seeding storage 48h at 3°C	5-6-6-3-8	5,6	+	+	+	+	+	2	b
2023	726	Déchet viande bovine	Wastes (Meat)	*Listeria monocytogenes* 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	*Listeria monocytogenes* 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)	*Listeria monocytogenes* Ad1679	Environment (seafood)	Seeding storage 48h at 3°C	3-1-5-3-0	2,4	+	+	+	+	+	2	b
2023	729	Déchet poisson dessous épineux	Wastes (Fish)	*Listeria monocytogenes* 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)	*Listeria monocytogenes* Ad1261 Listeria *welshimeri* 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)	*Listeria monocytogenes* Ad1261 Listeria *welshimeri* 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)	*Listeria monocytogenes* Ad1679 *Listeria innocua* 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	Déchet viande bovine	Wastes (Meat)	*Listeria monocytogenes* Ad243 *Listeria innocua* 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)	*Listeria monocytogenes* Ad549 *Listeria welshimeri* 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	*Listeria innocua* 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	*Listeria monocytogenes* 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	*Listeria monocytogenes* 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	*Listeria monocytogenes* 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	*Listeria monocytogenes* 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	*Listeria monocytogenes* 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	*Listeria monocytogenes* Ad550 *Listeria seeligeri* 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	*Listeria monocytogenes* Ad2503 *Listeria seeligeri* 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	*Listeria monocytogenes* Ad1261 Listeria *welshimeri* 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	Listeria monocytogenes 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	Listeria monocytogenes 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	*Listeria monocytogenes* Ad243 *Listeria innocua* 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 results					Category	Type
										iQ-Check *L. monocytogenes* 20h						
				Strain	Origin	Injury protocol	Injury evaluation	Inoculation level CFU/sample		Without FDRS		With FDRS		Result		
								Enumeration	Mean	CFX 96	CFX Opus	CFX 96	CFX Opus			
2023	**1730**	**Fromage au lait cru de vache Reblochon**	**Raw cow milk cheese**	*L. monocytogenes A00L0097* *L. welshimeri Ad1667*	Milk / Raw milk cheese	Seeding storage 48 hours at 3°C ± 2°C	/	1-5-2-3-4 1-0-1-0-3	3,0 0,8	+	+	+	+	+	3	a
2023	**1731**	**Fromage au lait cru de vache Gorgonzola**	**Raw cow milk cheese**	*L. monocytogenes A00L0098* *L. innocua Ad658*	Milk / Gorgonzola	Seeding storage 48 hours at 3°C ± 2°C	/	1-4-3-2-1 1-3-2-0-0	2,2 1,2	+	+	+	+	+	3	a
2023	**1732**	**Fromage au lait cru de brebis pâte persillée**	**Raw ewe milk cheese**	*L. monocytogenes* Ad1784 *L. innocua* Ad658	Ewe milk / Gorgonzola	Seeding storage 48 hours at 3°C ± 2°C	/	4-1-3-2-1 1-3-2-0-0	2,2 1,2	+	+	+	+	+	3	a
2023	**1733**	**Fromage au lait cru de brebis**	**Raw ewe milk cheese**	*L. monocytogenes* Ad1785	Milk	Seeding storage 48 hours at 3°C ± 2°C	/	3-2-0-1-3	1,8	+	+	+	+	+	3	a
2023	**1733**	**Fromage au lait cru de chèvre Rocamadour**	**Raw goat milk cheese**	*L. monocytogenes 910*	Milk	Seeding storage 48 hours at 3°C ± 2°C	/	1-3-2-0-0	1,2	+	+	+	+	+	3	a
2023	**1734**	**Fromage au lait cru de brebis fondant**	**Raw ewe milk cheese**	*L. monocytogenes 17501*	Milk	Seeding storage 48 hours at 3°C ± 2°C	/	3-0-1-1-1	1,2	+	+	+	+	+	3	a
2023	**1735**	**Fromage au lait cru de chèvre Picodon**	**Raw goat milk cheese**	*L. monocytogenes 909* *L.welshimeri Ad1667*	Raw milk cheese	Seeding storage 48 hours at 3°C ± 2°C	/	0-1-1-0-2 1-0-1-0-3	0,8 0,8	-	-	+	+	+	3	a
2023	**1720**	**Lait cru de vache**	**Raw cow milk**	*L. monocytogenes A00L097* *L.seeligeri* Ad1780	Milk / Raw milk	Seeding storage 48 hours at 3°C ± 2°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 48 hours at 3°C ± 2°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 48 hours at 3°C ± 2°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 48 hours at 3°C ± 2°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 48 hours at 3°C ± 2°C	/	1-3-2-0-0	1,2	+	+	+	+	+	3	b
2023	**3701**	**Beurre de baratte non pasteurisé**	**Butter raw milk**	*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	**3702**	**Beurre de baratte cru**	**Butter raw milk**	*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	**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	**2828**	**Fromage à pâte molle au lait pasteurisé de vache**	**Pasteurized cow cheese**	*L. monocytogenes* Ad629 *L seeligeri* Ad674	Cheese / Cheese	Seeding storage 48h at 3°C	/	0-1-1-2-1 1-2-0-0-1	1,0 0,8	+	+	+	+	+	3	c
2023	**2829**	**Fromage au lait de brebis pasteurisé**	**Pasteurized ewe 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	**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	**3071**	**Lait demi écrémé déshydraté**	**Powdered half-skimmed milk**	*L. monocytogenes* Ad250	Milk	Seeding lyophilizated strain storage 2 weeks at ambient temperature	/	/	0,6	+	+	+	+	+	3	c
2023	**3543**	**Brique pur brebis**	**Pasteurized ewe cheese**	*L. monocytogenes* Ad630	Cheese	Spiking 10 min 60°C	0,5	4-2-4-9-6	5	+	+	+	+	+	3	c
2023	**3545**	**Tomme des Pyrénées**	**Pasteurized cow cheese**	*L. monocytogenes* Ad630	Cheese	Spiking 10 min 60°C	0,5	4-2-4-9-6	5	+	+	+	+	+	3	c
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

Year of analysis	N° Sample	Product (French name)	Product	Artificial contaminations						Global results					Category	Type
										iQ-Check *L. monocytogenes* 20h						
				Strain	Origin	Injury protocol	Injury evaluation	Inoculation level CFU/sample		Without FDRS		With FDRS		Result		
								Enumeration	Mean	CFX 96	CFX Opus	CFX 96	CFX Opus			
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	**2830**	**Fromage au lait de chèvre pasteurisé**	**Pasteurized goat 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	**2833**	**Lait frais de brebis pasteurisé**	**Pasteurized ewe milk**	*L. monocytogenes* Ad629	Cheese	Seeding storage 48h at 3°C	/	0-2-2-4-2	2,0	+	+	+	+	+	3	c
2023	**3073**	**Lait entier déshydraté**	**Powdered whole milk**	*L. monocytogenes* 18024	Milk	Seeding lyophilizated strain storage 2 weeks at ambient temperature	/	/	0,9	-	-	-	-	-	3	c
2023	**3075**	**Lait écrémé déshydraté**	**Powdered skimmed milk**	*L. monocytogenes* 18024	Milk	Seeding lyophilizated strain storage 2 weeks at ambient temperature	/	/	0,9	-	-	-	-	-	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

Appendix 8 – Sensitivity study: raw data - Enrichment in LSB II broth (Extension study, 2023)

Bold typing : artificially inoculated samples

***Listeria* detection results:**

DW	Deep Well
H+:	characteristic Listeria colonies with halo
H-	characteristic Listeria without halo
-:	no typical colonies but presence of background microflora
st:	plate without any colony
PA:	positive agreement
NA:	negative agreement
ND:	negative deviation
PD:	positive deviation
PPNA:	positive presumptive negative agreement
PPND :	positive presumptive negative deviation
NC:	non-characteristic colony on TSYEA
d:	doubtful colony
*:	result after enrichment broth dilution at 1/10
NI:	no identification
ni :	not isolated colony

COMPOSITE FOODS

Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1♦						ALTERNATIVE METHOD : iQ-Check *Listeria monocytogenes* II																												Category	Type
										1:10 with LSB II Broth -18h at 37°C																											
										iQ-Check *Listeria monocytogenes* II												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				CFX96 Deep Well			CFX Opus Deep Well			CFX96 Deep Well			CFX Opus Deep Well																			
				O&A	PALCAM	O&A	PALCAM	Identifi-cation	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* (100µL)	RAPID'*Listeria* (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identifi-cation	Result		CFX96 DW	CFX Opus DW	CFX96 DW	CFX opus DW	CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW		
2022	3302	Sandwich viennois thon-crudités	RTE (Sandwich tuna and crudity)	H+	+	H+	+	*L.mono L.inno*	+	N/A	34.16	-	N/A	33.60	-	N/A	34.90	-	N/A	35.35	-	-	st	-	-	st	/	-	-	-	-	-	-	**ND**	**ND**	**ND**	**ND**	1	a
2022	3304	Club sandwich jambon-emmental	RTE (Sandwich cheese and ham)	H-d	-	H-d	-	*L. seel*	-	N/A	35.45	-	N/A	35.11	-	N/A	34.98	-	N/A	34.79	-	+spp	+	H-d	H-d	-	*L. seel*	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	a
2022	3305	Sandwich supérieur emmental	RTE (Sandwich cheese and ham)	H+/H-	+	H+/ H-	+	*L.mono L.inno*	+	39.33	34.53	+	N/A/ 41.58 /N/A	34.96/ 34.02/ 34.53	- + -	40.59	35.04	+	N/A/ 41.65/ 40.21	35.34/ 34.66/ 35.51	- + +	+/ +spp	+	H+/H-	H+/H-	+	*L.mono L.inno*		+	+	-	+	-	**PA**	**ND**	**PA**	**ND**	1	a
2022	3312	Macédoine de légumes	RTE (vegetable macedoine)	st	st	st	st	/	-	N/A	33.22	-	N/A	33.86	-	N/A	33.02	-	N/A	33.06	-	st	st	st	st	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	a
2022	3462	Sandwich poulet-tomates-œufs viennois	RTE (Sandwich chicken, eggs, tomato)	st	-	-	-	/	-	N/A	32.20	-	N/A	32.31	-	N/A	32.51	-	N/A	32.57	-	-	st	-	-	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	a
2022	3670	Triangle jambon-mozzarella	RTE (Sandwich ham and cheese)	H-	+	H-	+	*L.seel*	-	N/A N/A 39.49	36.79 32.56 33.72	- - +	N/A N/A N/A	36.25 33.58 34.42	- - -	N/A 40.28 N/A	37.04 33.90 34.99	- + -	N/A N/A N/A	40.24 34.71 34.01	- - -	+	-	H+d	H+d	+	*L.mono*		+	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	a
2022	3673	Club sandwich jambon supérieur / Emmental	RTE (Sandwich ham and cheese)	-	-	st	st	/	-	N/A	33.82	-	N/A	34.74	-	N/A	34.25	-	N/A	35.11	-	-	st	-	-	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	a
2022	**3803**	**Salade Manhattan pâte, crudités, œuf, poulet rôti, carottes et fromage**	**RTE (Salad with chicken, eggs, paste...)**	H+	+	H+	+	*L.mono*	+	29.30	32.62	+	29.40	33.02	+	29.15	32.03	+	29.31	32.80	+	+/ +spp	+	H+	H+/H-	+	*L.mono L.welsh*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	a
2022	**3804**	**Piemontaise au jambon**	**RTE (Salad with potatoes, ham…)**	H+/H-	+	H+/ H-	+	*L.mono L.welsh*	+	29.00	33.13	+	29.03	33.25	+	29.51	33.92	+	29.09	33.13	+	+/ +spp	+	H+/H-	H+/H-	+	*L.mono L.welsh*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	a
2022	**3805**	**Taboulé à l'orientale**	**Oriental tabbouleh**	H+	+	H+/ H-	+	*L.mono L.inno*	+	32.79	33.08	+	33.33	33.52	+	32.40	33.01	+	32.40	33.07	+	+/+ spp	+	H+	H+/H-	+	*L.mono L.inno*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	a
2022	**3806**	**Demi involtini à la ricotta**	**Half-involtini with ricotta cheese**	H+/H-	+	H+/ H-	+	*L.mono L.inno*	+	36.81	35.47	+	37.10	36.51	+	35.45	35.47	+	35.26	36.14	+	+/ +spp	+	H+/H-	H+/H-	+	*L.mono L.inno*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	a
2023	102	Salade ROMA (pâtes, crudités, mozzarella, jambon)	RTE (Salad with paste, cheese, ham…)	-	-	-	st	/	-	N/A	33.40	-	N/A	33.16	-	N/A	33.39	-	N/A	33.59	-	-	-	-	-	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	a
2023	103	Salade parisienne, jambon, emmental	RTE (Salad with ham and cheese)	st	st	st	st	/	-	N/A	32.31	-	N/A	32.59	-	N/A	32.65	-	N/A	32.87	-	st	st	-	st	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	a
2023	104	Salade torsade, poulet rôti	RTE (Salad with paste and chicken)	st	st	st	st	/	-	N/A	32.61	-	N/A	32.54	-	N/A	32.67	-	N/A	32.94	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	a
2023	105	Piemontaise au jambon	RTE (Salad with potatoes, ham…)	-	-	-	-	/	-	N/A	34.55	-	N/A	34.62	-	N/A	34.25	-	N/A	34.28	-	-	st	-	-	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	a
2023	106	Macédoine de légumes	RTE (vegetable macedoine)	-	-	-	st	/	-	N/A	32.84	-	N/A	32.95	-	N/A	33.09	-	N/A	33.25	-	-	st	-	-	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	a
2023	107	Riz à la provençale au thon et basilic	RTE (Rice, tuna and basil)	-	-	st	st	/	-	N/A	33.16	-	N/A	33.14	-	N/A	32.63	-	N/A	32.64	-	+spp d	+	H-	H-	-	*-(Gram - x5/plate)*	-		-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	a
2023	108	Taboulé oriental	Oriental tabbouleh	-	-	-	-	/	-	N/A	33.03	-	N/A	33.04	-	N/A	32.71	-	N/A	33.15	-	-	-	-	-	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	a
2023	109	Taboulé oriental	Oriental tabbouleh	-	-	-	-	/	-	N/A	32.65	-	N/A	32.31	-	N/A	32.58	-	N/A	32.47	-	-	st	H-	H-	-	*-(Gram - x5/plate)*	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	a

