

NF VALIDATION
Validation of alternative analytical methods
Application in food microbiology

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

Solus Listeria ELISA
(Certificate number: SOL 37/02 - 06/13)
for the detection of *Listeria* spp.
in food products and environmental samples

Qualitative method








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This report consists of 81 pages, including 7 appendices.

Only copies including the totality of this report are authorised.

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

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Quality Assurance documents related to this study can be consulted upon request from **Solus Scientific Solutions Ltd**.

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	<ul style="list-style-type: none"> ▪ ISO 16140-1 (2016): Microbiology of the food chain - Method validation — <i>Part 1: Vocabulary</i> ▪ ISO 16140-2 (2016): Microbiology of the food chain - Method validation — <i>Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method</i> ▪ AFNOR technical rules (PR Revision 7).
Reference method[♦]	ISO 11290-1 (May 2017): Microbiology of the food chain - Horizontal method for the detection and enumeration of <i>Listeria monocytogenes</i> and of <i>Listeria</i> spp.- Part 1: detection method
Alternative method	Solus <i>Listeria</i> ELISA
Scope	<input checked="" type="checkbox"/> All human food products <input checked="" type="checkbox"/> Production environmental samples
Certification organism	AFNOR Certification (http://nf-validation.afnor.org/)

[♦] Analyses performed according to the COFRAC accreditation

1 INTRODUCTION

The **Solus *Listeria* ELISA method** was validated in 2013 with the certificate number SOL 37/02 - 06/13 for the detection of *Listeria* spp. in food samples and environmental samples according to the EN ISO 16140 (2003).

The alternative method was renewed in July 2017 and February 2021 according to the EN ISO 16140-2:2016.

2 METHOD PROTOCOLS

2.1 Alternative method

The flow diagram of the alternative method is provided in **Appendix 1**.

2.1.1 Principle

The Solus *Listeria* ELISA test system is based on the ELISA principle.

2.1.2 Protocol

The protocol is described as followed:

- Pre-enrichment step (25 g + 225 ml) in Half Fraser broth for 24 h \pm 2 h at 30°C \pm 1°C;
- Selective enrichment step: subculture of 0.2 ml of Half Fraser into 10 ml of RELM broth; incubation 24 h \pm 2 h at 30°C \pm 1°C;
- Heat treatment of an aliquot of RELM broth;
- ELISA test.

The confirmation of the positive results is done according to one of the following protocols:

- Streaking the non-heated RELM (10 μ l) onto one selective agar plate (O&A, PALCAM or Oxford). The only presence of typical colonies on the plates allows to confirm the positive ELISA test. Additional confirmation of the observed characteristic colonies could be done by running catalase and Gram tests or biochemical gallery on isolated colonies.
- Running the ISO confirmation tests.

It is possible to store the selective enrichment storage (RELM) for 72 h at $5 \pm 3^{\circ}\text{C}$ in order to offer sufficient practicability to the users.

2.1.3 Restrictions

There is no restriction.

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

The study is a **paired study design** as the reference and the alternative methods have the same enrichment procedure.

3 INITIAL VALIDATION, EXTENSION/RENEWAL STUDIES: RESULTS

3.1 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/>.

3.1.1 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

343 samples were analysed in 2013; in 2017, 97 additional samples were tested as part of the renewal study. Combining the different studies (initial and renewals), 193 positive and 247 negative samples were obtained for a total of 440 samples.

The distribution per food category and type are summarised in **Table 1**.

Table 1 - Distribution per food category and type

Category		Type	Positive samples	Negative samples	Total
1	Composite foods	a RTE	11	15	26
		b RTRH	11	10	21
		c Pastries, egg products	11	12	23
		Total	33	37	70
2	Meat products	a Raw	14	9	23
		b RTE	8	15	23
		c Delicatessen	10	13	23
		Total	32	37	69
3	Dairy products	a Raw milk	11	9	20
		b Raw milk cheese	10	29	39
		c Desserts, milk, powders, ice creams, pasteurised milk cheese	9	11	20
		Total	30	49	79
4	Seafood	a Raw fish	8	15	23
		b Smoked and cured fish	8	13	21
		c RTE	17	11	28
		Total	33	39	72
5	Vegetables	a Fresh and frozen vegetables	13	9	22
		b Spices, aromatic herbs	11	26	37
		c Ready to eat foods	7	15	22
		Total	31	50	81
6	Environmental Samples	a Process water	8	13	21
		b Sponges, swabs,	17	8	25
		c Dusts, residues	9	14	23
		Total	34	35	69
ALL CATEGORIES			193	247	440

The distribution of positive samples per target analyte is given in **Table 2**.

Table 2 – Distribution per target analytes

Category	<i>Listeria spp</i> (A)		<i>Listeria spp</i> + <i>Listeria monocytogenes</i> (B)		Total (A+B)		<i>Listeria monocytogenes</i> (C)		Total positive samples
	Number of samples	%	Number of samples	%	Number of samples	%	Number of samples	%	
1	10	30,3%	5	15,2%	15	45,5%	18	54,5%	33
2	8	25,0%	11	34,4%	19	59,4%	13	40,6%	32
3	7	23,3%	8	26,7%	15	50,0%	15	50,0%	30
4	5	15,2%	10	30,3%	15	45,5%	18	54,5%	33
5	12	38,7%	10	32,3%	22	71,0%	9	29,0%	31
6	17	50,0%	14	41,2%	31	91,2%	3	8,8%	34
Total	59	30,6%	58	30,1%	117	60,6%	76	39,4%	193

3.1.1.2 Artificial contamination of samples

The strains were stressed using various injury protocols. The injury efficiency was evaluated by comparing enumeration done onto selective media (Palcam plates) and non-selective media (TSYE plates). The artificial contaminations are presented in **Appendix 3**.

67 samples were artificially contaminated, 43 gave a positive result. 150 samples were naturally contaminated.

The repartition of the positive samples per contamination (natural and artificial) is given in **Table 3**.

Table 3 – Repartition of the positive natural and artificial contaminated samples

	Positive samples				
	Naturally contaminated	Spiking (CFU/sample)			Total
		<5 CFU	5<x<10	10<x<10,2	
Samples number	150	32	8	3	193
Percentage	78 %	17 %	4 %	2 %	100 %

Taking into account the two studies, 78 % of the samples were naturally contaminated.

3.1.1.3 *Protocols applied during the validation study*

Incubation time

The minimum incubation times were applied:

- Half Fraser: 22 h;
- RELM: 22 h.

Confirmations

All the samples (positive and negative) were confirmed by streaking the RELM broth onto O&A and Palcam plates. The typical colonies were confirmed by the tests described in the reference method on isolated colonies: Gram, catalase, biochemical galleries. The tested biochemical gallery was the Microgen (MID-67).

Enrichment broth storage at 5°C ± 3°C

The selective enrichment broth (RELM) from positive samples was tested again after storage for 72 h at 5°C ± 3°C.

3.1.1.4 *Test results*

Raw data per category are given in **Appendix 4**. The results are given in the **Table 4**.

**Table 4 – Summary of results obtained
with the reference and the alternative methods**

Category	Type	PA	NA*	PD	ND**	PPND	PPNA
1	Composite foods	a RTE	11	15	0	0	0
		b RTRH	11	10	0	0	0
		c Pastries, egg products	11	12	0	0	0
		Total	33	37	0	0	0
2	Meat products	a Raw	14	9	0	0	0
		b RTE	8	15	0	0	0
		c Delicatessen	8	13	2	0	0
		Total	30	37	2	0	0
3	Dairy products	a Raw milk	11	9	0	0	0
		b Raw milk cheese	8	29	1	1	0
		c Desserts, milk, powders, ice creams, pasteurised milk cheese	9	11	0	0	0
		Total	28	49	1	1	0
4	Seafood	a Raw fish	8	15	0	0	0
		b Smoked and cured fish	8	13	0	0	0
		c RTE	17	11	0	0	0
		Total	33	39	0	0	0
5	Vegetables	a Fresh and frozen vegetables	13	9	0	0	0
		b Spices, aromatic herbs	8	25	3	0	0
		c Ready to eat foods	7	15	0	0	0
		Total	28	49	3	0	0
6	Environmental Samples	a Process water	8	13	0	0	0
		b Sponges, swabs,	17	8	0	0	0
		c Dusts, residues	9	12	0	0	2
		Total	34	33	0	0	2
ALL CATEGORIES		186	244	6	1	0	3

PA = positive agreement (R+/A+)

PD = positive deviation (R-/A+)

PP = positive presumptive non confirmed samples

* PPNA not included

NA = negative agreement (A-/R-)

ND = negative deviation (A-/R+)

** PPND not included

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

The results were calculated taking into account all the confirmation protocols.

The results are presented in **Table 5**.

Table 5 – Calculation of the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR)

Category	Type	PA	NA*	PD	ND**	PPND	PPNA	SE _{alt} %	SE _{ref} %	RT %	FPR %		
1	Composite foods	a	RTE	11	15	0	0	100,0	100,0	100,0	0,0		
		b	RTRH	11	10	0	0	100,0	100,0	100,0	0,0		
		c	Pastries, egg products	11	12	0	0	100,0	100,0	100,0	0,0		
		Total		33	37	0	0	100,0	100,0	100,0	0,0		
2	Meat products	a	Raw	14	9	0	0	100,0	100,0	100,0	0,0		
		b	RTE	8	15	0	0	100,0	100,0	100,0	0,0		
		c	Delicatessen	8	13	2	0	100,0	80,0	91,3	0,0		
		Total		30	37	2	0	100,0	93,8	97,1	0,0		
3	Dairy products	a	Raw milk	11	9	0	0	100,0	100,0	100,0	0,0		
		b	Raw milk cheese	8	29	1	1	90,0	90,0	94,9	0,0		
		c	Desserts, milk, powders, ice creams, pasteurised milk cheese	9	11	0	0	100,0	100,0	100,0	0,0		
		Total		28	49	1	1	96,7	96,7	97,5	0,0		
4	Seafood	a	Raw fish	8	15	0	0	100,0	100,0	100,0	0,0		
		b	Smoked and cured fish	8	13	0	0	100,0	100,0	100,0	0,0		
		c	RTE	17	11	0	0	100,0	100,0	100,0	0,0		
		Total		33	39	0	0	100,0	100,0	100,0	0,0		
5	Vegetables	a	Fresh and frozen vegetables	13	9	0	0	100,0	100,0	100,0	0,0		
		b	Spices, aromatic herbs	8	25	3	0	100,0	72,7	91,9	4,0		
		c	Ready to eat foods	7	15	0	0	100,0	100,0	100,0	0,0		
		Total		28	49	3	0	100,0	90,3	96,3	2,0		
6	Environmental Samples	a	Process water	8	13	0	0	100,0	100,0	100,0	0,0		
		b	Sponges, swabs,	17	8	0	0	100,0	100,0	100,0	0,0		
		c	Dusts, residues	9	12	0	0	100,0	100,0	100,0	16,7		
		Total		34	33	0	0	100,0	100,0	100,0	5,7		
ALL CATEGORIES				186	244	6	1	0	3	99,5	96,9	98,4	1,2

* PPNA not included

** PPND not included

A summary of the results is given in **Table 6**.

Table 6 - Summary of results

Sensitivity for the alternative method	$SE_{alt} = \frac{(PA + PD)}{(PA + ND + PD)} \times 100\%$	99.5 %
Sensitivity for the reference method	$SE_{ref} = \frac{(PA + ND)}{(PA + ND + PD)} \times 100\%$	96.9 %
Relative trueness	$RT = \frac{(PA + NA)}{N} \times 100\%$	98.4 %
False positive ratio for the alternative method* FP = PPNA + PPND	$FPR = \frac{(FP)}{NA} \times 100\%$	1.2 %

With $ND = ND + PPND$
 $NA = NA + PPNA$

3.1.1.6 Analysis of discordant results

Seven discordant results were observed: one negative deviation and six positive deviations; they are listed in **Tables 7** and **8**.

Table 7 - Negative deviation

Sample n°	Product	ELISA test result	Confirmatory tests	Contamination (contamination level)
2381	Raw milk cheese	0.034 (-)	+	Artificial <i>Listeria ivanovii</i> Ad 1289 (4.6)

Table 8 - Positive deviations

Year of analysis	Sample n°	Product	ELISA test result	Confirmatory tests	Contamination (contamination level)
2013	1738	Cocktail sausages	0.202 (+)	+	Natural <i>Listeria seeligeri</i>
	1754	Parsley	2.933 (+)	+	Natural <i>Listeria innocua</i> <i>Listeria monocytogenes</i>
	1755	Parsley	2.918 (+)	+	Natural <i>Listeria innocua</i>
	3457	Dehydrated onions	2.189 (+)	+	Artificial <i>Listeria seeligeri</i> Ad 1293 (2.6)
	2709	Raw milk cheese (Livord)	0.578 (+)	+	Artificial <i>Listeria innocua</i> 906
2017	2948	Delicatessen	2.184	+	Natural <i>Listeria welshimeri</i>

For the negative deviation, it was possible to recover the strain from the enrichment broth. The detection level of the alternative method was probably not reached; the inoculated strain (*Listeria ivanovii* Ad1289) was detected by the assay in the inclusivity study.

The analyses of discordant results according to the EN ISO 16140-2:2016 is the following (See **Table 9**).

Table 9 - Analyses of discordant results

Category	Type	PD	ND	PPND	(ND+PPND)-PD	AL	(ND+PPND)+PD	AL
1	a RTE	0	0	0				
	b RTRH	0	0	0				
	c Pastries, egg products	0	0	0				
	Total	0	0	0	0	3	0	6
2	a Raw	0	0	0				
	b RTE	0	0	0				
	c Delicatessen	2	0	0				
	Total	2	0	0	-2	3	2	6
3	a Raw milk	0	0	0				
	b Raw milk cheese	1	1	0				
	c Desserts, milk, powders, ice creams, pasteurised milk cheese	0	0	0				
	Total	1	1	0	0	3	2	6
4	a Raw fish	0	0	0				
	b Smoked and cured fish	0	0	0				
	c RTE	0	0	0				
	Total	0	0	0	0	3	0	6
5	a Fresh and frozen vegetables	0	0	0				
	b Spices, aromatic herbs	3	0	0				
	c Ready to eat foods	0	0	0				
	Total	3	0	0	-3	3	3	6
6	a Process water	0	0	0				
	b Sponges, swabs,	0	0	0				
	c Dusts, residues	0	0	0				
	Total	0	0	0	0	3	0	6
ALL CATEGORIES		6	1	0	-5	6	7	16

The observed values for ((ND + PPND)-PD) and (ND + PPND + PD) meet the Acceptability Limit (AL) for each individual category and for all the combined categories (calculated values ≤ AL).