♦ Analyses performed according to the COFRAC accreditation

COMPOSITE FOODS																																									
				Reference method: ISO 11290-1♦						ALTERNATIVE METHOD : iQ-Check *Listeria monocytogenes* II																															
										1:10 with LSB II Broth -18h at 37°C																															
										iQ-Check *Listeria monocytogenes* II																															
				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						Fraser)	Final result confirmation	Final result				Agreement Ref/Alt					
				Half Fraser		Fraser				CFX96 Deep Well			CFX Opus Deep Well			CFX96 Deep Well			CFX Opus Deep Well												w/o FDRS		w FDRS		w/o FDRS		w FDRS			
Year of analysis	N° Sample	Product (French name)	Product	O&A	PALCAM	O&A	PALCAM	Identifi-cation	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* (100µL)	RAPID'*Listeria* (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identifi-cation	Result		CFX96 DW	CFX Opus DW	CFX96 DW	CFX opus DW	CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW	Category	Type
2023	110	Mini involtini bresaola et fromage	Mini-involtini with cheese	-	-	-	-	/	-	N/A	36.03	-	N/A	38.68	-	N/A	36.85	-	N/A	36.34	-	-	-	-	-	-	/	-	-	-	-	-	-	NA	NA	NA	NA	1	a
2023	749	Beignet râpé pomme de terre/cheddar	Potato fritter with cheese	H+	+	H+	+	*L.mono*	+	N/A	36.72	-	N/A	36.81	-	N/A	37.20	-	N/A	36.79	-	-	-	-	-	-	/	-	-	-	-	-	-	ND	ND	ND	ND	1	a
2023	761	Paillasson de légumes et fromage	RTE (vegetable and cheese)	H+	+	H+	+	*L.mono*	+	N/A	36.26	-	N/A	36.95	-	N/A	36.36	-	N/A	36.49	-	-	-	-	-	-	/	-	-	-	-	-	-	ND	ND	ND	ND	1	a
2022	3297	Falafels préparés merguez	RTRH (Falafel)	H-	+	H-	+	*L.inno*	-	N/A	33.50	-	N/A	33.96	-	N/A	34.62	-	N/A	34.74	-	+spp	+	+	+	-	*L.inno*	-	-	-	-	-	-	NA	NA	NA	NA	1	b
2022	3298	Feuilletés chèvre-épinards	RTH (Puff spinach cheese)	H- (5)	+	H-	+	*L.inno*	-	N/A	33.29	-	N/A	33.37	-	N/A	33.45	-	N/A	33.79	-	+spp	+	H-	H-	+	*L.inno*	-	-	-	-	-	-	NA	NA	NA	NA	1	b
2022	3299	Noix de Saint-Jacques à la bretonne	RTRH (scallop)	st	st	st	st	/	-	N/A	32.97	-	N/A	33.11	-	N/A	33.55	-	N/A	32.94	-	st	st	st	st	st	/	-	-	-	-	-	-	NA	NA	NA	NA	1	b
2022	3300	Paëlla	RTRH (Paella)	H-d	-d	H-d	-d	-(NC on TSYEA x5/plate)	-	N/A	33.11	-	31.32 N/A N/A	33.74 33.39 32.90	+ - -	N/A	33.09	-	N/A	33.13	-	+spp	st	H-d	-	+ (1)	*L.inno*	-	-	-	-	-	-	NA	PP NA	NA	NA	1	b
2022	3301	Croque veggie tomates	RTRH (Tomato, cereals)	st	-	-	st	/	-	N/A	33.24	-	N/A	33.06	-	N/A	33.35	-	N/A	33.44	-	-	st	st	-	-	/	-	-	-	-	-	-	NA	NA	NA	NA	1	b
2022	3303	Nuggets cuits	Nuggets	st	-	-	-	/	-	N/A	33.32	-	N/A	33.44	-	N/A	33.02	-	N/A	33.02	-	-	st	-	-	-	/	-	-	-	-	-	-	NA	NA	NA	NA	1	b
2022	3306	Feuilleté jambon-fromage	RTH (Puff ham, cheese)	-	-	-	-	/	-	N/A	34.15	-	N/A	34.32	-	N/A	34.92	-	N/A	34.76	-	-	st	-	-	-	/	-	-	-	-	-	-	NA	NA	NA	NA	1	b
2022	3307	Pépites fromage ail et fines herbes panées	RTRH (Nuggets herbs and cheese)	H+	+	H+	+	*L.mono*	+	39.75	34.53	+	38.52	35.32	+	39.17	35.70	+	38.73	35.52	+	+/ +spp	+	H+/H-	H+ (1)	+	*L.mono* *L.inno*		+	+	+	+	+	PA	PA	PA	PA	1	b
2022	3308	Nuggets de saumon	Salmon nuggets	H+	+	H+	+	*L.mono*	+	27.73	32.58	+	27.74	32.34	+	27.15	32.33	+	27.05	31.98	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	PA	PA	PA	PA	1	b
2022	3309	Nuggets de saumon	Salmon nuggets	H+	+	H+	+	*L.mono*	+	24.50	33.00	+	24.34	32.05	+	26.44	31.97	+	26.67	32.07	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	PA	PA	PA	PA	1	b
2022	3310	Nuggets de saumon	Salmon nuggets	st	-	-	-	/	-	40.95	32.74	+	38.57	33.24	+	39.77	33.13	+	39.02	33.44	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	PD	PD	PD	PD	1	b
2022	3311	Légumes ratatouille	RTRH (vegetable ratatouille)	st	st	st	st	/	-	N/A	33.02	-	N/A	34.00	-	N/A	33.36	-	N/A	33.03	-	-	st	-	-	-	/	-	-	-	-	-	-	NA	NA	NA	NA	1	b
2022	3314	Coquilles Saint-Jacques	RTRH (scallop)	-	-	-	-	/	-	N/A	32.86	-	N/A	33.29	-	N/A	33.38	-	N/A	32.83	-	-	st	-	-	-	/	-	-	-	-	-	-	NA	NA	NA	NA	1	b
2022	3315	Gratin de choux fleurs crème fraiche et emmental	RTRH (Cream, cauliflower)	-	st	-	-	/	-	N/A	33.26	-	N/A	33.89	-	N/A	33.59	-	N/A	33.20	-	-	st	-	-	-	/	-	-	-	-	-	-	NA	NA	NA	NA	1	b
2022	3317	Paniers tartiflette	RTH (Puff ham, cheese)	H-	+	H-	+	*L.inno*	-	35.31 N/A N/A	34.80 34.03 33.86	+ - -	N/A	34.30	-	N/A	34.78	-	N/A	34.32	-	+spp	+	H-	H-	+	*L.inno*	-	-	-	-	-	-	PP NA	NA	NA	NA	1	b
2022	3461	Tourte poularde-cèpes	RTH (Puff chicken, mushroom)	H+	+	H+	+	*L.mono*	+	31.59	32.16	+	31.85	32.52	+	32.06	33.70	+	32.19	33.57	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	PA	PA	PA	PA	1	b
2022	3463	Paëlla	RTRH (Paella)	-	-	st	-	/	-	N/A	31.71	-	N/A	32.10	-	N/A	32.41	-	N/A	32.21	-	st	st	-	st	st	/	-	-	-	-	-	-	NA	NA	NA	NA	1	b
2022	3464	Paëlla	RTRH (Paella)	-	st	st	st	/	-	N/A	32.03	-	N/A	32.25	-	N/A	32.11	-	N/A	32.22	-	-	st	-	-	st	/	-	-	-	-	-	-	NA	NA	NA	NA	1	b
2022	3465	Galette soja-légumes	RTRH (vegetables, soya)	H+	+	H+	+	*L.mono*	+	33.52	31.86	+	33.74	32.29	+	33.82	32.11	+	34.11	32.36	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	PA	PA	PA	PA	1	b
2022	3469	Buffalo wings	Chicken wings	st	st	st	st	/	-	38.93	32.10	+	38.12	32.15	+	42.14	32.34	+	N/A 39,62 N/A	31.85 32.93 33.26	- + -	+	+	H+	H+	+	*L.mono*		+	+	+	+	-	PD	PD	PD	NA	1	b

COMPOSITE FOODS

Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1♦						ALTERNATIVE METHOD : iQ-Check *Listeria monocytogenes* II																												Category	Type
										1:10 with LSB II Broth -18h at 37°C																													
										iQ-Check *Listeria monocytogenes* II																													
				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						Fraser)	Final result confirmation	Final result				Agreement Ref/Alt					
				Half Fraser		Fraser				CFX96 Deep Well			CFX Opus Deep Well			CFX96 Deep Well			CFX Opus Deep Well												w/o FDRS		w FDRS		w/o FDRS		w FDRS			
				O&A	PALCAM	O&A	PALCAM	Identifi-cation	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* (100µL)	RAPID'*Listeria* (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identifi-cation	Result		CFX96 DW	CFX Opus DW	CFX96 DW	CFX opus DW	CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW		
2022	3471	Galette soja-tomates-basilic	RTRH (soya,tomato, basilc)	H-	+	H-	+	*L.inno*	-	N/A	31.89	-	N/A	32.04	-	N/A	32.31	-	N/A	32.12	-	-	-	-	-	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	b
2022	3472	Paillasson de légumes	RTRH (cheese and vegetable)	-	-	-	-	/	-	31.38	35.12	+	31.26	34.78	+	30.75	33.38	+	30.79	33.33	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	1	b
2022	3473	Galette de soja à la provençale	RTRH (	st	-	st	-	/	-	N/A	32.36	-	N/A	32.20	-	N/A	32.67	-	N/A	32.52	-	-	st	-	-	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	b
2022	3474	Paëlla	RTRH (Paella)	st	-	-	-	/	-	N/A	32.09	-	N/A	32.49	-	N/A	32.09	-	N/A	32.38	-	-	-	-	-	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	b
2022	3671	Cordon bleu de dinde	RTRH (Ham and cheese escalope)	H-	+	H-	+	*L.welsh*	-	37.98	32.89	+	38.11	32.21	+	37.99	32.58	+	39.15	32.89	+	+spp / x5: +/+spp	+	H- / x5: H+/H-	H-	+	*L.mono L.welsh*		+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	1	b
2022	3672	Palet fromage de chèvre	RTRH (Palet of goat cheese)	-	-	-	-	/	-	N/A	32.59	-	N/A	33.19	-	N/A	32.24	-	N/A	33.32	-	-	-	-	-	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	b
2022	3674	Panini kebab	Pannini kebab	H+	+	H+	+	*L.mono*	+	26.89	32.69	+	27.01	31.74	+	25.41	31.72	+	25.76	31.50	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	b
2022	3575	Nuggets saumon	Salmon nuggets	H+	+	H+	+	*L.mono*	+	24.75	32.51	+	24.41	31.32	+	23.99	31.84	+	24.31	31.33	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	b
2022	3676	Nuggets saumon	Salmon nuggets	H+	+	H+	+	*L.mono*	+	23.88	31.99	+	23.99	31.35	+	24.87	31.63	+	25.14	31.72	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	b
2022	3677	Palet choux-fleur brocolis	RTRH (Palet of cauliflower and broccoli)	H+	+	H+	+	*L.mono*	+	25.36	31.65	+	25.67	32.26	+	25.04	32.33	+	25.97	32.70	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	b
2022	3678	Brunoise méridionale	RTRH (vegetables, cream)	-	-	-	-	/	-	N/A	32.81	-	N/A	33.03	-	N/A	32.75	-	N/A	33.29	-	-	-	-	-	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	b
2022	3470	Pâte à quiche	Raw dough	H+/H-	+	H+/ H-	+	*L.mono L.inno*	+	31.49	32.02	+	31.39	32.15	+	32.68	33.58	+	32.56	33.79	+	+/+spp	+	H+/H-	H+/H-	+	*L.mono L.inno*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	c
2022	**3807**	**Tortilla**	**Tortilla**	H+/H-	+	H+/ H-	+	*L.mono L.inno*	+	24.07	31.78	+	24.31	32.07	+	24.07	31.13	+	24.20	31.44	+	+/+spp	+	H+/H-	H+/H-	+	*L.mono L.inno*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	c
2022	**3808**	**Tortilla à l'oignon**	**Onion tortilla**	st	st	st	st	/	-	27.10	33.34	+	27.09	33.46	+	26.41	33.55	+	26.13	32.76	+	+	+	H+	H+/H-	+	*L.mono L.inno*		+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	1	c
2022	**3809**	**Choux chantilly**	**Pastry**	H+/H-	+	H+/ H-	+	*L.mono L.inno*	+	29.16	32.24	+	29.22	32.28	+	28.58	31.99	+	28.88	32.42	+	+/+spp	+	H+/H-	H+/H-	+	*L.mono L.inno*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	c
2022	**3810**	**Charlotte framboise**	**Pastry**	H+	+	H+	+	*L.mono*	+	31.05	32.28	+	31.11	33.26	+	30.85	32.54	+	31.08	33.20	+	+/+spp	+	H+/H-	H+/H-	+	*L.mono L.inno*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	c
2022	**3811**	**Ile flottante**	**Custard based dessert**	H+/H-	+	H+/ H-	+	*L.mono L.seel*	+	27.96	32.00	+	28.04	32.10	+	28.01	31.74	+	28.55	32.57	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	c
2022	**3812**	**Mousse au chocolat**	**Confectionary (chocolate)**	H+/H-	+	H+/ H-	+	*L.mono L.inno*	+	31.56	33.35	+	31.29	33.71	+	31.86	35.00	+	31.62	35.57	+	+/+spp	+	H+/H-	H+/H-	+	*L.mono L.inno*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	c
2023	111	Tortilla	Tortilla	st	st	st	st	/	-	N/A	32.54	-	N/A	32.08	-	N/A	32.72	-	N/A	32.36	-	st	-	-	-	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	c
2023	112	Tortilla au chorizo	Chorizo tortilla	st	-	st	st	/	-	N/A	33.07	-	N/A	32.18	-	N/A	32.86	-	N/A	33.37	-	-	-	-	-	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	c
2023	113	Tortilla à l'oignon	Onion tortilla	st	st	st	st	/	-	N/A	33.44	-	N/A	33.51	-	N/A	33.69	-	N/A	34.11	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	c
2023	114	Coupe profiterole	Pastry	-	-	H-d	-	*-(NC on TSYEA x5)*	-	N/A	33.62	-	N/A	33.61	-	N/A	32.55	-	N/A	33.15	-	+spp d	+d	H-d	H-d	-	*-(catalase, Gram - x5/plate)*	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	c
2023	115	Crème anglaise	Custard	st	-	st	st	/	-	N/A	32.59	-	N/A	32.69	-	N/A	32.03	-	N/A	32.70	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	c
2023	116	Mousse citron	Lemon mousse	st	st	st	st	/	-	N/A	35.66	-	N/A	34.42	-	N/A	35.65	-	N/A	34.59	-	st	st	-	st	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	c
2023	117	Ile flottante	Custard based dessert	st	st	st	st	/	-	N/A	33.02	-	N/A	32.61	-	N/A	32.75	-	N/A	33.09	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	c
2023	118	Mousse chocolat noir	Chocolate mousse	st	st	st	st	/	-	N/A N/A*	N/A 33.00	i/-*	N/A N/A*	N/A 32.35	i/-*	N/A N/A*	N/A 32.81	i/-*	N/A N/A*	N/A 33.29	i/-*	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	c
2023	119	Gâteau tutti frutti	Pastry	st	st	st	st	/	-	N/A	32.56	-	N/A	32.74	-	N/A	32.31	-	N/A	32.81	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	c

COMPOSITE FOODS																																									
				Reference method: ISO 11290-1♦						ALTERNATIVE METHOD : iQ-Check *Listeria monocytogenes* II																															
										1:10 with LSB II Broth -18h at 37°C																															
										iQ-Check *Listeria monocytogenes* II																															
				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						Fraser)	Final result confirmation	Final result				Agreement Ref/Alt					
				Half Fraser		Fraser				CFX96 Deep Well			CFX Opus Deep Well			CFX96 Deep Well			CFX Opus Deep Well											w/o FDRS		w FDRS		w/o FDRS		w FDRS			
Year of analysis	N° Sample	Product (French name)	Product	O&A	PALCAM	O&A	PALCAM	Identifi-cation	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* (100µL)	RAPID'*Listeria* (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identifi-cation	Result		CFX96 DW	CFX Opus DW	CFX96 DW	CFX opus DW	CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW	Category	Type
2023	515	Choux chantilly	Pastry	st	-	-	-	/	-	N/A	32.57	-	N/A	32.46	-	N/A	33.18	-	N/A	32.19	-	st	st	st	st	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	c
2023	516	Tartelette citron	Lemon tartlet	st	st	st	st	/	-	N/A	32.50	-	N/A	32.48	-	N/A	33.11	-	N/A	33.47	-	-	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	c
2023	517	Mousse au chocolat à l'ancienne	Chocolate mousse	-	-	-	-	/	-	N/A	33.72	-	N/A	34.24	-	N/A	33.23	-	N/A	34.01	-	+sppd	st	H-d	H-d	-	*-(Gram - x5/plate)*	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	c
2023	750	Pâte feuilletée	Raw dough	-	-	-	-	/	-	N/A	34.06	-	N/A	34.49	-	N/A	34.88	-	N/A	35.02	-	-	-	-	-	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	1	c
2023	**813**	**Crème anglaise à la vanille**	**Custard**	H+	+	H+	+	*L.mono*	+	26.60	33.04	+	26.15	32.52	+	26.06	32.00	+	26.03	32.11	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	c
2023	**814**	**Mousse fraise**	**Strawberry mousse**	H+	+	H+	+	*L.mono*	+	30.87	34.70	+	30.00	35.30	+	28.53	33.98	+	28.33	35.55	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	c
2023	**815**	**Eclair au chocolat**	**Pastry**	H+	+	H+	+	*L.mono*	+	24.74	31.89	+	24.48	31.47	+	24.37	31.54	+	24.36	32.16	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	1	c

PRODUCTION ENVIRONMENTAL SAMPLES

Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1♦						ALTERNATIVE METHOD : iQ-Check *Listeria monocytogenes* II																														Category	Type
										1:10 with LSB II Broth -18h at 37°C																													
										iQ-Check *Listeria monocytogenes* II																													
				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						Fraser)	Final result confirmation	Final result				Agreement Ref/Alt					
				Half Fraser		Fraser				CFX96 Deep Well			CFX Opus Deep Well			CFX96 Deep Well			CFX Opus Deep Well												w/o FDRS		w FDRS		w/o FDRS		w FDRS			
				O&A	PALCAM	O&A	PALCAM	Identifi-cation	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* (100µL)	RAPID'*Listeria* (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identifi-cation	Result		CFX96 DW	CFX Opus DW	CFX96 DW	CFX opus DW	CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW		
2022	**3760**	**Chiffonnette hall techno production pâté fini (porc) après nettoyage**	**Wipe after cleaning process**	H+	+	H+	+	*L.mono*	+	37.55	32.36	+	38.45	32.87	+	38.08	32.10	+	38.64	32.11	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	a
2022	**3761**	**Chiffonnette grille siphon VHS 19 après nettoyage**	**Wipe after cleaning process**	H-	+	H-	+	*L.inno*	-	37.33	32.39	+	37.22	32.50	+	36.76	32.57	+	38.48	32.78	+	+/+spp	+	H+/H-	H+/H-	+	*L.mono* *L.inno*		+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	2	a
2022	**3762**	**Chiffonnette VHS2 table transfert environnement carné, après nettoyage**	**Wipe after cleaning process**	H+	+	H+	+	*L.mono*	+	27.04	31.75	+	28.46	31.98	+	26.94	31.58	+	28.35	32.01	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	a
2022	**3763**	**Chiffonnette pompe production crème glacée avant nettoyage**	**Wipe before cleaning process**	H+	+	H+	+	*L.mono*	+	35.38	32.43	+	35.72	32.51	+	35.40	32.52	+	35.67	32.64	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**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	32.27	-	N/A	32.64	-	N/A	32.47	-	N/A	32.94	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	a
2022	**3765**	**Chiffonnette environnement laitier avant nettoyage**	**Wipe before cleaning process**	H+	+	H+	+	*L.mono*	+	29.84	32.14	+	30.21	31.98	+	29.17	31.91	+	30.13	32.18	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	a
2023	524	Chiffonnette surface tapis trancheur	Wipe before cleaning process	st	st	st	st	/	-	N/A	32.37	-	N/A	32.75	-	N/A	32.40	-	N/A	32.49	-	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	32.63	-	N/A	32.35	-	N/A	32.57	-	N/A	32.82	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	a
2023	**723**	**Chiffonnette de surface réception UPM, après nettoyage**	**Wipe after cleaning process**	H+	+	H+	+	*L.mono*	+	32.01	33.15	+	31.43	32.25	+	31.15	33.03	+	31.20	32.15	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**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	33.12	-	N/A	32.51	-	N/A	33.02	-	N/A	32.78	-	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-	+	*L.welsh*	-	28.86	31.68	+	32.00	33.01	+	28.86	31.68	+	32.12	33.30	+	+	+	H+/H-	H+/H-	+	*L.mono* *L.welsh*		+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	2	a
2023	758	Ecouvillon surface brioche	Swab	st	st	st	st	/	-	N/A	32.53	-	N/A	33.36	-	N/A	32.53	-	N/A	33.64	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	a

♦ Analyses performed according to the COFRAC accreditation

PRODUCTION ENVIRONMENTAL SAMPLES

Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1♦						ALTERNATIVE METHOD : iQ-Check *Listeria monocytogenes* II																												Category	Type
										1:10 with LSB II Broth -18h at 37°C																													
										iQ-Check *Listeria monocytogenes* II																													
				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						Fraser)	Final result confirmation	Final result				Agreement Ref/Alt					
				Half Fraser		Fraser				CFX96 Deep Well			CFX Opus Deep Well			CFX96 Deep Well			CFX Opus Deep Well												w/o FDRS		w FDRS		w/o FDRS		w FDRS			
				O&A	PALCAM	O&A	PALCAM	Identifi-cation	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* (100µL)	RAPID'*Listeria* (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identifi-cation	Result		CFX96 DW	CFX Opus DW	CFX96 DW	CFX opus DW	CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW		
2023	**822**	**Chiffonnette environnement végétal avant nettoyage**	**Wipe before cleaning process**	H+	+	H+	+	*L.mono*	+	37.66	32.74	+	36.90	32.59	+	N/A 35.70 35.88	33.01 32.84 33.13	- + +	40.79	32.68	+	+ (6)/+spp	+d (5)	H+ (7)/H-	H-	+	*L.mono* *L.seel*		+	+	+	-	+	**PA**	**PA**	**ND**	**PA**	2	a
2023	**823**	**Chiffonnette environnement laitier (production glace) avant nettoyage**	**Wipe before cleaning process**	H+	+	H+	+	*L.mono*	+	33.27	32.76	+	33.84	32.55	+	33.13	33.04	+	33.72	32.25	+	+/+spp d	+	H+	H+	+	*L.mono* *L.seel*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	a
2023	**824**	**Chiffonnette environnement porc (production pâté)**	**Wipe before cleaning process**	H+ (4)	+	H+	+	*L.mono*	+	N/A	33.13	-	N/A	32.70	-	N/A	33.12	-	N/A	32.87	-	+spp	+	H-	H-	+	*L.seel*	-	-	-	-	-	-	**ND**	**ND**	**ND**	**ND**	2	a
2023	955	Chiffonnette pompe crème glacée avant nettoyage	Wipe before cleaning process	st	st	st	-	/	-	N/A	33.12	-	N/A	33.33	-	N/A	33.82	-	N/A	33.38	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	a
2023	956	Chiffonnette table crème glacée avant nettoyage	Wipe before cleaning process	st	st	st	st	/	-	N/A	33.53	-	N/A	33.23	-	N/A	33.29	-	N/A	33.04	-	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	33.05	-	N/A	33.00	-	N/A	33.39	-	N/A	32.66	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	a
2023	958	Chiffonnette TA8 arbre couteaux, après nettoyage	Wipe after cleaning process	st	st	st	st	/	-	N/A	33.66	-	N/A	32.80	-	N/A	33.15	-	N/A	33.11	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	a
2023	959	Chiffonnette local plonge après nettoyage	Wipe after cleaning process	st	st	st	st	/	-	N/A	33.13	-	N/A	33.02	-	N/A	33.31	-	N/A	33.11	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	a
2023	526	Déchet poisson CP3 trancheur	Wastes (Fish)	st	st	st	st	/	-	N/A	32.46	-	N/A	32.27	-	N/A	32.54	-	N/A	32.18	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	b
2023	527	Déchet poisson Scan 4 trancheur	Wastes (Fish)	H+	+	H+	+	*L.mono*	+	35.91	32.09	+	36.49	32.33	+	36.32	32.71	+	38.45	32.23	+	+/+spp	+	H+/H-	H+/H-	+	*L.mono* *L.inno*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	b
2023	528	Déchet viande	Wastes (Meat)	st	st	st	st	/	-	N/A	32.98	-	N/A	32.73	-	N/A	33.03	-	N/A	32.36	-	st	-	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	b
2023	529	Déchet caséinate, production de pâté	Wastes (Meat)	-	-	-	-	/	-	N/A	32.97	-	N/A	32.74	-	N/A	33.86	-	N/A	33.26	-	-	st	-	-	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	b
2023	715	Déchet matière bovin bac	Wastes (Meat)	-	-	st	st	/	-	N/A	33.34	-	N/A	32.75	-	N/A	33.15	-	N/A	32.52	-	-	-	-	-	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	b
2023	716	Déchets miettes de mélangeur volaille sortie peseur	Wastes (Meat)	st	st	st	-	/	-	N/A	33.31	-	N/A	32.73	-	N/A	33.63	-	N/A	32.59	-	-	-	st	st	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	b
2023	**725**	**Déchet viande bovine**	**Wastes (Meat)**	H+	+	H+	+	*L.mono*	+	41.59	35.78	+	37.96	33.39	+	38.02	34.99	+	39.84	34.83	+	+/+spp	+	H+/H-	H+/H-	+	*L.mono* *L.inno*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	b
2023	**726**	**Déchet viande bovine**	**Wastes (Meat)**	H+	+	H+	+	*L.mono*	+	34.55	33.46	+	32.86	32.35	+	34.67	32.72	+	33.97	32.40	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	b
2023	**727**	**Déchets de production biscuit**	**Wastes**	H+	+	H+	+	*L.mono*	+	32.44	33.77	+	30.41	32.65	+	30.90	34.20	+	31.08	32.51	+	+/+spp d	+	H+	H+	+	*L.mono* *L.seel*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	b
2023	**728**	**Déchets saumon**	**Wastes (Salmon)**	H+	+	H+	+	*L.mono*	+	33.31	33.13	+	31.52	32.33	+	31.54	33.29	+	31.92	32.29	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	b

PRODUCTION ENVIRONMENTAL SAMPLES																																									
				Reference method: ISO 11290-1♦						ALTERNATIVE METHOD : iQ-Check *Listeria monocytogenes* II																													
										1:10 with LSB II Broth -18h at 37°C																													
										iQ-Check *Listeria monocytogenes* II												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				CFX96 Deep Well			CFX Opus Deep Well			CFX96 Deep Well			CFX Opus Deep Well																				
Year of analysis	N° Sample	Product (French name)	Product	O&A	PALCAM	O&A	PALCAM	Identifi-cation	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* (100µL)	RAPID'*Listeria* (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identifi-cation	Result		CFX96 DW	CFX Opus DW	CFX96 DW	CFX opus DW	CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW	Category	Type
2023	**729**	**Déchet poisson dessous épineux**	**Wastes (Fish)**	H+	+	H+	+	*L.mono*	+	33.91	33.66	+	31.52	32.48	+	32.68	33.33	+	32.98	32.74	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	b
2023	759	Déchets truite	Wastes (Trout)	st	-	st	-	/	-	33.32	33.05	+	33.86	33.21	+	33.32	33.05	+	33.81	33.92	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	2	b
2023	760	Déchet chutes de parage saumon	Wastes (Salmon)	st	st	-	-	/	-	N/A	32.88	-	N/A	33.39	-	N/A	32.88	-	N/A	33.86	-	-	st	-	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	b
2023	**825**	**Déchets découpe viande**	**Wastes (Meat)**	H+/H-	+	H+/ H-	+	*L.mono L.inno*	+	36.14	33.15	+	36.09	32.58	+	40.97	32.83	+	42.48	33.68	+	+/+spp	+	H+/H-	H+/H-	+	*L.mono L.inno*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	b
2023	**826**	**Déchets caséinate production pâté**	**Wastes (Meat)**	H+/H-	+	H+/ H-	+	*L.mono L.welsh*	+	31.74	33.04	+	32.05	32.37	+	32.46	34.44	+	32.39	33.80	+	+/+spp d	+	H+	H+	+	*L.mono L.welsh*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	b
2023	**827**	**Déchets sardines**	**Wastes (Sardine)**	st	st	st	st	/	-	N/A	33.11	-	N/A	32.71	-	N/A	32.98	-	N/A	32.67	-	st	-	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	b
2023	**960**	**Déchet viande bovine**	**Wastes (Meat)**	H-	+	H-	+	*L.inno*	-	N/A	33.37	-	N/A	33.60	-	N/A	33.30	-	N/A	33.08	-	+spp	+	H-	H-	+	*L.inno*	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	b
2023	**961**	**Déchets saumon**	**Wastes (Salmon)**	H+/H-	+	H+/ H-	+	*L.mono L.inno*	+	N/A	34.67	-	N/A	34.38	-	N/A	38.12	-	N/A	37.05	-	st	st	st	st	st	/	-	-	-	-	-	-	**ND**	**ND**	**ND**	**ND**	2	b
2023	962	Déchets sardines	Wastes (Sardine)	st	st	st	st	/	-	N/A	32.67	-	N/A	32.36	-	N/A	32.39	-	N/A	32.07	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	b
2023	963	Déchets pâté de porc fini	Wastes (Meat)	-	-	-	-	/	-	N/A	33.54	-	N/A	33.14	-	N/A	35.06	-	N/A	34.21	-	st	st	-	-	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	b
2022	**3759**	**Eau de process fabrication pâté fini**	**Process water**	H-	+	H-	+	*L.inno*	-	N/A	32.57	-	N/A	32.97	-	N/A	32.54	-	N/A	32.44	-	+spp	+	H-	H-	+	*L.inno*	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	c
2023	3766	Eau de rinçage PR-eau laveur extérieur	Rinsing water	st	st	st	st	/	-	N/A	32.45	-	N/A	32.43	-	N/A	32.64	-	N/A	32.99	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	c
2023	530	Eau de process laveuse automatique, industrie poisson	Process water	H-	+	H-	+	*L.inno*	-	N/A	32.69	-	N/A	32.36	-	N/A	32.62	-	N/A	32.52	-	+spp	+	H-	H-	+	*L.inno*	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	c
2023	531	Eau de process environnement laitier	Process water	st	-	st	-	/	-	N/A	32.92	-	N/A	32.29	-	N/A	32.67	-	N/A	32.99	-	-	st	-	st	-	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	c
2023	532	Eau de rinçage production mousse de foie	Rinsing water	st	st	st	st	/	-	N/A	32.64	-	N/A	32.65	-	N/A	32.90	-	N/A	32.47	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	c
2023	717	Eau de process filteuse environnement porc	Wastes (Meat)	st	st	st	st	/	-	N/A	32.83	-	N/A	32.54	-	N/A	33.12	-	N/A	32.75	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	c
2023	**730**	**Eau de process sortie laveuse, environnement volaille**	**Process water**	H+	+	H+	+	*L.mono*	+	32.25	32.65	+	33.15	32.19	+	30.24	32.39	+	30.46	32.08	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	c
2023	**731**	**Eau de process environnement laitier**	**Process water**	H+	+	H+	+	*L.mono*	+	33.75	34.10	+	30.53	32.21	+	32.46	33.99	+	33.41	33.37	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	c
2023	**732**	**Eau de process environnement laitier**	**Process water**	st	st	st	st	/	-	34.25	33.19	+	32.56	32.92	+	32.10	33.13	+	33.30	31.86	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	2	c
2023	**733**	**Eau de rinçage production galette végétale + algues**	**Rinsing water**	H+	+	H+	+	*L.mono*	+	N/A	33.35	-	32.01 N/A N/A	32.27 35.20 35.04	+ - -	N/A	33.04	-	N/A	32.12	-	st	st	st	st	st	/	-	-	-	-	-	-	**ND**	**PP ND**	**ND**	**ND**	2	c