3.1.1.7 Confirmations

Confirmations were realized by streaking the RELM broth onto two selective agars, i.e. O&A and Palcam plates. Characteristic colonies were observed on the two plates, except for 12 samples:

- For samples n° 1217, 1544, 1738, 2298, 2713, 3098, 3185, 3187, 3194, 3459 and 3463, characteristic colonies were observed only on O&A plates;
- For sample n° 1545, characteristic colonies were observed only on Palcam plates.

The characteristic colonies were confirmed by running catalase and Gram tests, and biochemical galleries on isolated colonies. No discordant results were observed.

Note that for two samples (cheese) in negative agreement (2380 and 2381), *Listeria* strain (*Listeria ivanovii*) was recovered on O&A and Palcam. This was probably due to a slower growth of this strain.

3.1.1.8 RELM storage at $5 \pm 3^{\circ}\text{C}$ for 72 h

Only one result modification was observed during RELM storage. This concerns the sample n° 1738 which result moves from a positive deviation (OD: 0.202) to a negative agreement (OD: 0.170). The following results are observed (See **Table 10**).

Table 10 - Enrichment broth storage at 5°C ± 3°C for 72 h

Category		Type	PD	ND	PPND	(ND+PPND)-PD	AL	ND + PPND + PD	AL
1	Composite foods	a RTE	0	0	0				
		b RTRH	0	0	0				
		c Pastries, egg products	0	0	0				
		Total	0	0	0	0	3	0	6
2	Meat products	a Raw	0	0	0				
		b RTE	0	0	0				
		c Delicatessen	1	0	0				
		Total	1	0	0	-1	3	1	6
3	Dairy products	a Raw milk	0	0	0				
		b Raw milk cheese	1	1	0				
		c Desserts, milk, powders, ice creams, pasteurised milk cheese	0	0	0				
		Total	1	1	0	0	3	2	6
4	Seafood	a Raw fish	0	0	0				
		b Smoked and cured fish	0	0	0				
		c RTE	0	0	0				
		Total	0	0	0	0	3	0	6
5	Vegetables	a Fresh and frozen vegetables	0	0	0				
		b Spices, aromatic herbs	3	0	0				
		c Ready to eat foods	0	0	0				
		Total	3	0	0	-3	3	3	6
6	Environmental Samples	a Process water	0	0	0				
		b Sponges, swabs,	0	0	0				
		c Dusts, residues	0	0	0				
		Total	0	0	0	0	3	0	6
ALL CATEGORIES			5	1	0	-4	6	6	16

The observed values for ((ND + PPND)-PD) and (ND + PPND + PD) meet the Acceptability Limit (AL) for each individual category and for all the combined categories (calculated values ≤ AL).

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

During the initial validation study, five (matrix/strain) pairs were analysed by the reference method and by the alternative method.

During the renewal study (2017), one matrix/strain pair was analysed by the reference and the alternative methods (See **Table 11**).

For the six matrices analysed in 2013, six replicates were done per inoculation level and a minimum of 4 inoculation levels were tested. The contaminations and enumerations were realized according to the AFNOR technical rules (protocol for low level inoculations). The samples were analysed by both methods and the background microflora was enumerated.

For the deli salad matrix, the RLOD was carried out during the renewal study (2017) according to the EN ISO 16140-2:2016. 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 each matrix was performed to estimate the total microbial load on the day of analysis.

Table 11 - Defined (matrix/strain) pairs for the RLOD determination

Year of analysis	Category	Matrix	Inoculated strain	Origin	Study design
2017	Composite foods	Deli salad with ham	<i>Listeria monocytogenes</i> Ad1494	Pork meat	Paired
2013	Meat products	Rillettes	<i>Listeria monocytogenes</i> Ad669	Rillettes	Paired
	Dairy products	Raw milk	<i>Listeria ivanovii</i> Ad991	Raw milk cheese	Paired
	Seafood	Smoked salmon	<i>Listeria innocua</i> 1	Smoked salmon	Paired
	Vegetables	Zucchini	<i>Listeria seeligeri</i> Ad 1293	Parsley	Paired
	Environmental samples	Process water	<i>Listeria monocytogenes</i> 877/113	Surface	Paired

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 06.07.2015. The RLOD are given **Table 12**.

Table 12 – Presentation of RLOD before and after confirmation of the alternative method results

Matrix / strain pair	RLOD	RLODL	RLODU	b=ln(RLOD)	sd(b)	z-Test statistic	p-value
Deli-salad/ <i>Listeria monocytogenes</i> Ad1494	1.000	0.466	2.145	0.000	0.382	0.000	1.000
Rillettes / <i>Listeria monocytogenes</i> Ad669	1.000	0.382	2.616	0.000	0.481	0.000	1.000
Raw milk / <i>Listeria ivanovii</i> Ad991	1.000	0.466	2.146	0.000	0.382	0.000	1.000
Smoked salmon / <i>Listeria innocua</i> 1	1.000	0.368	2.718	0.000	0.500	0.000	1.000
Zucchini / <i>Listeria seeligeri</i> Ad1293	1.000	0.462	2.163	0.000	0.386	0.000	1.000
Process water / <i>Listeria monocytogenes</i> 877/113	1.000	0.456	2.195	0.000	0.393	0.000	1.000
Combined	1.000	0.720	1.389	0.000	0.164	0.000	1.000

The LOD₅₀ % calculations according to Wilrich & Wilrich POD-LOD calculation program - version 9, 2017-09-23 test are given in **Table 13**.

Table 13 - LOD₅₀ results

Category	Matrix / strain pair	Level of detection at 50% (CFU / sample size) according to Wilrich & Wilrich ¹	
		Reference method	Alternative method
1	Deli-salad/ <i>Listeria monocytogenes</i> Ad1494	0,933 [0,551;1,582]	0,933 [0,551;1,582]
2	Rillettes / <i>Listeria monocytogenes</i> Ad669	0,505 [0,283;0,901]	0,505 [0,283;0,901]
3	Raw milk / <i>Listeria ivanovii</i> Ad991	0,479 [0,249;0,920]	0,479 [0,249;0,920]
4	Smoked salmon / <i>Listeria innocua</i> 1	0,684 [0,367;1,275]	0,684 [0,367;1,275]
5	Zucchini / <i>Listeria seeligeri</i> Ad1293	0,240 [0,123;0,465]	0,240 [0,123;0,465]
6	Process water / <i>Listeria monocytogenes</i> 877/113	0,473 [0,255;0,876]	0,473 [0,255;0,876]
	Combined results	0,552 [0,433;0,704]	0,552 [0,433;0,704]

3.1.2.3 Conclusion

The RLOD values (using the confirmed alternative method results) meet the acceptability limit (AL) of 1.5 for paired studies, for all matrix/strain pairs tested.

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

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.

¹ 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.

3.1.3.1 Test protocols

Inclusivity

Listeria spp. strains cultures were performed in BHI medium at 37°C. Dilutions were done in order to inoculate 10 cells/225 ml Half Fraser. The Solus *Listeria* ELISA test was performed after subculture in RELM.

Exclusivity

Negative strains cultures were performed in BHI at 37°C. Dilutions were realised in order to inoculate 10⁵ cells/ml buffered peptone water. The Solus *Listeria* ELISA test was performed on the BPW.

3.1.3.2 Results

Raw data are given in **Appendix 6**.

Inclusivity

50 strains were tested, all gave positive results except the 2 tested wild *Listeria grayi* strains (Ad 1198 and Ad 1443) which gave negative results whatever the inoculation level and the tested enrichment conditions (with or without adding milk in the Half Fraser broth). Only few typical colonies were observed on O&A plates for the reference method. It is commonly recognized that this species is difficult to recover, even with the ISO method.

When the strains were grown in BHI broth and directly tested by the alternative method, a positive result was obtained.

The observed results are thus probably due to the fact that the strains are not able to grow or show low growth rates in RELM.

Note: the 2 *Listeria grayi* strains were identified by 16S rDNA sequencing, as well as using the GeneDisc *Listeria* identification kit.

Exclusivity

None of the 30 strains tested gave a positive result.

3.1.4 Practicability

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

Storage conditions and shelf-life	The storage temperature is: 2-8°C. The shelf-life is given on the package. All the reagents must be stored at the temperature mentioned on the package.		
Time to result	Steps	Reference Method	Alternative method
	Negative samples		
	Sampling Half Fraser	D0	D0
	Fraser / RELM	D1	D1
	ELISA test	/	D2
	First streaking onto O&A and Palcam plates	D1	/
	Second streaking onto O&A and Palcam plates	D2	/
	Reading plates (first streaking)	D2 – D3	/
	Reading plates (second streaking)	D3 – D4	/
	Final result	D3 – D4	D2
	Presumptive positive or positive results		
	Streaking RELM onto O&A and Palcam plates	/	D2
	Reading plates	/	D3 – D4
	Subculture of typical colonies onto TSAYE	D2 – D4	/
	Confirmatory test	D3 – D5	/
	Final result	D4 – D6 D8 – D10 ⁽¹⁾	D3 – D4
	⁽¹⁾ In the case of the Rhamnose and Xylose tests are realised in tubes.		
Common step with the reference method	Enrichment in Half Fraser broth		

The negative results are available in 2 days and the positive results in 3 or 4 days.

3.2 Inter-Laboratory Study

The inter-laboratory study is a study performed by multiple laboratories testing identical samples at the same time, the results of which are used to estimate alternative-method performance parameters.

3.2.1 Study organisation

Collaborators number

Samples were sent to 14 laboratories.

Matrix and strain used

The study was done with fresh goat cheese inoculated with *Listeria monocytogenes* 153.

Samples

Samples were inoculated and sent on Monday 8th April 2013, as described below:

- 24 codified samples for the research of *Listeria spp.* by both Solus *Listeria* ELISA and the reference method (NF EN ISO 11290-1/A1),
- 1 sample for aerobic mesophilic flora enumeration by EN ISO 4833 method,
- 1 water flask labelled "Temperature Control" with a temperature probe.

The analyses were started on Wednesday 10th April 2013.

Inoculation

The targeted inoculation levels were:

- 0 CFU/25 ml,
- 1 – 10 CFU/25 ml,
- 5 – 50 CFU/25 ml.

8 samples were prepared per inoculation level, per method and per laboratory. Each laboratory received 24 samples to analyse by both Solus *Listeria* ELISA and the NF EN ISO 11290-1/A1 reference method.

Labelling and shipping

Blinded samples were placed in isothermal boxes, which contained cooling blocks, and express-shipped to the different laboratories.

A temperature control flask containing a sensor was added to the package in order to register the temperature profile during the transport, the package delivery and storage until analyses.

Samples were shipped in 24 h to 72 h to the involved laboratories. The temperature conditions had to stay lower or equal to 8.4°C during transport, and between 0°C – 8.4°C in the labs.

Analyses

Collaborators and ADRIA Développement carried out the analyses with the alternative and reference methods at Day 2.

3.2.2 Experimental parameters controls

3.2.2.1 Strain stability

Before inoculation

In order to detect *Listeria spp.*, the NF EN ISO 11290-1 method was performed on five cheese test portions (25 g) before the inoculation. All the results were negative.

Sample stability

Sample stability was checked by inoculating the matrix at 300 CFU/g and 5 CFU/g. Enumerations were performed for the high contamination level and detection analyses were performed for the low contamination level. *Triplicata* were analysed, and the results were the following (See **Table 14**):

Table 14 - Sample stability

Day	Reference method (detection)			CFU/g (XLD)			Aerobic mesophilic flora (CFU/g)
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	
Day 0	+	+	+	270	360	220	1.0 10 ⁷
Day 1	+	+	+	340	260	280	2.2 10 ⁷
Day 2	+	+	+	220	250	180	1.0 10 ⁷

No evolution was observed during storage at 5°C ± 3°C.

3.2.2.2 Contamination levels

The contamination levels were the following (See **Table 15**)

Table 15 - Contamination levels

Level	Samples	Theoretical target level (b/25 g)	True level (b/25 g sample)	Low limit / 25 g sample	High limit / 25 g sample
Level 0	2 – 8 – 10 – 12 – 15 – 16 – 20 – 23	0	/	/	/
Low level	6 – 7 – 9 – 11 – 14 – 19 – 21 – 24	5	5.4	4.6	6.1
High level	1 – 3 – 4 – 5 – 13 – 17 – 18 – 22	25	28.6	24.7	32.8

3.2.2.3 Logistic conditions

Temperature conditions are given in **Table 16**.

Table 16 - Sample temperatures at receipt

Laboratories	Temperature measured by the probe (°C)	Temperature measured at receipt (°C)	Receipt date and time
A	4.0	5.1	Day 2 (10/04/2013) 15h00
B	2.5	7.6	Day 2 (10/04/2013) 12h49
C	3.0	3.9	Day 1 (09/04/2013) 14h30
D	2.5	3.0	Day 1 (09/04/2013) 13h15
E	1.0	2.8	Day 1 (09/04/2013) 06h30
F	2.0	3.8	Day 1 (09/04/2013) 12h30
G	3.0	5.5	Day 1 (09/04/2013) 10h00
H	2.0	4.0	Day 1 (09/04/2013) 10h15
I	0.5	5.2	Day 1 (09/04/2013) 15h15
J	11.5	8.5	Day 3 (11/04/2013) 11h00
K	2.5	7.0	Day 1 (09/04/2013) 11h45
L	2.0	5.0	Day 1 (09/04/2013) 12h16
M	1.5	4.3	Day 1 (09/04/2013) 10h52
N	2.0	3.9	Day 1 (09/04/2013) 08h30

3.2.2.4 Conclusion

No problem was encountered during the transport or at receipt for 13 labs. Lab J received its package on Thursday 11th April 2013; its results were not taken into account for the interpretation.

3.2.3 Results analysis

Raw data are provided in **Appendix 7**.

3.2.3.1 Expert laboratory results

The results obtained by the expert laboratory are given in **Table 17**.

Table 17 – 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

3.2.3.2 Results observed by the collaborative laboratories

Aerobic mesophilic flora enumeration

Depending on the Lab results, the enumeration levels varied from $2.6 \cdot 10^5$ to $2.8 \cdot 10^7$ CFU/g.