PRODUCTION ENVIRONMENTAL SAMPLES

Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1♦						ALTERNATIVE METHOD : iQ-Check *Listeria monocytogenes* II																												Category	Type
										1:10 with LSB II Broth -18h at 37°C																													
										iQ-Check *Listeria monocytogenes* II												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				CFX96 Deep Well			CFX Opus Deep Well			CFX96 Deep Well			CFX Opus Deep Well																				
				O&A	PALCAM	O&A	PALCAM	Identification	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* (100µL)	RAPID'*Listeria* (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identification	Result		CFX96 DW	CFX Opus DW	CFX96 DW	CFX opus DW	CFX96 DW	CFX Opus DW	CFX96 DW	CFX Opus DW		
2023	**734**	**Eau de process production de steak végétal**	**Process water**	H+	+	H+	+	*L.mono*	+	30.86	32.73	+	29.62	31.63	+	29.80	32.65	+	29.82	31.63	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**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	33.33	-	N/A	32.79	-	N/A	33.33	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	c
2023	**828**	**Eau de process environnement laitier**	**Process water**	H+	+	H+	+	*L.mono*	+	33.35	33.38	+	33.53	32.91	+	33.05	33.24	+	33.41	32.41	+	+/+spp d	+	H+	H+	+	*L.mono L.inno*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	c
2023	**829**	**Eau de process environnement végétal**	**Process water**	H+	+	H+	+	*L.mono L.seel*	+	N/A	33.02	-	N/A	32.69	-	N/A	33.30	-	N/A	32.34	-	+spp	+	H-	H-	+	*L.seel*	-	-	-	-	-	-	**ND**	**ND**	**ND**	**ND**	2	c
2023	**830**	**Eau de rinçage environnement carné**	**Rinsing water**	H+/H-	+	H+/ H-	+	*L.mono L.welsh*	+	36.59	33.15	+	36.27	32.43	+	39.15	33.18	+	38.90	32.68	+	+/+spp	+	H+/H-	H+/H-	+	*L.mono L.welsh*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	c
2023	**964**	**Eau de process lait**	**Process water**	H+	+	H+	+	*L.mono*	+	34.39	34.14	+	34.25	34.18	+	34.18	33.94	+	33.51	33.39	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	c
2023	**965**	**Eau de process environnement carné**	**Process water**	st	st	st	st	/	-	N/A	33.27	-	N/A	33.13	-	N/A	33.14	-	N/A	33.06	-	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	/	-	30.87	32.66	+	30.61	32.21	+	31.01	32.88	+	30.97	32.59	+	+	+	H+	H+	+	*L.mono*		+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	2	c
2023	967	Eau de process laitier	Process water	st	-	st	-	/	-	N/A	33.36	-	N/A	33.10	-	N/A	33.22	-	N/A	33.29	-	st	st	st	st	st	/	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	c
2023	968	Eau de process dinde surgelée	Process water	st	st	st	st	/	-	N/A	33.65	-	N/A	33.07	-	N/A	32.84	-	N/A	33.47	-	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♦ 1:10 with Half Fraser - 24h at 30°C: Half Fraser O&A	Half Fraser PALCAM	Fraser O&A	Fraser PALCAM	Identi-fication	Result	ALTERNATIVE METHOD : iQ-Check *Listeria monocytogenes* II 1:10 with prewarmed LSBII Broth 20 h at 37°C: Easy II lysis protocol - Without FDRS APF Fast: CFX96 DW FAM Cq	CFX96 DW I.C. Cq	CFX96 DW Result	CFX Opus DW FAM Cq	CFX Opus DW I.C. Cq	CFX Opus DW Result	Easy II lysis protocol - With FDRS APF Fast: CFX96 DW FAM Cq	CFX96 DW I.C. Cq	CFX96 DW Result	CFX Opus DW FAM Cq	CFX Opus DW I.C. Cq	CFX Opus DW Result	Confirmation: RAPID'*L.mono* (100µL)	RAPID'*Listeria* (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identifi-cation	Subculture in Fraser broth 24h at 37°C (negative samples) Result	Final result confirmation *Listeria monocytogenes*	Final result w/o FDRS CFX96 DW	Final result w/o FDRS CFX Opus DW	Final result w FDRS CFX96 DW	Final result w FDRS CFX Opus DW	Agreement Ref/Alt w/o FDRS CFX96 DW	Agreement Ref/Alt w/o FDRS CFX Opus DW	Agreement Ref/Alt w FDRS CFX96 DW	Agreement Ref/Alt w FDRS CFX Opus DW	Category	Type
2023	1728	Fromage au lait cru de vache pâte cuite	Raw cow milk cheese	H+	+	H+	+	*L. mono*	+	31,64	34,22	+	32,32	33,58	+	33,23	33,24	+	34,51	33,35	+	+	+	H+	H+	+	*L monoc*	/	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	3	a
2023	2742	Maroilles au lait cru de vache	Raw cow milk cheese	st	st	st	-	/	-	32,65	34,49	+	32,94	35,85	+	33,23	36,21	+	32,86	35,06	+	+	+	H+	H+	+	*L mono*	/	+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	3	a
2023	2752	Fromage au lait cru de chèvre 158	Raw goat milk cheese	H+	+	H+	+	*L. mono*	+	41,07	32,82	+	41,98	32,99	+	42,44	33,07	+	N/A N/A N/A	32,94 33,12 32,98	-/-/-	- / + (x5)	+ d ni / +	- / + (x5)	- / + (x5)	- / + (x5)	*L mono*	/	+	+	+	+	-	**PA**	**PA**	**PA**	**ND**	3	a
2023	2753	Fromage au lait cru de chèvre 252	Raw goat milk cheese	st	st	H+	+	*L. mono*	+	N/A N/A 41,17	33,08 33,08 32,46	-/-/+	N/A N/A N/A	32,97 32,46 32,78	-/-/-	41,29	32,82	+	42,73	32,91	+	+	+	H+	H+	+	*L mono*	/	+	-	-	+	+	**ND**	**ND**	**PA**	**PA**	3	a
2023	**1730**	**Fromage au lait cru de vache Reblochon**	**Raw cow milk cheese**	H+	+	H+	+	*L. mono*	+	33,97	33,43	+	34,25	33,16	+	34,19	33,4	+	34,46	33,65	+	+	+	H+	H+	+	*L mono*	/	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	3	a
2023	**1731**	**Fromage au lait cru de vache Gorgonzola**	**Raw cow milk cheese**	H+	+	H+	+	*L. mono*	+	31,69	32,61	+	32,11	32,71	+	31,12	32,76	+	31,63	33,16	+	+	+	H+	H+	+	*L.mono /* *L. inno*	/	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	3	a
2023	**1732**	**Fromage au lait cru de brebis pâte persillée**	**Raw ewe milk cheese**	-	-	H+	+	*L. mono*	+	N/A N/A 40,57	32,81 37.67 36,78	-/-/+	N/A N/A N/A	34,14 32.43 34,86	-/-/-	N/A N/A 43,39	32,88 36.62 33,32	-/-/+	N/A N/A 40,07	33,67 34.32 35,00	-/-/+	- (+ X5)	-	-	-	-	*L mono*	- (+ X5)	+	-	-	-	-	**ND**	**ND**	**ND**	**ND**	3	a
2023	**1733**	**Fromage au lait cru de brebis**	**Raw ewe milk cheese**	H+	+	H+	+	*L. mono*	+	36,09	32,85	+	37,22	33,78	+	36,94	32,78	+	39,22	34,26	+	+	+	H+	H+	+	*L mono*	/	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	3	a
2023	**1733**	**Fromage au lait cru de chèvre Rocamadour**	**Raw goat milk cheese**	H+	+	H+	+	*L. mono*	+	N/A 39,32 37,32	34,53 32,68 32,18	-/+/+	N/A 38,08 38,23	32,57 32,66 33,17	-/+/+	N/A N/A N/A	33,26 32,92 33,15	-/-/-	N/A N/A N/A	33,12 32,81 32,81	-/-/-	+	+	H+	H+	+	*L mono*	/	+	-	-	-	-	**ND**	**ND**	**ND**	**ND**	3	a
2023	**1734**	**Fromage au lait cru de brebis fondant**	**Raw ewe milk cheese**	H+	+	H+	+	*L. mono*	+	33,84	32,61	+	35,05	34,31	+	34,77	32,84	+	37,03	34,27	+	+	+	H+	H+	+	*L mono*	/	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	3	a
2023	**1735**	**Fromage au lait cru de chèvre Picodon**	**Raw goat milk cheese**	-	-	H-	+	*L welsh*	-	N/A 40,27 40,23	37,1 32,88 33,1	-/+/+	N/A N/A 39,18	37,9 32,77 32,41	-/-/+	38,15	34,04	+	42,08	34,57	+	+	+	H+	H+	+	*L mono*	/	+	-	-	+	+	**NA**	**NA**	**PD**	**PD**	3	a
2023	1729	Fromage au lait cru de vache Camembert	Raw cow milk cheese	H-	+	H-	+	*L inno*	-	N/A	33,37	-	N/A N/A*	N/A 32,99*	i / -*	N/A	34,27	-	N/A	33,12	-	-	+	-	-	+	*L inno*	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	a
2023	2741	Coulommiers au lait cru de vache	Raw cow milk cheese	-	-	st	-	/	-	N/A	38,23	-	N/A	39,14	-	N/A	39,9	-	N/A	43,09	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	a
2023	2743	Brie de Meaux au lait cru de vache	Raw cow milk cheese	st	st	st	st	/	-	N/A	38,23	-	N/A	38,7	-	N/A	38,7	-	N/A	38,11	-	-	+	-	-	+	*L inno*	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	a
2023	2744	Munster au lait cru de vache	Raw cow milk cheese	H-	+	H-	+	*L. inno*	-	N/A	34,3	-	N/A	34,87	-	N/A	33,92	-	N/A	34,45	-	-	+	-	-	+	*L inno*	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	a
2023	2745	Reblochon au lait cru de vache	Raw cow milk cheese	st	st	st	st	/	-	N/A	33,73	-	N/A	34,1	-	N/A	34,02	-	N/A	33,91	-	-	-	-	-	-		-	-	-	-	-	-	**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	33,12	-	N/A	33,13	-	N/A	33,04	-	N/A	33,1	-	-	-	-	-	-		-	-	-	-	-	-	**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 33,21*	i / -*	N/A N/A*	N/A 32,89*	i / -*	N/A N/A*	N/A 33,48*	i / -*	N/A N/A*	N/A 32,95*	i / -*	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	a