Listeria spp. detection

14 Labs participated to the study. Lab J analysed the samples at Day 3; their results were not taken into account.

The results obtained are provided in **Table 18** (reference method) and **Table 19** (alternative method).

Table 18 - Positive results by the reference method (ALL the collaborators)

Laboratory	Contamination levels		
	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 (analysis at Day3)	0	8	8
K	0	8	8
L	0	8	8
M	0	8	8
N	0	8	8
Total	P₀ = 0	P₁ = 112	P₂ = 112

Table 19 - Positive results (before and after confirmation) by the alternative method (ALL the collaborators)

Laboratory	Contamination levels					
	L0		L1		L2	
	Before confirmation	After confirmation	Before confirmation	After confirmation	Before confirmation	After confirmation
A	0	0	8	8	8	8
B	0	0	8	8	8	8
C	0	0	8	8	8	8
D	0	0	8	8	8	8
E	0	0	8	8	8	8
F	0	0	8	8	8	8
G	0	0	8	8	8	8
H	0	0	8	8	8	8
I	0	0	8	8	8	8
J (analysis at Day3)	0	0	8	8	8	8
K	0	0	8	8	8	8
L	0	0	8	8	8	8
M	0	0	8	8	8	8
N	0	0	8	8	8	8
Total	P₀ = 0	CP₀ = 0	P₁ = 112	CP₁ = 112	P₂ = 112	CP₂ = 112

3.2.3.3 Results of the collaborators retained for interpretation

The results obtained with the 13 labs kept for interpretation are presented in **Table 20** (reference method) and **Table 21** (alternative method).

Table 20 - Positive results by the reference method (Without Lab J)

Laboratory	Contamination levels		
	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
K	0	8	8
L	0	8	8
M	0	8	8
N	0	8	8
Total	P₀ = 0	P₀ = 104	P₀ = 104

**Table 21 - Positive results (before and after confirmation)
by the alternative method (**Without Lab J**)**

Laboratory	Contamination levels					
	L0		L1		L2	
	Before confirmation	After confirmation	Before confirmation	After confirmation	Before confirmation	After confirmation
A	0	0	8	8	8	8
B	0	0	8	8	8	8
C	0	0	8	8	8	8
D	0	0	8	8	8	8
E	0	0	8	8	8	8
F	0	0	8	8	8	8
G	0	0	8	8	8	8
H	0	0	8	8	8	8
I	0	0	8	8	8	8
K	0	0	8	8	8	8
L	0	0	8	8	8	8
M	0	0	8	8	8	8
N	0	0	8	8	8	8
Total	P₀ = 0	CP₀ = 0	P₁ = 104	CP₁ = 104	P₂ = 104	CP₂ = 104

3.2.4 Calculation and interpretation

3.2.4.1 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 22**).

Table 22 - Percentage specificity

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

N: number of all L0 tests

P₀ = total number of false-positive results obtained with the blank samples before confirmation

CP₀ = total number of false-positive results obtained with the blank samples

3.2.4.2 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)

No fractional positive result was obtained for this study. The results from the low inoculation level (L1) and the high inoculation level (L2) were thus retained for calculation.

A summary of the results of the collaborators retained for interpretation and obtained with the reference and the alternative methods for Level 1 is provided in **Table 23**.

Table 23 - Summary of the obtained results with the reference method and the alternative method for Level 1 and Level 2

Levels	Response	Reference method positive (R+)	Reference method negative (R-)
1 and 2	Alternative method positive (A+)	Positive agreement (A+/R+) PA = 104	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)

Based on the data summarized in Table 23, 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 24**).

Table 24 - Sensitivity, relative trueness and false positive ratio percentages

		Level 1 and 2
Sensitivity for the alternative method:	$SE_{alt} = \frac{(PA+PD)}{(PA+PD+ND)} \times 100\% =$	100.0 %
Sensitivity for the reference method:	$SE_{ref} = \frac{(PA+ND)}{(PA+PD+ND)} \times 100\% =$	100.0 %
Relative trueness	$RT = \frac{(PA+NA)}{N} \times 100\% =$	100.0 %
False positive ratio for the alternative method	$FPR = \frac{FP}{NA} \times 100\% =$	/

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. The observed value found for (ND – PD) and (ND + PD) shall not be higher than the AL. For this study as no fractional recovery was observed neither for L1 nor for L2, both inoculation levels were used for calculation.

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

	Level	Calculated values	AL (13 labs)	Conclusion
ND - PD	1 and 2	0	4	ND - PD < AL
ND + PD	1 and 2	0	5	ND + PD < AL

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

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

3.2.5 Evaluation of the LOD_{50%}, LOD_{95%} and RLOD between laboratories

It was impossible to calculate the RLOD 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 because all the spiked samples gave positive results either by both the reference and the alternative methods.

3.3 General conclusion

The **method comparison study conclusions** are:


- The Solus *Listeria* ELISA method shows satisfying sensitivity.
- The RLOD are below the acceptability limit fixed at 1.5 for a paired study design for each category and for all the categories.
- The Solus *Listeria* ELISA method is selective and specific. But while the device is able to detect the 2 tested *Listeria grayi* strains, when testing pure cultures in non-selective broth, this is not the case after a selective enrichment in the RELM broth. Note that these 2 strains showed only few colonies on the O&A plates after the Half Fraser step only.
- The negative results are available in 2 days and the positive results in 3 or 4 days.
- The alternative method fulfils all the EN ISO 16140-2:2016 and the AFNOR technical rules.

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

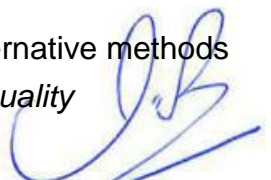
- The data and interpretations comply with the EN ISO 16140-2:2016 requirements. **The Solus *Listeria* ELISA method is considered equivalent to the ISO standard.**