♦ Analyses performed according to the COFRAC accreditation

DAIRY PRODUCTS

Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1♦ 1:10 with Half Fraser - 24h at 30°C: Half Fraser O&A	Half Fraser PALCAM	Fraser O&A	Fraser PALCAM	Identi-fication	Result	ALTERNATIVE METHOD : iQ-Check *Listeria monocytogenes* II 1:10 with prewarmed LSBII Broth 20 h at 37°C: Easy II lysis protocol - Without FDRS APF Fast: CFX96 DW FAM Cq	CFX96 DW I.C. Cq	CFX96 DW Result	CFX Opus DW FAM Cq	CFX Opus DW I.C. Cq	CFX Opus DW Result	Easy II lysis protocol - With FDRS APF Fast: CFX96 DW FAM Cq	CFX96 DW I.C. Cq	CFX96 DW Result	CFX Opus DW FAM Cq	CFX Opus DW I.C. Cq	CFX Opus DW Result	Confirmation: RAPID'*L.mono* (100µL)	RAPID'*Listeria* (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identifi-cation	Subculture in Fraser broth 24h at 37°C (negative samples) Result	Final result confirmation *Listeria monocytogenes*	Final result w/o FDRS CFX96 DW	Final result w/o FDRS CFX Opus DW	Final result w FDRS CFX96 DW	Final result w FDRS CFX Opus DW	Agreement Ref/Alt w/o FDRS CFX96 DW	Agreement Ref/Alt w/o FDRS CFX Opus DW	Agreement Ref/Alt w FDRS CFX96 DW	Agreement Ref/Alt w FDRS CFX Opus DW	Category	Type
2023	2748	Majette au lait cru de vache	Raw cow milk cheese	st	st	st	st	/	-	N/A	35,68	-	N/A	36,26	-	N/A	36,38	-	N/A	35,63	-	-	-	-	-	-		-	-	-	-	-	-	**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	33,69	-	N/A	34,11	-	N/A	34,65	-	N/A	33,34	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	a
2023	2750	Saint Nicolas de la Dalmerie au lait cru de brebis	Raw ewe milk cheese	st	st	st	st	/	-	N/A	33,16	-	N/A	33,18	-	N/A	32,92	-	N/A	32,82	-	-	-	-	-	-		-	-	-	-	-	-	**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	36,29	-	N/A	36,01	-	N/A	37,49	-	N/A	36,42	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	a
2023	3703	Tomme de brebis au lait cru au romarin	Raw ewe milk cheese	-	-	st	-		-	N/A	32,82	-	N/A	33,01	-	N/A	32,92	-	N/A	33,48	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	a
2023	3704	Roquefort au lait cru de brebis	Raw ewe milk cheese	-	-	-	-		-	N/A	33,04	-	N/A	33,25	-	N/A	33,29	-	N/A	33,04	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	a
2023	1723	Lait cru de brebis	Raw ewe milk	H+	+	H+	+	*L. mono*	+	24,87	32,1	+	24,7	31,7	+	24,68	31,6	+	25,28	31,76	+	+	+	+	+	+	*L mono*	/	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	3	b
2023	1725	Lait cru de brebis	Raw ewe milk	H+	+	H+	+	*L. mono*	+	32,08	32,61	+	34,17	32,86	+	35,63	32,52	+	36,48	33,25	+	+	-	+	+	+	*L mono*	/	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	3	b
2023	2934	Lait cru de vache	Raw cow milk	H+	+	H+	+	*L. mono*	+	N/A	33,73	-	N/A	32,76	-	N/A	33,69	-	N/A	33,45	-	-	-	-	-	-		-	-	-	-	-	-	**ND**	**ND**	**ND**	**ND**	3	b
2023	**1720**	**Lait cru de vache**	**Raw cow milk**	H+	+	H+	+	*L. mono*	+	28,79	33,1	+	29,52	33,37	+	29,41	34,11	+	30,26	33,08	+	+	+	+	+	+	*L mono*	/	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	3	b
2023	**1721**	**Lait cru de vache**	**Raw cow milk**	H+	+	H+	+	*L. mono*	+	32,2	36,99	+	33,31	36,61	+	33,38	36,31	+	34,02	35,04	+	+	+	+	+	+	*L mono*	/	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	3	b
2023	**1722**	**Lait cru de vache**	**Raw cow milk**	-	-	-	-	/	-	32,5	33,1	+	32,21	33,16	+	32,33	34,03	+	32,99	33,66	+	+	+	+	+	+	*L mono*	/	+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	3	b
2023	**1726**	**Lait cru de chèvre**	**Raw goat milk**	H-	+	H-	+	*L inno*	-	29,48	32,36	+	30,13	32,55	+	29,74	32,39	+	30,77	32,59	+	+	+	+	+	+	*L.mono / L. inno*	/	+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	3	b
2023	**1727**	**Lait cru de chèvre**	**Raw goat milk**	H+	+	H+	+	*L. mono*	+	35,48	32,9	+	36,89	33,05	+	33,34	33,15	+	34,28	33,47	+	+	+	+	+	+	*L mono*	/	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	3	b
2023	**3701**	**Beurre de baratte non pasteurisé**	**Butter raw milk**	-	-	-	-		-	31,41	33,78	+	31,32	34,33	+	31,14	33,86	+	31,04	33,46	+	+	+	+	+	+	*L.mono / L. inno*	/	+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	3	b
2023	**3702**	**Beurre de baratte cru**	**Butter raw milk**	+	+	+	+	*L inno*	-	26,75	33,12	+	26,33	32,47	+	26,28	32,38	+	26,06	32,72	+	+	+	+	+	+	*L.mono / L. inno*	/	+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	3	b
2023	1724	Lait cru de brebis	Raw ewe milk	-	-	-	-	/	-	N/A	33,04	-	N/A	32,93	-	N/A	32,95	-	N/A	33,3	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	b
2023	2821	Crème crue fermière	Raw cream	st	st	st	st	/	-	N/A	33,39	-	N/A	33,29	-	N/A	33,52	-	N/A	33,28	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	b
2023	2822	Crème crue fermière	Raw cream	st	st	st	st	/	-	N/A	33,67	-	N/A	33,19	-	N/A	33,55	-	N/A	33,19	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	b
2023	2823	Fromage blanc au lait cru de vache	Cottage cheese raw cow milk	st	st	st	st	/	-	N/A	36,62	-	N/A	35,56	-	N/A	37,05	-	N/A	36,05	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	b
2023	2824	Faisselle au lait cru	Cottage cheese raw cow milk	-	-	-	-	/	-	N/A	33,48	-	N/A	33,69	-	N/A	33,15	-	N/A	33,67	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	b
2023	2932	Lait cru de vache	Raw cow milk	H-	+	H-	+	*L inno*	-	N/A	33,25	-	N/A	33,17	-	N/A	33,68	-	N/A	33,42	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	b
2023	2935	Lait cru de vache	Raw cow milk	st	st	st	st	/	-	N/A	33,11	-	N/A	33,06	-	N/A	33,48	-	N/A	33,26	-	-	+	+	+	+	*L.inno*	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	b
2023	3536	Lait ribot	Fermented milk	st	st	st	st	/	-	N/A	34,04	-	N/A	33,89	-	N/A	33,61	-	N/A	33,83	-	-	st	st	st	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	b
2023	3537	Lait ribot	Fermented milk	-	-	st	-	/	-	N/A	35,12	-	N/A	34,2	-	N/A	34,01	-	N/A	34,37	-	-	-	-	-	st		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	b
2023	**3705**	**Faisselle au lait cru**	**Raw fermented milk**	-	st	-	-		-	N/A	33,26	-	N/A	33,34	-	N/A	33,08	-	N/A	34,01	-	-	st	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	b

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Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1♦ 1:10 with Half Fraser - 24h at 30°C: Half Fraser O&A	Half Fraser PALCAM	Fraser O&A	Fraser PALCAM	Identi-fication	Result	ALTERNATIVE METHOD : iQ-Check *Listeria monocytogenes* II 1:10 with prewarmed LSBII Broth 20 h at 37°C: Easy II lysis protocol - Without FDRS APF Fast: CFX96 DW FAM Cq	CFX96 DW I.C. Cq	CFX96 DW Result	CFX Opus DW FAM Cq	CFX Opus DW I.C. Cq	CFX Opus DW Result	Easy II lysis protocol - With FDRS APF Fast: CFX96 DW FAM Cq	CFX96 DW I.C. Cq	CFX96 DW Result	CFX Opus DW FAM Cq	CFX Opus DW I.C. Cq	CFX Opus DW Result	Confirmation: RAPID'*L.mono* (100µL)	RAPID'*Listeria* (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identifi-cation	Subculture in Fraser broth 24h at 37°C (negative samples) Result	Final result confirmation *Listeria monocytogenes*	Final result w/o FDRS CFX96 DW	Final result w/o FDRS CFX Opus DW	Final result w FDRS CFX96 DW	Final result w FDRS CFX Opus DW	Agreement Ref/Alt w/o FDRS CFX96 DW	Agreement Ref/Alt w/o FDRS CFX Opus DW	Agreement Ref/Alt w FDRS CFX96 DW	Agreement Ref/Alt w FDRS CFX Opus DW	Category	Type
2023	3706	Faisselle au lait cru	Raw fermented milk	st	-	st	-		-	N/A	33,56	-	N/A	33,93	-	N/A	33,04	-	N/A	34,33	-	-	st	-	-	-		-	-	-	-	-	-	NA	NA	NA	NA	3	b
2023	**2825**	**Lait de vache 1/2 écrémé pasteurisé**	**Pasteurized cow milk**	H+	+	H+	+	*L. mono*	+	N/A	33,07	-	N/A	33,26	-	N/A	32,8	-	N/A	32,9	-	-	-	-	-	-		-	-	-	-	-	-	ND	ND	ND	ND	3	c
2023	**2826**	**Lait de vache 1/2 écrémé pasteurisé**	**Pasteurized cow milk**	H+	+	H+	+	*L. mono*	+	N/A	32,8	-	N/A	32,92	-	N/A	32,84	-	N/A	33,12	-	-	-	-	-	-		-	-	-	-	-	-	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+	+	*L. mono*	+	N/A	34,03	-	N/A	34,13	-	N/A	34,17	-	N/A	34,13	-	-	-	-	-	+	*L.seel*	-	-	-	-	-	-	ND	ND	ND	ND	3	c
2023	**2828**	**Fromage à pâte molle au lait pasteurisé de vache**	**Pasteurized cow cheese**	-	-	+d	+d	*L grayi*	-	32,94	35,32	+	33,28	36,07	+	30,38	33,22	+	30,54	32,94	+	+	+	+	+	+	*L.monos*	/	+	+	+	+	+	PD	PD	PD	PD	3	c
2023	**2829**	**Fromage au lait de brebis pasteurisé**	**Pasteurized ewe cheese**	st	st	st	st	/	-	38,38	32,87	+	38,3	33,09	+	38,52	32,81	+	39,22	32,99	+	+	+	+	+	+	*L.mono*	/	+	+	+	+	+	PD	PD	PD	PD	3	c
2023	**2831**	**Lait frais de chèvre pasteurisé**	**Pasteurized goat milk**	H+	+	H+	+	*L. mono*	+	N/A	32,69	-	N/A	33,48	-	N/A	33,56	-	N/A	33,05	-	-	-	-	-	-		-	-	-	-	-	-	ND	ND	ND	ND	3	c
2023	**2834**	**Lait frais de brebis pasteurisé**	Pasteurized ewe milk	H+	+	H+	+	*L. mono*	+	27,46	31,78	+	27,46	31,81	+	27,76	32,04	+	27,48	31,35	+	+	+	+	+	+	*L.mono*	/	+	+	+	+	+	PA	PA	PA	PA	3	c
2023	**3071**	**Lait demi écrémé déshydraté**	**Powdered half-skimmed milk**	-	-	H+	+	*L. mono*	+	N/A	33,01	-	N/A	32,67	-	N/A	33,15	-	N/A	32,8	-	-	-	-	-	-		-	-	-	-	-	-	ND	ND	ND	ND	3	c
2023	**3543**	**Brique pur brebis**	**Pasteurized ewe cheese**	st	-	st	-	/	-	33,13	32,94	+	33,01	32,71	+	33,37	32,74	+	33,09	32,65	+	-	+	+	+	+	*L.mono*	/	+	+	+	+	+	PD	PD	PD	PD	3	c
2023	**3545**	**Tomme des Pyrénées**	**Pasteurized cow cheese**	H+	+	H+	+	*L. mono*	+	N/A N/A 41,29	33,41 34,44 34,41	- / - / +	N/A N/A N/A	32,99 34,71 33,29	- / - / -	N/A N/A N/A	34,21 35,42 34,39	- / - / -	N/A N/A N/A	34,04 35,26 34,28	- / - / -	-	+	+	+	+	*L.mono*	/	+	-	-	-	-	ND	ND	ND	ND	3	c
2023	2754	**Crème glacée à la vanille "cookie"**	**Ice cream**	-	-	-	-	/	-	N/A	33,09	-	N/A	33,48	-	N/A	33,62	-	N/A	33,55	-	-	-	-	-	-		-	-	-	-	-	-	NA	NA	NA	NA	3	c
2023	2755	**Crème glacée à la vanille "caramel"**	**Ice cream**	st	st	-	-	/	-	N/A	33,47	-	N/A	32,82	-	N/A	32,86	-	N/A	32,96	-	-	-	-	-	-		-	-	-	-	-	-	NA	NA	NA	NA	3	c
2023	**2830**	**Fromage au lait de chèvre pasteurisé**	**Pasteurized goat cheese**	st	st	st	st	/	-	N/A	32,64	-	N/A	32,65	-	N/A	33,18	-	N/A	32,83	-	-	-	-	-	-		-	-	-	-	-	-	NA	NA	NA	NA	3	c
2023	**2832**	**Lait frais de chèvre pasteurisé**	Pasteurized goat milk	H-	+	H-	+	*L inno*	-	N/A	33,02	-	N/A	32,91	-	N/A	32,8	-	N/A	32,97	-	-	+	-	-	+	*L.inno*	-	-	-	-	-	-	NA	NA	NA	NA	3	c
2023	**2833**	**Lait frais de brebis pasteurisé**	**Pasteurized ewe milk**	H+	+	H+	+	*L. mono*	+	28,23	32,2	+	28,17	31,83	+	28,08	32,02	+	28	31,49	+	+	+	+	+	+	*L.mono*	/	+	+	+	+	+	PA	PA	PA	PA	3	c
2023	**2835**	**Lait de vache pasteurisé aromatisé cappuccino**	Pasteurized cow milk flavoured	st	st	st	st	/	-	N/A	32,97	-	N/A	33,29	-	N/A	33,37	-	N/A	33,26	-	-	-	-	-	+	*L.seel*	-	-	-	-	-	-	NA	NA	NA	NA	3	c

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Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1♦ 1:10 with Half Fraser - 24h at 30°C: Half Fraser O&A	Half Fraser PALCAM	Fraser O&A	Fraser PALCAM	Identi-fication	Result	ALTERNATIVE METHOD : iQ-Check *Listeria monocytogenes* II 1:10 with prewarmed LSBII Broth 20 h at 37°C: Easy II lysis protocol - Without FDRS APF Fast: CFX96 DW FAM Cq	CFX96 DW I.C. Cq	CFX96 DW Result	CFX Opus DW FAM Cq	CFX Opus DW I.C. Cq	CFX Opus DW Result	Easy II lysis protocol - With FDRS APF Fast: CFX96 DW FAM Cq	CFX96 DW I.C. Cq	CFX96 DW Result	CFX Opus DW FAM Cq	CFX Opus DW I.C. Cq	CFX Opus DW Result	Confirmation: RAPID'*L.mono* (100µL)	RAPID'*Listeria* (100µL)	AL (100µL)	AL (10µL)	Palcam (10µL)	Identifi-cation	Subculture in Fraser broth 24h at 37°C (negative samples) Result	Final result confirmation *Listeria monocytogenes*	Final result w/o FDRS CFX96 DW	Final result w/o FDRS CFX Opus DW	Final result w FDRS CFX96 DW	Final result w FDRS CFX Opus DW	Agreement Ref/Alt w/o FDRS CFX96 DW	Agreement Ref/Alt w/o FDRS CFX Opus DW	Agreement Ref/Alt w FDRS CFX96 DW	Agreement Ref/Alt w FDRS CFX Opus DW	Category	Type
2023	**3072**	**Lait demi écrémé déshydraté**	Powdered half-skimmed milk	-	-	-	-	/	-	N/A	33,83	-	N/A	32,68	-	N/A	33,09	-	N/A	32,28	-	-	+d	-	-	-	*L.inno*	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	c
2023	**3073**	**Lait entier déshydraté**	**Powdered whole milk**	-	-	-	-	/	-	N/A	32,89	-	N/A	32,5	-	N/A	33,02	-	N/A	32,63	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	c
2023	**3074**	**Lait entier déshydraté**	Powdered whole milk	-	-	-	-	/	-	N/A	33,6	-	N/A	32,68	-	N/A	33,15	-	N/A	32,43	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	c
2023	**3075**	**Lait écrémé déshydraté**	**Powdered skimmed milk**	-	-	-	-	/	-	N/A	32,85	-	N/A	32,69	-	N/A	32,99	-	N/A	33,05	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	c
2023	**3076**	**Lait écrémé déshydraté**	Powdered skimmed milk	-	-	-	-	/	-	N/A	33,21	-	N/A	32,47	-	N/A	33,32	-	N/A	32,53	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	c
2023	3077	Lait demi écrémé déshydraté	Powdered half-skimmed milk	-	-	-	-	/	-	N/A	32,95	-	N/A	32,63	-	N/A	33,1	-	N/A	32,76	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	c
2023	3078	Lait écrémé déshydraté	Powdered skimmed milk	-	-	-	-	/	-	N/A	32,12	-	N/A	32,88	-	N/A	32,97	-	N/A	32,74	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	c
2023	**3260**	**Crème glacée vanille**	Ice cream	H-	+	H-	+	*L. seel*	-	N/A	33,14	-	N/A	33,38	-	N/A	33,59	-	N/A	33,1	-	-	+	-	-	+	*L seel*	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	c
2023	**3261**	**Crème glacée vanille**	**Ice cream**	st	-	st	-	/	-	N/A	33,37	-	N/A	33,01	-	N/A	33,08	-	N/A	32,93	-	-	st	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	c
2023	**3262**	**Crème glacée à la vanille**	Ice cream	H-	+	H-	+	*L. seel*	-	N/A	33,7	-	N/A	32,57	-	N/A	33,04	-	N/A	33,34	-	-	+	-	-	+	*L seel*	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	c
2023	**3263**	**Crème glacée à la vanille**	**Ice cream**	st	-	st	st	/	-	N/A	33,26	-	N/A	32,83	-	N/A	33,35	-	N/A	33,05	-	-	-	-	-	-		-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	c
2023	**3544**	**Brique pur brebis**	Pasteurized ewe cheese	H-	-	H-	+	*L inno*	-	N/A	33,02	-	N/A	33,17	-	N/A	33,06	-	N/A	33,1	-	-	+	-d	-d	-	*L. inno*	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	c
2023	**3546**	**Tomme des Pyrénées**	Pasteurized cow cheese	st	-	st	st	/	-	N/A	33,39	-	N/A	33,09	-	N/A	33,27	-	N/A	32,92	-	-	+	-d	-d	-	*L. inno*	-	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	3	c

COMPOSITE FOODS																															
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					iQ-Check *Listeria monocytogenes* II												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			
					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' *L.mono*	RAPID' *Listeria*	AL	Final Results confir-mation	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	3302	Sandwich viennois thon-crudités	RTE (Sandwich tuna and crudity)	+	N/A	32.90	-	N/A	33.07	-	N/A	33.87	-	N/A	33.65	-	-	st	-	-	-	-	-	-	ND	ND	ND	ND	1	a
2022	3305	Sandwich supérieur Emmental	RTE (Sandwich cheese and ham)	+	36.83	35.26	+	37.54	35.23	+	34.46	34.40	+	36.44	34.47	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	1	a
2022	3670	Triangle jambon-mozzarella	RTE (Sandwich ham and cheese)	-	37.91	35.82	+	38.27	37.06	+	36.14	36.41	+	35.93	36.74	+	+	+	H+	+	+	+	+	+	PD	PD	PD	PD	1	a
2022	**3803**	**Salade Manhattan pâte, crudités, œuf, poulet rôti, carottes et fromage**	**RTE (Salad with chicken, eggs, paste...)**	+	25.31	N/A	+	26.63	34.88	+	27.89	33.98	+	28.27	35.52	+	+/+spp	+	H+/H-	+	+	+	+	+	PA	PA	PA	PA	1	a
2022	**3804**	**Piemontaise au jambon**	**RTE (Salad with potatoes, ham…)**	+	22.91	N/A	+	25.63	32.42	+	28.28	33.42	+	28.21	34.11	+	+/+spp	+	H+/H-	+	+	+	+	+	PA	PA	PA	PA	1	a
2022	**3805**	**Taboulé à l'orientale**	**Oriental tabbouleh**	+	30.54	32.58	+	30.57	33.05	+	30.70	32.57	+	29.89	33.15	+	+/+spp	+	H+/H-	+	+	+	+	+	PA	PA	PA	PA	1	a
2022	**3806**	**Demi involtini à la ricotta**	**Half-involtini with ricotta cheese**	+	33.55	36.23	+	33.79	36.69	+	33.02	35.99	+	33.00	35.70	+	+/+spp	+	H+/H-	+	+	+	+	+	PA	PA	PA	PA	1	a
2023	749	Beignet râpé pomme de terre/cheddar	Potato fritter with cheese	+	N/A	37.11	-	N/A	36.08	-	N/A	34.92	-	N/A	43.68	-	-	st	-	-	-	-	-	-	ND	ND	ND	ND	1	a
2023	761	Paillasson de légumes et fromage	RTE (vegetable and cheese)	+	N/A	32.95	-	N/A	32.98	-	N/A	32.90	-	N/A	32.64	-	-	st	-	-	-	-	-	-	ND	ND	ND	ND	1	a
2022	3307	Pépites fromage ail et fines herbes panées	RTRH (Nuggets herbs and cheese)	+	33.59	33.72	+	33.62	33.81	+	31.29	33.85	+	33.47	34.34	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	1	b
2022	3308	Nuggets de saumon	Salmon nuggets	+	22.50	32.37	+	22.23	32.65	+	N/A/N/A /N/A	33.08/ 33.30/ 33.43	- - -	N/A 22.71 22.21	33.32 32.82 32.70	- + +	+	+	H+	+	+	+	-	-	PA	PA	ND	ND	1	b
2022	3309	Nuggets de saumon	Salmon nuggets	+	22.59	33.03	+	22.23	32.45	+	20.39	N/A	+	22.78	32.38	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	1	b
2022	3310	Nuggets de saumon	Salmon nuggets	-	33.60	33.01	+	33.48	33.04	+	20.36	N/A	+	23.13	31.95	+	+	+	H+	+	+	+	+	+	PD	PD	PD	PD	1	b
2022	3461	Tourte poularde-cèpes	RTH (Puff chicken, mushroom)	+	28.73	32.19	+	28.44	31.83	+	28.88	33.14	+	28.91	32.13	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	1	b
2022	3464	Paëlla	RTRH (Paella)	-	N/A	32.63	-	N/A	32.27	-	N/A	31.99	-	N/A	31.99	-	st	st	-	-	-	-	-	-	NA	NA	NA	NA	1	b
2022	3465	Galette soja-légumes	RTRH (vegetables, soya)	+	30.30	32.19	+	30.17	31.94	+	31.22	32.09	+	31.03	32.12	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	1	b
2022	3469	Buffalo wings	Chicken wings	-	31.45	32.12	+	31.46	32.08	+	31.47	32.08	+	30.66	31.83	+	+	+	H+	+	+	+	+	+	PD	PD	PD	PD	1	b
2022	3471	Galette soja-tomates-basilic	RTRH (soya,tomato, basilc)	-	N/A	32.43	-	N/A	32.50	-	N/A	32.18	-	N/A	32.41	-	-	st	-	-	-	-	-	-	NA	NA	NA	NA	1	b
2022	3472	Paillasson de légumes	RTRH (cheese and vegetable)	-	27.49	33.35	+	26.37	31.68	+	28.38	33.32	+	28.30	31.97	+	+	+	H+	+	+	+	+	+	PD	PD	PD	PD	1	b
2022	3473	Galette de soja à la provencale	RTRH (	-	N/A	32.24	-	N/A	32.54	-	N/A	32.34	-	N/A	32.54	-	-	st	st	-	-	-	-	-	NA	NA	NA	NA	1	b
2022	3671	Cordon bleu de dinde	RTRH (Ham and cheese escalope)	-	35.96	32.59	+	36.21	32.80	+	36.67	32.42	+	37.16	33.04	+	+	+	H-	-	+	+	+	+	PD	PD	PD	PD	1	b
2022	3674	Panini kebab	Pannini kebab	+	22.32	31.80	+	22.51	31.69	+	22.64	32.18	+	22.76	31.45	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	1	b
2022	3575	Nuggets saumon	Salmon nuggets	+	21.13	32.87	+	21.61	32.54	+	20.51	33.41	+	20.42	33.30	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	1	b

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COMPOSITE FOODS

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					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' *L.mono*	RAPID' *Listeria*	AL	Final Results confir-mation	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	3676	Nuggets saumon	Salmon nuggets	+	22.93	31.91	+	23.37	31.37	+	21.92	33.15	+	22.24	33.04	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	1	b
2022	3470	Pâte à quiche	Raw dough	+	29.79	33.27	+	29.46	32.61	+	29.62	33.17	+	29.25	33.33	+	+/+spp	+	H+/H-	+	+	+	+	+	PA	PA	PA	PA	1	c
2022	**3807**	**Tortilla**	**Tortilla**	+	20.88	32.19	+	20.96	32.68	+	21.19	31.75	+	21.10	31.99	+	+/+spp	+	H+/H-	+	+	+	+	+	PA	PA	PA	PA	1	c
2022	**3808**	**Tortilla à l'oignon**	**Onion tortilla**	-	24.14	31.72	+	24.29	33.04	+	23.43	32.40	+	23.00	33.34	+	+	+	H+	+	+	+	+	+	PD	PD	PD	PD	1	c
2022	**3809**	**Choux chantilly**	**Pastry**	+	25.87	32.20	+	25.82	31.98	+	25.95	31.60	+	25.55	31.61	+	+/+spp	+	H+/H-	+	+	+	+	+	PA	PA	PA	PA	1	c
2022	**3810**	**Charlotte framboise**	**Pastry**	+	27.66	32.26	+	27.54	33.28	+	28.23	32.14	+	28.19	33.17	+	+/+spp	+	H+/H-	+	+	+	+	+	PA	PA	PA	PA	1	c
2022	**3811**	**Ile flottante**	**Custard based dessert**	+	24.08	32.26	+	24.09	32.01	+	24.51	31.24	+	24.54	31.78	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	1	c
2022	**3812**	**Mousse au chocolat**	**Confectionary (chocolate)**	+	28.86	N/A	+	28.35	41.62	+	29.38	38.93	+	32.39	N/A	+	+/+spp	+	H+/H-	+	+	+	+	+	PA	PA	PA	PA	1	c
2023	**813**	**Crème anglaise à la vanille**	**Custard**	+	23.72	N/A	+	23.67	N/A	+	24.11	38.36	+	23.15	33.60	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	1	c
2023	**814**	**Mousse fraise**	**Strawberry mousse**	+	22.57	N/A	+	22.41	N/A	+	22.62	34.28	+	22.27	31.35	+	+/spp	+	H+/H-	+	+	+	+	+	PA	PA	PA	PA	1	c
2023	**815**	**Eclair au chocolat**	**Pastry**	+	20.24	N/A	+	20.20	N/A	+	20.14	N/A	+	22.50	N/A	+	+	+	H+	+	+	+	+	+	PA	PA	PA	PA	1	c

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					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' *L.mono*	RAPID' *Listeria*	AL	Final Results confir-mation	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**	+	36.64	32.29	+	36.60	32.99	+	36.45	32.58	+	35.53	33.31	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	a
2022	**3761**	**Chiffonnette grille siphon VHS 19 après nettoyage**	**Wipe after cleaning process**	-	35.53	32.55	+	35.37	32.78	+	35.56	32.63	+	35.28	32.86	+	+/+spp	+	H+/H-	+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	2	a
2022	**3762**	**Chiffonnette VHS2 table transfert environnement carné, après nettoyage**	**Wipe after cleaning process**	+	24.19	31.61	+	40.32	33.68	+	24.57	31.37	+	24.45	30.95	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	a
2022	**3763**	**Chiffonnette pompe production crème glacée avant nettoyage**	**Wipe before cleaning process**	+	32.58	32.28	+	34.63	33.06	+	33.09	32.24	+	33.35	32.72	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	a
2022	**3765**	**Chiffonnette environnement laitier avant nettoyage**	**Wipe before cleaning process**	+	26.57	31.60	+	24.72	31.26	+	28.93	31.82	+	29.15	32.22	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	a
2023	**723**	**Chiffonnette de surface réception UPM, après nettoyage**	**Wipe after cleaning process**	+	26.61	32.18	+	27.28	31.90	+	27.05	31.57	+	27.34	31.38	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	a
2023	**724**	**Chiffonnette de surface table de façonnage brioche après désinfection**	**Wipe after cleaning process**	-	N/A	32.84	-	N/A	32.81	-	N/A	32.98	-	N/A	32.82	-	-	st	st	-	-	-	-	-	**NA**	**NA**	**NA**	**NA**	2	a
2023	757	Chiffonnette prélèvement de surface environnement bovin	Wipe before cleaning process	-	31.49	32.93	+	31.01	32.40	+	26.56	32.24	+	26.57	31.37	+	+/+spp	+	H+/H-	+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	2	a
2023	**822**	**Chiffonnette environnement végétal avant nettoyage**	**Wipe before cleaning process**	+	36.13	33.14	+	35.18	33.04	+	37.09	33.20	+	35.60	33.12	+	+/+spp	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	a
2023	**823**	**Chiffonnette environnement laitier (production glace) avant nettoyage**	**Wipe before cleaning process**	+	29.14	32.12	+	28.95	32.03	+	29.13	32.30	+	28.87	32.16	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	a

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				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			
					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' *L.mono*	RAPID' *Listeria*	AL	Final Results confir-mation	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	**824**	**Chiffonnette environnemnet porc (production pâté)**	**Wipe before cleaning process**	+	N/A	33.57	-	N/A	32.94	-	N/A	33.21	-	N/A	32.84	-	+spp	+	H+	+	-	-	-	-	**ND**	**ND**	**ND**	**ND**	2	a
2023	527	Déchet poisson Scan 4 trancheur	Wastes (Fish)	+	33.46	33.34	+	34.04	32.54	+	33.30	33.91	+	32.69	32.23	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	b
2023	**725**	**Déchet viande bovine**	**Wastes (Meat)**	+	N/A 34.46	N/A 33.33	i/+*	N/A 33.63	N/A 33.04	i/+*	N/A 39.20	N/A 38.04	i/+*	N/A 36.41	N/A 34.39	i/+*	+/+spp	+	H-	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	b
2023	**726**	**Déchet viande bovine**	**Wastes (Meat)**	+	32.14	32.55	+	32.22	32.52	+	33.38	33.13	+	35.75	32.91	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	b
2023	**727**	**Déchets de production biscuit**	**Wastes**	+	26.03	32.13	+	26.74	31.51	+	26.86	32.50	+	27.11	31.89	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	b
2023	**728**	**Déchets saumon**	**Wastes (Salmon)**	+	27.71	31.84	+	28.33	31.98	+	27.35	31.94	+	28.12	31.89	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	b
2023	**729**	**Déchet poisson dessous épineux**	**Wastes (Fish)**	+	30.59	32.40	+	31.34	32.34	+	31.63	32.72	+	32.45	33.09	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	b
2023	759	Déchets truite	Wastes (Trout)	-	31.24	33.07	+	40.89	35.46	+	28.37	32.17	+	28.14	31.90	+	+	+	H+	+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	2	b
2023	**825**	**Déchets découpe viande**	**Wastes (Meat)**	+	31.49	33.26	+	30.96	33.38	+	33.10	33.48	+	32.79	34.15	+	+/+spp	+	H+/H-	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	b
2023	**826**	**Déchets caséinate production pâté**	**Wastes (Meat)**	+	27.09	32.45	+	26.92	31.53	+	29.06	32.93	+	28.91	32.71	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	b
2023	**961**	**Déchets saumon**	**Wastes (Salmon)**	+	N/A	33.35	-	N/A	34.70	-	N/A	33.69	-	N/A	41.45	-	st	st	st	-	-	-	-	-	**ND**	**ND**	**ND**	**ND**	2	b
2023	**730**	**Eau de process sortie laveuse, environnement volaille**	**Process water**	+	26.56	31.39	+	27.30	32.01	+	27.33	31.79	+	27.52	31.63	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	c
2023	**731**	**Eau de process environnement laitier**	**Process water**	+	29.23	33.08	+	29.36	32.55	+	29.70	32.22	+	30.00	32.68	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	c
2023	**732**	**Eau de process environnement laitier**	**Process water**	-	26.90	31.58	+	27.38	31.71	+	27.26	31.52	+	27.81	31.72	+	+	+	H+	+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	2	c
2023	**733**	**Eau de rinçage production galette végétale + algues**	**Rinsing water**	+	N/A	33.10	-	N/A	32.74	-	N/A	32.60	-	N/A	33.30	-	st	st	st	-	-	-	-	-	**ND**	**ND**	**ND**	**ND**	2	c
2023	**734**	**Eau de process production de steack végétal**	**Process water**	+	24.75	31.28	+	25.24	31.55	+	25.26	31.68	+	25.26	30.97	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	c
2023	**828**	**Eau de process environnemnet laitier**	**Process water**	+	29.08	32.76	+	28.82	32.12	+	29.31	32.64	+	30.10	33.07	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	c
2023	**829**	**Eau de process environnement végétal**	**Process water**	+	N/A	33.23	-	N/A	33.20	-	N/A	33.21	-	N/A	33.39	-	+spp	+	H-	-	-	-	-	-	**ND**	**ND**	**ND**	**ND**	2	c
2023	**830**	**Eau de rinçage environnement carné**	**Rinsing water**	+	33.49	33.17	+	33.72	32.94	+	33.05	33.03	+	34.12	32.89	+	+/+spp	+	H+/H-	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	c
2023	**964**	**Eau de process lait**	**Process water**	+	30.13	34.05	+	30.20	N/A	+	30.55	33.30	+	36.99	N/A	+	+	+	H+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	2	c