Quimper, 12 March 2021

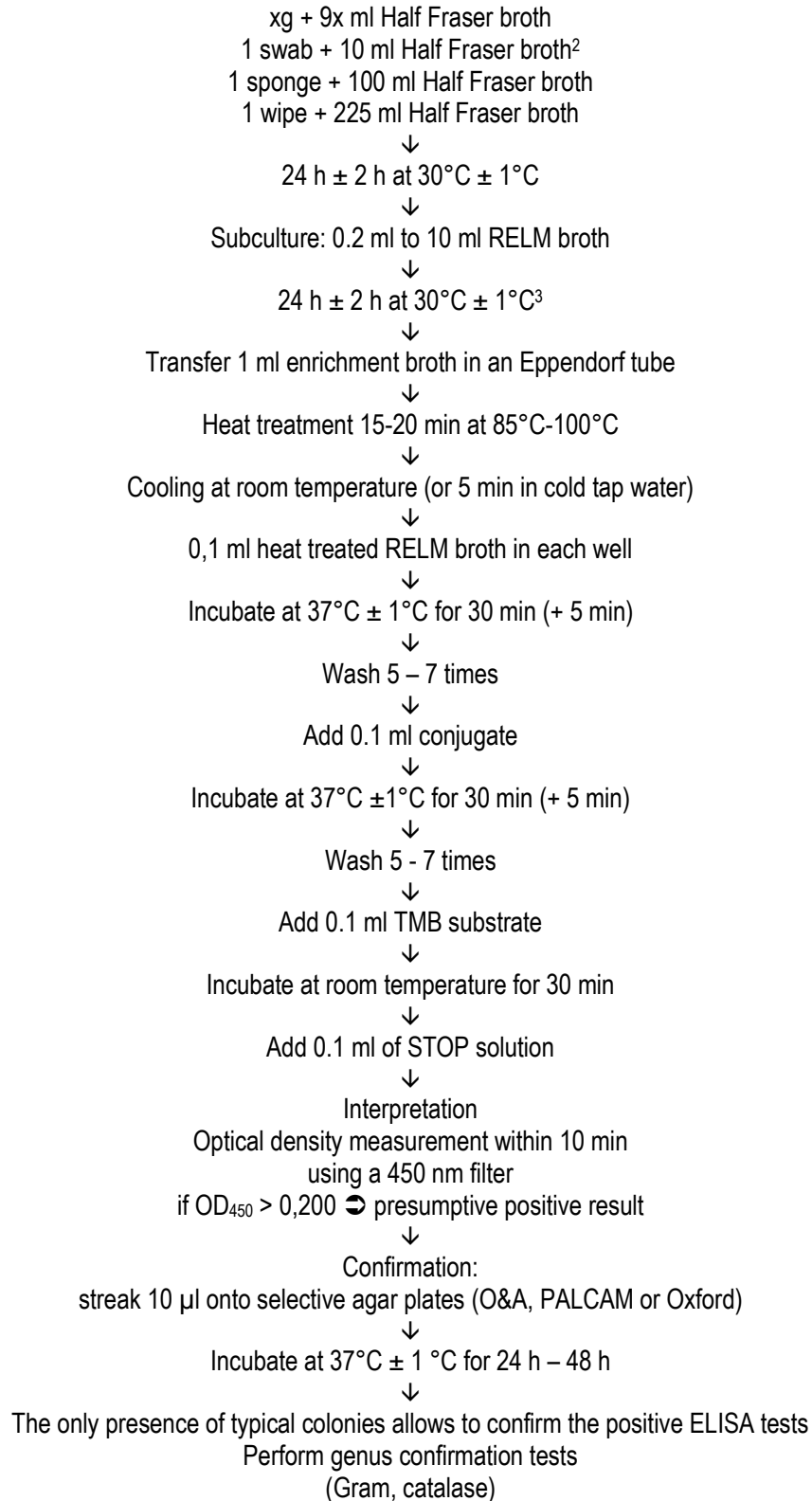
Muriel BERNARD
 Technical Study Manager
 Validation of Alternative methods
Food Safety & Quality


 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
Food Safety & Quality


 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: Solus *Listeria* ELISA



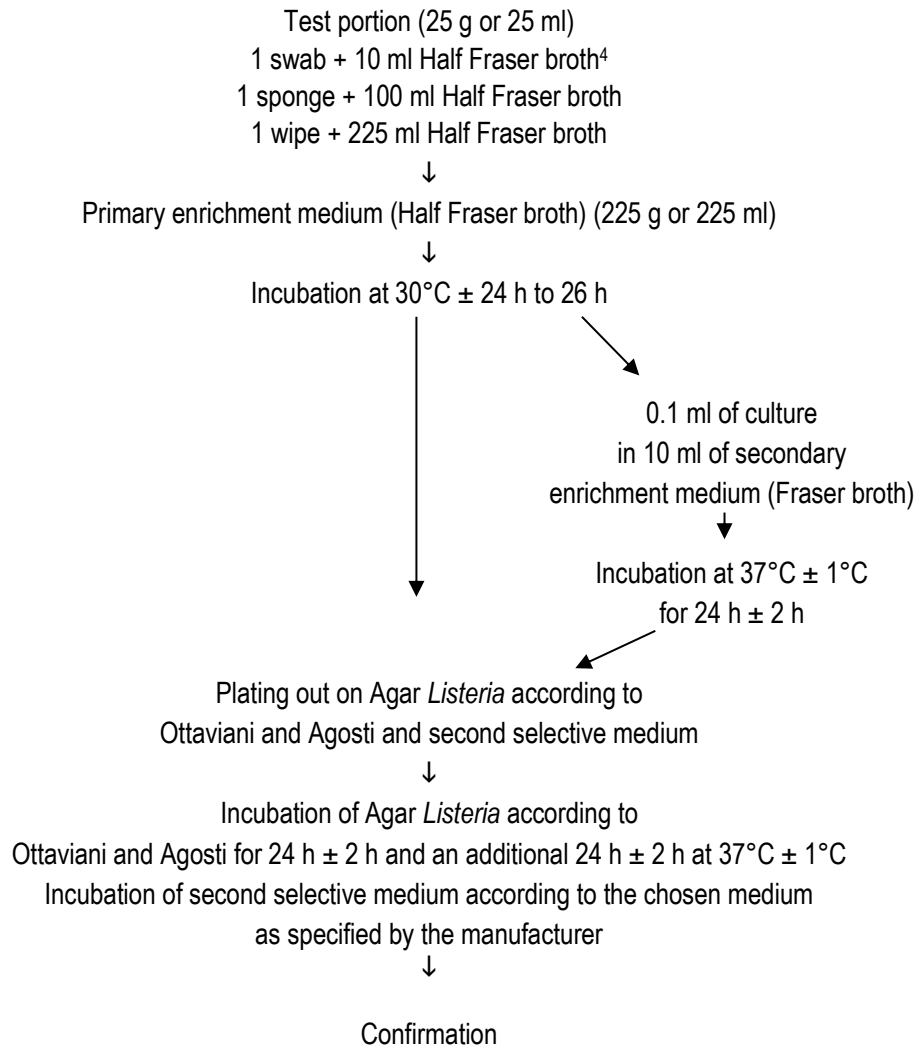
² For sampling after cleaning process pre-moisten

- 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)

³ Store the RELM broth at 30°C if the ELISA test is performed within 2 h

Store the RELM broth at 5 ± 3°C for 72 h if the ELISA test is to be performed within longer period of time (this case was tested during the validation study).

**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 other *Listeria* spp. - Part 1: detection method**



Target	Gram	Catalase	Beta haemolysis	CAMP test	Carbohydrates
<i>Listeria</i> spp	x	x	/	/	/
<i>Listeria monocytogenes</i>	x	Optional	x	Optional	x