PRODUCTION ENVIRONMENTAL SAMPLES																																	
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1♦	ALTERNATIVE METHOD : iQ-Check *Listeria monocytogenes* II																								Category	Type
					1:10 with LSB II Broth -18h at 37°C + 72 h at 5°C ± 3°C																									
					iQ-Check *Listeria monocytogenes* II												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			
					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' *L.mono*	RAPID' *Listeria*	AL	Final Results confir-mation	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	966	Eau de process bache 2 (environnement carné)	Process water	-	27.19	32.31	+	27.29	34.33	+	26.62	32.50	+	27.07	34.70	+	+	+	H+	+	+	+	+	+	PD	PD	PD	PD	2	c

DAIRY PRODUCTS																															
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1♦	ALTERNATIVE METHOD : iQ-Check *Listeria monocytogenes* II																								Category	Type
				1:10 with Half Fraser - 24h at 30°C	1:10 with prewarmed LSB II Broth -20 h at 37°C + 72h at 5°C ± 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	RAPID' *L.mono*	RAPID'*Listeria*	AL	Final results confirmation	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	1728	Fromage au lait cru de vache pâte cuite	Raw cow milk cheese	+	30,7	32,69	+	30,97	33,56	+	30,94	33,41	+	31,18	33,65	+	+	+	+	+	+	+	+	+	PA	PA	PA	PA	3	a
2023	2742	Maroilles au lait cru de vache	Raw cow milk cheese	-	32,3	33,47	+	28,42	38,47	+	29,24	37,4	+	32,44	34,13	+	+	+	+	+	+	+	+	+	PD	PD	PD	PD	3	a
2023	2752	Fromage au lait cru de chèvre 158	Raw goat milk cheese	+	39,69	32,83	+	37,48	32,86	+	38,62	32,7	+	40,08	32,49	+	+	+	- / +(x5)	+	+	+	+	+	PA	PA	PA	PA	3	a
2023	2753	Fromage au lait cru de chèvre 252	Raw goat milk cheese	+	37,28	33,41	+	37,24	35,24	+	37,62	35,16	+	35,25	32,91	+	+	+	+	+	+	+	+	+	PA	PA	PA	PA	3	a
2023	**1730**	**Fromage au lait cru de vache Reblochon**	**Raw cow milk cheese**	+	31,14	33,23	+	31,26	33,69	+	30,51	33,05	+	31,09	33,78	+	+	+	+	+	+	+	+	+	PA	PA	PA	PA	3	a
2023	**1731**	**Fromage au lait cru de vache Gorgonzola**	**Raw cow milk cheese**	+	28,73	32,24	+	29	32,76	+	28,97	32,4	+	28,95	32,66	+	+	+	+	+	+	+	+	+	PA	PA	PA	PA	3	a
2023	**1732**	**Fromage au lait cru de brebis pâte persillée**	**Raw ewe milk cheese**	+	41,03	33,15	+	41,41	33,53	+	N/A	33,04	-	N/A	33,18	-	- (+ x5)	-	-	+	+	+	-	-	PA	PA	ND	ND	3	a
2023	**1733**	**Fromage au lait cru de brebis**	**Raw ewe milk cheese**	+	34,24	32,67	+	34,61	33,29	+	36,09	33,05	+	36,27	33,35	+	+	+	+	+	+	+	+	+	PA	PA	PA	PA	3	a
2023	**1733**	**Fromage au lait cru de chèvre Rocamadour**	**Raw goat milk cheese**	+	39,38	34,27	+	37,98	33,25	+	41,02	33,01	+	39,13	37,16	+	+	+	+	+	+	+	+	+	PA	PA	PA	PA	3	a
2023	**1734**	**Fromage au lait cru de brebis fondant**	**Raw ewe milk cheese**	+	27,29	32,27	+	27,28	32,34	+	27,7	31,74	+	27,81	32,62	+	+	+	+	+	+	+	+	+	PA	PA	PA	PA	3	a
2023	**1735**	**Fromage au lait cru de chèvre Picodon**	**Raw goat milk cheese**	-	37,73	33,63	+	37,65	35,03	+	38,66	33,17	+	41,17	33,89	+	+	+	+	+	+	+	+	+	PD	PD	PD	PD	3	a
2023	1723	Lait cru de brebis	Raw ewe milk	+	20,06	33,37	+	20,33	35,82	+	20,78	33,21	+	20,92	36,77	+	+	+	+	+	+	+	+	+	PA	PA	PA	PA	3	b
2023	1725	Lait cru de brebis	Raw ewe milk	+	30,72	32,39	+	30,67	33,03	+	30,73	32,25	+	30,73	33,05	+	+	+	+	+	+	+	+	+	PA	PA	PA	PA	3	b
2023	2934	Lait cru de vache	Raw cow milk	+	N/A	33,36	-	N/A	34,06	-	N/A	33,86	-	N/A	33,81	-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	3	b
2023	**1720**	**Lait cru de vache**	**Raw cow milk**	+	24,72	32,32	+	24,61	31,89	+	25,11	32,58	+	24,79	32,71	+	+	+	+	+	+	+	+	+	PA	PA	PA	PA	3	b
2023	**1721**	**Lait cru de vache**	**Raw cow milk**	+	31,89	34,87	+	32,44	36,2	+	33,11	35,81	+	32,97	36,11	+	+	+	+	+	+	+	+	+	PA	PA	PA	PA	3	b
2023	**1722**	**Lait cru de vache**	**Raw cow milk**	-	27,83	32,46	+	28,12	32,32	+	28,13	32,43	+	27,49	32,44	+	+	+	+	+	+	+	+	+	PD	PD	PD	PD	3	b
2023	**1726**	**Lait cru de chèvre**	**Raw goat milk**	-	27,65	32,22	+	27,69	32,37	+	28,96	32,19	+	29,03	32,9	+	+	+	+	+	+	+	+	+	PD	PD	PD	PD	3	b
2023	**1727**	**Lait cru de chèvre**	**Raw goat milk**	+	30,24	32,29	+	30,34	32,83	+	30,4	32,07	+	30,64	33,09	+	+	+	+	+	+	+	+	+	PA	PA	PA	PA	3	b
2023	**3701**	**Beurre de baratte non pasteurisé**	**Butter raw milk**	-	30,51	33,78	+	30,48	34,06	+	30,95	33,55	+	31,02	34,1	+	+	+	+	+	+	+	+	+	PD	PD	PD	PD	3	b
2023	**3702**	**Beurre de baratte cru**	**Butter raw milk**	-	26,12	32,26	+	26,15	32,13	+	26,42	33,13	+	26,53	32,46	+	+	+	+	+	+	+	+	+	PD	PD	PD	PD	3	b
2023	**2825**	**Lait de vache 1/2 écrémé pasteurisé**	**Pasteurized cow milk**	+	N/A	32,89	-	N/A	33,46	-	N/A	32,98	-	N/A	33,25	-	st	st	st	-	-	-	-	-	ND	ND	ND	ND	3	c
2023	**2826**	**Lait de vache 1/2 écrémé pasteurisé**	**Pasteurized cow milk**	+	N/A	32,59	-	N/A	33,19	-	N/A	32,76	-	N/A	32,96	-	st	st	st	-	-	-	-	-	ND	ND	ND	ND	3	c

♦ Analyses performed according to the COFRAC accreditation

DAIRY PRODUCTS

Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1♦	ALTERNATIVE METHOD : iQ-Check *Listeria monocytogenes* II																								Category	Type
				1:10 with Half Fraser - 24h at 30°C	1:10 with prewarmed LSB II Broth -20 h at 37°C + 72h at 5°C ± 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	RAPID' *L.mono*	RAPID'*Listeria*	AL	Final results confirmation	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	**2827**	**Lait de vache 1/2 écrémé pasteurisé aromatisé mangue / fruit de la passion**	**Pasteurized cow milk flavoured**	+	N/A	32,54	-	N/A	33,21	-	N/A	32,52	-	N/A	33,12	-	-	+	-	-	-	-	-	-	**ND**	**ND**	**ND**	**ND**	3	c
2023	**2828**	**Fromage à pâte molle au lait pasteurisé de vache**	**Pasteurized cow cheese**	-	25,47	31,5	+	25,38	31,51	+	25,47	31,37	+	25,76	32,57	+	+	+	+	+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	3	c
2023	**2829**	**Fromage au lait de brebis pasteurisé**	**Pasteurized ewe cheese**	-	36,64	32,96	+	36,38	33,04	+	35,45	32,39	+	36,16	33,09	+	+	+	+	+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	3	c
2023	**2831**	**Lait frais de chèvre pasteurisé**	**Pasteurized goat milk**	+	N/A	32,54	-	N/A	33,06	-	N/A	32,57	-	N/A	32,73	-	st	-	-	-	-	-	-	-	**ND**	**ND**	**ND**	**ND**	3	c
2023	**2834**	**Lait frais de brebis pasteurisé**	Pasteurized ewe milk	+	24,06	32,35	+	23,71	32,19	+	23,68	31,83	+	23,55	32,04	+	+	+	+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	3	c
2023	**3071**	**Lait demi écrémé déshydraté**	**Powdered half-skimmed milk**	+	N/A	33,05	-	N/A	32,46	-	N/A	33,49	-	N/A	32,59	-	-	-	-	-	-	-	-	-	**ND**	**ND**	**ND**	**ND**	3	c
2023	**3543**	**Brique pur brebis**	**Pasteurized ewe cheese**	-	30,69	32,68	+	30,63	32,29	+	30,42	32,52	+	30,36	32,63	+	+ (2)	+	+	+	+	+	+	+	**PD**	**PD**	**PD**	**PD**	3	c
2023	**3545**	**Tomme des Pyrénées**	**Pasteurized cow cheese**	+	29,32	32,99	+	29,06	32,69	+	29,68	33,2	+	29,09	32,96	+	+	+	+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	3	c
2023	**2833**	**Lait frais de brebis pasteurisé**	**Pasteurized ewe milk**	+	24,03	32,22	+	23,67	32,58	+	23,97	32,31	+	23,68	32,05	+	+	+	+	+	+	+	+	+	**PA**	**PA**	**PA**	**PA**	3	c

Appendix 9 – Relative level of detection study: raw data - Enrichment in LSB II broth (Extension study, 2023)

Matrix: Piemontaise
Strain: *Listeria monocytogenes* Ad1719
Seeding 48h at 3±2°C
Aerobic mesophilic flora: 3,3.10^5 CFU/g

Sample N°	Inoculation level (cfu/test portion)	Refrence method: ISO 11290-1♦						Alternative method : iQ-Check *Listeria* monocytogenes II																		
		Half Fraser		Fraser		Final result	Number positive samples/Total	PCR results												Confirmations					Final result	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	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	RAPID'*L.mono* (100µL)	RAPID'*L.spp* (100µL)	AL (100µL)	AL (10µL)	Palcam (10 µL)		
48	/	-	-	-	-	-	0/5	N/A	34.07	-	N/A	33.73	-	N/A	33.94	-	N/A	34.23	-	-	-	-	-	-	-	0/5
49		st	-	-	-	-		N/A	34.08	-	N/A	33.68	-	N/A	34.36	-	N/A	34.10	-	-	-	-	-	-	-	
50		-	-	-	-	-		N/A	33.89	-	N/A	33.28	-	N/A	33.57	-	N/A	33.14	-	-	-	-	-	-	-	
51		-	-	-	-	-		N/A	34.29	-	N/A	33.54	-	N/A	34.54	-	N/A	34.11	-	-	-	-	-	-	-	
52		st	-	st	-	-		N/A	33.80	-	N/A	33.26	-	N/A	34.03	-	N/A	33.52	-	-	-	-	-	-	-	
53	0,6	-	-	-	-	-	6/20	31.30	33.19	+	30.96	33.32	+	31.04	33.58	+	30.81	33.23	+	+	H+	H+	+	+	+	12/20
54		-	-	-	-	-		31.17	33.88	+	30.41	33.17	+	30.79	33.13	+	30.40	33.52	+	+	H+	H+	+	+	+	
55		-	-	-	-	-		30.26	33.85	+	29.52	32.79	+	30.08	34.03	+	29.44	33.54	+	+	H+	H+	+	+	+	
56		-	-	-	-	-		N/A	33.87	-	N/A	33.50	-	N/A	34.33	-	N/A	34.18	-	-	-	-	-	-	-	
57		-	-	-	-	-		28.64	32.96	+	27.91	32.48	+	28.81	33.09	+	28.08	32.46	+	+	H+	H+	+	+	+	
58		-	-	-	-	-		31.50	33.30	+	30.75	32.98	+	31.16	33.07	+	30.39	33.20	+	+	H+	H+	+	+	+	
59		-	-	-	-	-		N/A	34.47	-	N/A	33.80	-	N/A	34.16	-	N/A	34.06	-	-	-	-	-	-	-	
60		st	-	-	-	-		30.20	33.48	+	29.71	32.51	+	30.73	33.59	+	30.10	32.90	+	+	H+	H+	+	+	+	
61		H+	+	H+	+	+		N/A	34.12	-	N/A	34.31	-	N/A	34.16	-	N/A	34.43	-	-	-	-	-	-	-	
62		H+	+	H+	+	+		N/A	34.71	-	N/A	34.03	-	N/A	34.26	-	N/A	34.56	-	-	-	-	-	-	-	
63		-	-	-	-	-		32.51	32.12	+	29.55	32.63	+	30.84	33.95	+	30.29	33.53	+	+	H+	H+	+	+	+	
64		H+	+	H+	+	+		N/A	33.76	-	N/A	32.86	-	N/A	34.20	-	N/A	34.54	-	-	-	-	-	-	-	
65		-	-	-	-	-		N/A	32.62	-	N/A	33.56	-	N/A	34.21	-	N/A	34.02	-	-	-	-	-	-	-	
66		H+	+	H+	+	+		30.91	33.06	+	30.17	32.39	+	32.84	32.34	+	30.38	32.95	+	+	H+	H+	+	+	+	
67		-	-	-	-	-		31.34	33.51	+	30.42	32.80	+	31.21	33.13	+	30.79	33.42	+	+	H+	H+	+	+	+	
68		-	-	-	-	-		N/A	34.27	-	N/A	33.57	-	N/A	34.66	-	N/A	34.04	-	-	-	-	-	-	-	
69		-	-	-	-	-		31.28	34.37	+	30.52	33.76	+	31.18	34.05	+	30.89	33.83	+	+	H+	H+	+	+	+	
70		H+	+	H+	+	+		31.86	33.79	+	31.45	34.18	+	31.89	34.12	+	31.55	34.02	+	+	H+	H+	+	+	+	
71		H+	+	H+	+	+		31.14	32.74	+	30.43	33.11	+	32.08	33.57	+	31.38	33.70	+	+	H+	H+	+	+	+	
72		-	-	-	-	-		N/A	33.60	-	N/A	34.01	-	N/A	34.21	-	N/A	34.08	-	-	-	-	-	-	-	
73	2,4	H+	+	H+	+	+	5/5	30.20	32.89	+	29.34	32.50	+	30.25	33.49	+	29.63	32.57	+	+	H+	H+	+	+	+	5/5
74		H+	+	H+	+	+		30.29	33.41	+	29.63	32.71	+	31.22	33.79	+	30.52	33.27	+	+	H+	H+	+	+	+	
75		H+	+	H+	+	+		29.75	32.65	+	28.78	32.44	+	29.81	33.89	+	29.41	33.38	+	+	H+	H+	+	+	+	
76		H+	+	H+	+	+		29.47	33.05	+	28.88	32.41	+	29.70	33.70	+	29.21	33.10	+	+	H+	H+	+	+	+	
77		H+	+	H+	+	+		30.05	34.13	+	29.27	33.17	+	29.44	33.88	+	28.98	33.55	+	+	H+	H+	+	+	+	

♦ Analyses performed according to the COFRAC accreditation

Matrix: Process water
Strain: *Listeria monocytogenes* Ad2503
Seeding 48h at 3±2°C
Aerobic mesophilic flora: 1,38.10^{7} UFC/mL

Sample N°	Inoculation level (cfu/test portion)	Refrence method: ISO 11290-1♦						Alternative method : iQ-Check *Listeria monocytogenes* II																			
		Half Fraser		Fraser		*Final result*	Number positive samples/Total	PCR results												Confirmations					Final result	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	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	FAM Cq	I.C. Cq	Result	RAPID'*L.mono* (100µL)	RAPID'*L.spp* (100µL)	AL (100µL)	AL (10µL)	Palcam (10 µL)		w/o FDRS	W FDRS
997	/	st	st	st	st	-	0/5	N/A	32.97	-	N/A	32.79	-	N/A	32.95	-	N/A	32.75	-	st	st	st	st	st	-	0/5	0/5
998		st	st	st	st	-		N/A	32.92	-	N/A	32.58	-	N/A	33.27	-	N/A	32.71	-	st	st	st	st	st	-		
999		st	st	st	st	-		N/A	33.37	-	N/A	32.90	-	N/A	33.22	-	N/A	32.80	-	st	st	st	st	-	-		
1000		st	st	st	st	-		N/A	33.23	-	N/A	32.50	-	N/A	33.07	-	N/A	32.75	-	st	st	-	-	-	-		
1001		st	st	st	st	-		N/A	32.87	-	N/A	32.56	-	N/A	33.15	-	N/A	32.68	-	st	st	st	st	st	-		
1002	0,8	H+	+	H+	+	+	14/20	N/A	33.03	-	N/A	32.67	-	N/A	33.04	-	N/A	32.53	-	st	st	st	st	st	-	9/20	8/20
1003		H+	+	H+	+	+		38.07	33.05	+	36.40	32.56	+	38.36	32.88	+	36.86	32.56	+	+	st	H+	H+	+	+		
1004		st	st	st	st	-		37.90	33.03	+	36.50	32.75	+	40.33	33.42	+	39.15	32.54	+	+	st	H+	H+	+	+		
1005		st	st	st	st	-		N/A	33.25	-	N/A	32.49	-	N/A	33.06	-	N/A	32.17	-	st	st	st	st	st	-		
1006		H+	+	H+	+	+		36.93	32.97	+	37.10	32.50	+	38.39	32.60	+	39.26	32.61	+	+	st	H+	H+	+	+		
1007		H+	+	H+	+	+		37.08	33.36	+	36.63	32.47	+	37.27	33.08	+	37.32	32.32	+	+	st	H+	H+	+	+		
1008		H+	+	H+	+	+		37.12	32.72	+	35.46	32.45	+	37.61	33.05	+	36.66	32.46	+	+	st	H+	H+	+	+		
1009		H+	+	H+	+	+		N/A	33.02	-	N/A	32.15	-	N/A	33.60	-	N/A	32.71	-	st	st	st	st	st	-		
1010		H+	+	H+	+	+		36.43	32.85	+	36.05	32.52	+	37.41	32.89	+	36.17	32.36	+	+	st	H+	H+	+	+		
1011		H+	+	H+	+	+		N/A	32.88	-	N/A	32.78	-	N/A	33.08	-	N/A	32.64	-	st	st	st	st	st	-		
1012		st	st	st	st	-		N/A	33.76	-	N/A	32.51	-	N/A	33.37	-	N/A	32.59	-	st	st	st	st	st	-		
1013		st	st	st	st	-		N/A	32.93	-	N/A	32.86	-	N/A	33.27	-	N/A	32.89	-	st	st	st	st	st	-		
1014		H+	+	H+	+	+		39.18	33.03	+	41.28	32.72	+	37.47	33.32	+	37.05	32.81	+	+	st	H+	H+	+	+		
1015		H+	+	H+	+	+		N/A	33.39	-	N/A	32.47	-	N/A	33.02	-	N/A	32.28	-	-	st	-	-	st	-		
1016		H+	+	H+	+	+		N/A	32.92	-	N/A	32.36	-	N/A	32.74	-	N/A	32.67	-	st	st	-	-	st	-		
1017		H+	+	H+	+	+		N/A	33.01	-	N/A	32.19	-	N/A	33.00	-	N/A	32.48	-	st	st	st	st	st	-		
1018		H+	+	H+	+	+		N/A	32.80	-	N/A	32.78	-	N/A	33.07	-	N/A	32.39	-	st	st	st	st	st	-		
1019		st	st	st	st	-		41.80	33.31	+	38.07	32.36	+	40.38	33.06	+	40.57	33.01	+	+	st	H+	H+ (3)	+ (4)	+		
1020		H+	+	H+	+	+		38.69	32.95	+	37.76	32.69	+	40.03	33.42	+	N/A 36.13 37.72	32.92 33.32 33.09	- - -	+	st	H+	H+	+ (2)	+		
1021		st	st	st	st	-		N/A	33.28	-	N/A	32.89	-	N/A	33.05	-	N/A	32.44	-	st	st	st	st	st	-		
1022	3,6	H+	+	H+	+	+	5/5	N/A	33.14	-	N/A	32.74	-	N/A	32.75	-	N/A	32.53	-	st	st	st	st	st	-	4/5	4/5
1023		H+	+	H+	+	+		34.68	32.99	+	34.10	32.35	+	34.45	32.75	+	33.98	32.33	+	+	+	H+	H+	+	+		
1024		H+	+	H+	+	+		35.75	33.50	+	35.15	32.65	+	35.68	33.29	+	34.71	32.19	+	+	+	H+	H+	+	+		
1025		H+	+	H+	+	+		37.71	33.36	+	36.13	32.73	+	38.19	32.95	+	37.77	32.63	+	+	+	H+	H+	+	+		
1026		H+	+	H+	+	+		35.54	33.23	+	34.67	32.58	+	35.30	33.01	+	34.91	32.67	+	+	+	H+	H+	+	+		

♦ Analyses performed according to the COFRAC accreditation

Matrix : Raw cow milk
Strain : *Listeria* monocytogenes Ad2858
Seeding 48h at 3±2°C
Aerobic mesophilic flora: 4,7.10⁷UFC/mL

N° sample	Inoculation level (cfu/sample)	Reference method: ISO 11290-1♦						Alternative method : iQ-Check *Listeria monocytogenes* II 1:10 with pre-warmed LSB II Broth -20 h at 37°C																						
		Half Fraser		Fraser		*Final result*	Number positive samples/Total	PCR iQ-Check *Listeria monocytogenes* II												Confirmation					Final result				Number positive samples/Total			
								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	
								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	RAPID' *L.mono* (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
3090		st	st	-	-	-		N/A	33,79	-	N/A	33,9	-	N/A	34,14	-	N/A	34,26	-	-	-	-	-	-	-	-	-	-				
3091		-	-	st	-	-		N/A	33,11	-	N/A	33,5	-	N/A	33,28	-	N/A	33,37	-	-	-	-	-	-	-	-	-	-				
3092	/	-	-	st	-	-	0/5	N/A	33,21	-	N/A	35,34	-	N/A	33,12	-	N/A	33,39	-	-	-	-	-	-	-	-	-	-	0/5	0/5	0/5	0/5
3093		-	-	-	-	-		N/A	33,36	-	N/A	34,18	-	N/A	33,38	-	N/A	33,21	-	-	-	-	-	-	-	-	-	-				
3094		-	-	-	-	-		N/A	33,11	-	N/A	34,18	-	N/A	33,31	-	N/A	33,12	-	-	-	-	-	-	-	-	-	-				
3100		H+	+	H+	+	+		38,19	32,85	+	37,32	33,12	+	36,68	33,1	+	36,13	33,43	+	+	+	H+	H+	+	+	+	+	+				
3101		H+	+	H+	+	+		34,39	32,77	+	33,6	32,78	+	33,94	33,26	+	33,84	32,92	+	+	+	H+	H+	+	+	+	+	+				
3102		st	-	st	st	-		38,06	33,64	+	36,49	32,94	+	37,89	33,21	+	36,98	33,41	+	+	+	H+	H+	+	+	+	+	+				
3103		-	st	st	st	-		N/A	33,24	-	N/A	32,76	-	N/A	33,13	-	N/A	34,18	-	-	st	-	st	-	-	-	-	-				
3104		-	-	st	st	-		36,98	33,09	+	37,34	33,09	+	37,73	33,22	+	38,32	33,45	+	+	+	H+	H+	+	+	+	+	+				
3105		st	-	st	st	-		N/A	33,04	-	N/A	32,98	-	N/A	33,43	-	N/A	33,56	-	-	st	st	-	-	-	-	-	-				
3106		-	st	st	st	-		N/A	32,78	-	N/A	33,38	-	N/A	33,41	-	N/A	33,75	-	st	st	-	-	-	-	-	-	-				
3107		H+	st	H+	+	+		38,19	32,84	+	38,36	33,68	+	35,39	32,76	+	36,83	33,45	+	+	+	H+	H+	+	+	+	+	+				
3108		H+ (5)	+	H+	+	+		N/A	33,25	-	N/A	33,04	-	N/A	33,67	-	N/A	33,14	-	-	st	st	-	-	-	-	-	-				
3109		H+ (9)	+(4)	H+	+	+		37,71	33,14	+	40,62	32,8	+	37,59	33,49	+	41,43	32,89	+	+	+	H+	H+	+	+	+	+	+				
3110	1	H+	+	H+	+	+	13/20	N/A	32,93	-	38,23	32,83	+	42,67	33,4	+	37,77	33,07	+	+	+	H+	-	+(2)	-	+	+	+	11/20	13/20	12/20	13/20
3111		H+	+	H+	+	+		N/A	33,13	-	40,39	32,95	+	N/A	32,75	-	39,15	33,3	+	+	+	H+	H+	+	-	+	-	+				
3112		H+ (6)	+ (2)	H+	+	+		35,88	32,65	+	35,71	32,93	+	35,7	32,8	+	35,62	33,58	+	+	+	H+	H+	+	+	+	+	+				
3113		-	-	st	st	-		35,95	32,52	+	37,85	33,06	+	38,61	33,45	+	37,23	33,35	+	+	+	H+	H+	+	+	+	+	+				
3114		-	-	st	st	-		N/A	33,63	-	N/A	32,75	-	N/A	33,04	-	N/A	33,53	-	st	st	-	-	-	-	-	-	-				
3115		H+ (1)	+	H+	+	+		N/A	32,81	-	N/A	33,05	-	N/A	33,25	-	N/A	33,79	-	st	st	-	-	-	-	-	-	-				
3116		H+	+	H+	+	+		N/A	33,52	-	N/A	33,2	-	N/A	33,27	-	N/A	33,03	-	st	st	-	st	-	-	-	-	-				
3117		H+ (5)	+	H+	+	+		36,83	33,42	+	35,33	32,72	+	36,16	33,37	+	36,21	33,55	+	+	+	H+	H+	+	+	+	+	+				
3118		H+	+	H+	+	+		34,16	32,53	+	33,65	32,97	+	34,61	33,24	+	35	33,21	+	+	+	H+	H+	+	+	+	+	+				
3119		H+	+	H+	+	+		34,48	33,2	+	33,79	32,7	+	34,26	33,47	+	34,4	32,66	+	+	+	H+	H+	+	+	+	+	+				
3120		H+	+	H+	+	+		33,77	32,8	+	33,52	32,56	+	33,97	32,68	+	34,21	33,12	+	+	+	H+	H+	+	+	+	+	+				
3121		H+	st	H+	+	+		32,45	32,94	+	32,04	32,52	+	32,92	33,03	+	33	33,05	+	+	+	H+	H+	+	+	+	+	+				
3122	4,4	H+	+	H+	+	+	5/5	31,16	32,63	+	31,43	32,88	+	31,36	32,45	+	31,65	32,75	+	+	+	H+	H+	+	+	+	+	+	5/5	4/5	5/5	4/5
3123		H+	+	H+	+	+		32,44	33	+	32,6	33,68	+	32,21	32,96	+	32,52	33,21	+	+	+	H+	H+	+	+	+	+	+				
3124		H+	+	H+	+	+		38,19	34,41	+	N/A	34,76	-	43,02	34,48	+	N/A	34,94	-	+	+	H+	H+	+	+	-	+	-				

♦ Analyses performed according to the COFRAC accreditation