⁴ 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

Year of analysis	N° Sample	Product (French name)	Product	Artificial contaminations					Global result
				Strain	Origin	Injury applied	Injury evaluation	Inoculation level	
2013	2378	Carré corse	Raw milk cheese	<i>L. ivanovii</i> Ad1289	Raw milk cheese	Spiking 70 days pH4	0,43	7-6-3-4-3(4,6)	-
2013	2379	Epoisses	Raw milk cheese	<i>L. ivanovii</i> Ad1289	Raw milk cheese	Spiking 70 days pH4	0,43	7-6-3-4-3(4,6)	-
2013	2380	Chèvre	Raw milk cheese	<i>L. ivanovii</i> Ad1289	Raw milk cheese	Spiking 70 days pH4	0,43	7-6-3-4-3(4,6)	-
2013	2381	Moufton	Raw milk cheese	<i>L. ivanovii</i> Ad1289	Raw milk cheese	Spiking 70 days pH4	0,43	7-6-3-4-3(4,6)	+
2013	2382	Brillat Savarin	Raw milk cheese	<i>L. ivanovii</i> Ad1289	Raw milk cheese	Spiking 70 days pH4	0,43	7-6-3-4-3(4,6)	-
2013	2708	Maroilles	Raw milk cheese (Maroilles)	<i>L. monocytogenes</i> Ad665	Raw milk	Spiking 70 days 4°C	0,53	9-12-7-9-8(9,0)	+
2013	2709	Livarot	Raw milk cheese (Livarot)	<i>L. innocua</i> 906	Milk	Spiking 70 days 4°C	0,58	13-11-5-10-12(10,2)	+
2013	2704	Chantilly	Chantilly	<i>L. monocytogenes</i> Ad665	Raw milk	Spiking 70 days 4°C	0,53	9-12-7-9-8(9,0)	+
2013	2705	Mascarpone	Mascarpone	<i>L. monocytogenes</i> Ad665	Raw milk	Spiking 70 days 4°C	0,53	9-12-7-9-8(9,0)	+
2013	2706	Mascarpone	Mascarpone	<i>L. innocua</i> 906	Milk	Spiking 70 days 4°C	0,58	13-11-5-10-12(10,2)	+
2013	2707	Ricotta	Ricotta	<i>L. innocua</i> 906	Milk	Spiking 70 days 4°C	0,58	13-11-5-10-12(10,2)	+
2013	2373	Saumon frais mariné	Marinated salmon	<i>L. monocytogenes</i> Ad1412	Smoked salmon	Spiking 70 days 10% NaCl	0,57	3-1-4-2-1(2,2)	-
2013	2374	Saumon fumé	Smoked salmon	<i>L. monocytogenes</i> Ad1412	Smoked salmon	Spiking 70 days 10% NaCl	0,57	3-1-4-2-1(2,2)	+
2013	2375	Haddock fumé	Smoked haddock	<i>L. monocytogenes</i> Ad1412	Smoked salmon	Spiking 70 days 10% NaCl	0,57	3-1-4-2-1(2,2)	+
2013	2376	Emincé de saumon fumé à l'aneth	Smoked sliced salmon with dill	<i>L. monocytogenes</i> Ad1412	Smoked salmon	Spiking 70 days 10% NaCl	0,57	3-1-4-2-1(2,2)	+

Year of analysis	N° Sample	Product (French name)	Product	Artificial contaminations					Global result
				Strain	Origin	Injury applied	Injury evaluation	Inoculation level	
2013	2377	Truite fumée	Smoked trout	<i>L. monocytogenes</i> Ad1412	Smoked salmon	Spiking 70 days 10% NaCl	0,57	3-1-4-2-1(2,2)	+
2013	2713	Saumon fumé	Smoked salmon	<i>L. monocytogenes</i> Ad996	Smoked trout	Spiking 4 months 10% NaCl	0,63	5-6-6-4-5(5,2)	+
2013	2714	Saumon fumé	Smoked salmon	<i>L. monocytogenes</i> Ad1412	Smoked salmon	Spiking 4 months 10% NaCl	0,52	7-9-10-10-9(9,0)	-
2013	4046	Fèves extra fines surgelées	Frozen beans	<i>L. innocua</i> Ad1176	Spinach	Spiking 4 months -20°C	0,48	7-4-44-10(5,8)	+
2013	4047	Petits pois surgelées	Frozen peas	<i>L. innocua</i> Ad1176	Spinach	Spiking 4 months -20°C	0,48	7-4-44-10(5,8)	+
2013	4048	Haricots verts surgelés	Frozen beans	<i>L. monocytogenes</i> Ad1493	Red pepper	Spiking 4 months -20°C	0,71	10-4-5-4-6(5,8)	+
2013	2721	Curry	Curry	<i>L. monocytogenes</i> Ad544	Cooked onions	Spiking HT 56°C 10min	0,5	2-6-6-5-4(4,6)	-
2013	2763	Curcuma	Curcuma	<i>L. monocytogenes</i> Ad544	Onions	Spiking HT 56°C 10min	0,48	11-12-10-8-9(10,0)	-
2013	2764	Paprika	Paprika	<i>L. monocytogenes</i> Ad544	Onions	Spiking HT 56°C 10min	0,48	11-12-10-8-9(10,0)	-
2013	2765	Muscade	Nutmeg	<i>L. monocytogenes</i> Ad544	Onions	Spiking HT 56°C 10min	0,48	11-12-10-8-9(10,0)	-
2013	2766	Curcuma	Curcuma	<i>L. seeligeri</i> Ad1293	Parsley	Spiking HT 56°C 10min	1,31	12-12-6-8-19(11,4)	-
2013	2767	Paprika	Paprika	<i>L. seeligeri</i> Ad1293	Parsley	Spiking HT 56°C 10min	1,31	12-12-6-8-19(11,4)	-
2013	3456	Ciboulette déshydratée	Dehydrated chive	<i>L. monocytogenes</i> Ad544	Onions	Spiking HT 56°C 10min	0,36	12-5-8-4-5(6,8)	-
2013	3457	Oignons déshydratés	Dehydrated onions	<i>L. seeligeri</i> Ad1293	Parsley	Spiking HT 56°C 10min	0,3	1-3-7-0-2(2,6)	+
2013	3458	Persil déshydraté	Dehydrated parsley	<i>L. monocytogenes</i> Ad544	Onions	Spiking HT 56°C 10min	0,36	12-5-8-4-5(6,8)	-
2013	3459	Basilic déshydraté	Dehydrated basil	<i>L. monocytogenes</i> Ad544	Onions	Spiking HT 56°C 10min	0,36	12-5-8-4-5(6,8)	-
2013	3460	Ciboulette déshydratée	Dehydrated chive	<i>L. seeligeri</i> Ad1293	Parsley	Spiking HT 56°C 10min	0,3	1-3-7-0-2(2,6)	-
2013	3461	Persil déshydraté	Dehydrated parsley	<i>L. seeligeri</i> Ad1293	Parsley	Spiking HT 56°C 10min	0,3	1-3-7-0-2(2,6)	+
2013	3462	Basilic déshydraté	Dehydrated basil	<i>L. seeligeri</i> Ad1293	Parsley	Spiking HT 56°C 10min	0,3	1-3-7-0-2(2,6)	+
2013	4049	Galettes de légumes surgelées	Frozen vegetables patties	<i>L. monocytogenes</i> Ad1493	Red pepper	Spiking 4 months -20°C	0,71	10-4-5-4-6(5,8)	+
2017	3093	Curcuma moulu	Spices	<i>L. monocytogenes</i> Ad1238	Vegetables	Spiking HT 56°C 10min	0,43	5-4-3-1-5 (3,8)	+
2017	3094	Piment fort	Spices	<i>L. monocytogenes</i> Ad1238	Vegetables	Spiking HT 56°C 10min	0,43	5-4-3-1-5 (3,8)	+
2017	3095	Persil frais	Parsley	<i>L. monocytogenes</i> Ad1303	Vegetables	Seeding 2-8°C 48h	/	0-1-2-1-1 (1,0)	-
2017	3096	Persil frais	Parsley	<i>L. innocua</i> Ad1673	Vegetables	Seeding 2-8°C 48h	/	1-1-0-0-2 (0,8)	+
2017	3097	Ciboulette fraiche	Chives	<i>L. monocytogenes</i> Ad1303	Vegetables	Seeding 2-8°C 48h	/	0-1-2-1-1 (1,0)	+

Year of analysis	N° Sample	Product (French name)	Product	Artificial contaminations					Global result
				Strain	Origin	Injury applied	Injury evaluation	Inoculation level	
2017	3098	Ciboulette fraiche	Chives	<i>L. innocua</i> Ad1673	Vegetables	Seeding 2-8°C 48h	/	1-1-0-0-2 (0,8)	+
2017	3099	Coriandre fraiche	Chives	<i>L. monocytogenes</i> Ad1303	Vegetables	Seeding 2-8°C 48h	/	0-1-2-1-1 (1,0)	-
2017	3100	Eau production poisson	Process water (fish production)	<i>L. innocua</i> 1	Fish product	Seeding 2-8°C 48h	/	1-1-1-0-0 (0,6)	+
2017	3101	Eau production porc Knacki	Process water (Pork meat production)	<i>L. monocytogenes</i> Ad271	Pork meat	Seeding 2-8°C 48h	/	2-0-1-0-0 (0,6)	+
2017	3102	Eau production porc	Process water (Pork meat production)	<i>L. monocytogenes</i> Ad271	Pork meat	Seeding 2-8°C 48h	/	2-0-1-0-0 (0,6)	-
2017	3717	Maxi sandwich jambon tomates œufs	RTE Pork Sandwich	<i>L. welshimeri</i> Ad1215	Pork meat	Seeding 2-8°C 48h	/	0-0-1-0-1 (0,4)	+
2017	3718	Maxi sandwich jambon tomates œufs	RTE Pork Sandwich	<i>L. monocytogenes</i> Ad1216	Pork meat	Seeding 2-8°C 48h	/	1-2-1-0-0 (0,6)	+
2017	3719	Trio jambon beurre à toaster	RTRH food	<i>L. monocytogenes</i> Ad1216	Pork meat	Seeding 2-8°C 48h	/	1-2-1-0-0 (0,6)	-
2017	3720	Trio jambon beurre à toaster	RTRH food	<i>L. innocua</i> 17765	Pork meat	Seeding 2-8°C 48h	/	1-0-3-1-0 (0,8)	+
2017	3721	Sandwich jambon œuf sauce burger	RTE Pork Sandwich	<i>L. welshimeri</i> Ad1215	Pork meat	Seeding 2-8°C 48h	/	0-0-1-0-1 (0,4)	+
2017	3722	Sandwich jambon œuf sauce burger	RTE Pork Sandwich	<i>L. monocytogenes</i> Ad1216	Pork meat	Seeding 2-8°C 48h	/	1-2-1-0-0 (0,6)	+
2017	3723	Fusilli jambon	RTRH food	<i>L. welshimeri</i> Ad1215	Pork meat	Seeding 2-8°C 48h	/	0-0-1-0-1 (0,4)	-
2017	3724	Fusilli jambon	RTRH food	<i>L. monocytogenes</i> Ad1216	Pork meat	Seeding 2-8°C 48h	/	1-2-1-0-0 (0,6)	+
2017	3725	Piémontaise jambon	RTE Deli-Salad with pork	<i>L. monocytogenes</i> Ad1216	Pork meat	Seeding 2-8°C 48h	/	1-2-1-0-0 (0,6)	+
2017	3726	Piémontaise jambon	RTE Deli-Salad with pork	<i>L. innocua</i> 17765	Pork meat	Seeding 2-8°C 48h	/	1-0-3-1-0 (0,8)	+
2017	3727	Piémontaise jambon	RTE Deli-Salad with pork	<i>L. welshimeri</i> Ad1215	Pork meat	Seeding 2-8°C 48h	/	0-0-1-0-1 (0,4)	+
2017	3728	Piémontaise jambon	RTE Deli-Salad with pork	<i>L. innocua</i> 17765	Pork meat	Seeding 2-8°C 48h	/	1-0-3-1-0 (0,8)	+
2017	3729	Œuf entier liquide pasteurisé	Pasteurised liquid egg	<i>L. monocytogenes</i> Ad1195	Egg product	Seeding 2-8°C 48h	/	0-0-2-1-2 (1,0)	-
2017	3730	Jaune d'œufs liquide pasteurisé	Pasteurised liquid egg yolk	<i>L. monocytogenes</i> Ad1195	Egg product	Seeding 2-8°C 48h	/	0-0-2-1-2 (1,0)	+

Year of analysis	N° Sample	Product (French name)	Product	Artificial contaminations					Global result
				Strain	Origin	Injury applied	Injury evaluation	Inoculation level	
2017	3731	Jaune d'œufs liquide pasteurisé	Pasteurised liquid egg yolk	<i>L. monocytogenes</i> Ad1195	Egg product	Seeding 2-8°C 48h	/	0-0-2-1-2 (1,0)	+
2017	3732	Tortilla oignons	Omelette	<i>L. monocytogenes</i> Ad1195	Egg product	Seeding 2-8°C 48h	/	0-0-2-1-2 (1,0)	+
2017	3733	Demi mille feuilles	Pastry	<i>L. monocytogenes</i> Ad1195	Egg product	Seeding 2-8°C 48h	/	0-0-2-1-2 (1,0)	+
2017	3734	Demi mille feuilles	Pastry	<i>L. monocytogenes</i> Ad551	Pastry	Seeding 2-8°C 48h	/	0-1-1-2-2 (1,2)	-
2017	3735	Religieuses café	Pastry	<i>L. monocytogenes</i> Ad1195	Egg product	Seeding 2-8°C 48h	/	0-0-2-1-2 (1,0)	+
2017	3736	Religieuses café	Pastry	<i>L. monocytogenes</i> Ad551	Pastry	Seeding 2-8°C 48h	/	0-1-1-2-2 (1,2)	+
2017	3737	Eclairs chocolat	Pastry	<i>L. monocytogenes</i> Ad551	Pastry	Seeding 2-8°C 48h	/	0-1-1-2-2 (1,2)	-
2017	3738	Eclairs vanille	Pastry	<i>L. monocytogenes</i> Ad551	Pastry	Seeding 2-8°C 48h	/	0-1-1-2-2 (1,2)	+

Appendix 4 – Sensitivity study: raw data

Bold typing: artificially inoculated samples

Listeria detection results:

H-:	characteristic <i>Listeria</i> colonies without halo
H+:	characteristic <i>Listeria</i> colonies with halo
-:	no typical colonies but presence of background microflora
st:	plate without any colony
i:	PCR inhibition
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/A1*						Alternative method: Solus <i>Listeria</i> ELISA														Category	Type	
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser for 22 h at 30°C / RELM for 22 h at 30°C								Half Fraser for 22h at 30°C / RELM for 22h at 30°C + 72h at 5°C ± 3°C								
				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment			
								OA	Palcam			Gram	Catalase	Identification	O&A					Palcam						
2013	1334	Sandwich poulet tomates	Chicken and tomato sandwich	H+/H-	+	H+/H-	+	<i>L.welshimeri</i> / <i>L.monocytogenes</i>	+	2,937	+	H+/H-	+	+	+	<i>L.innocua</i> / <i>L.monocytogenes</i>	+	PA	2,961	+	H+/H-	+	+	PA	1	a
2013	1346	Sandwich emmental crudités	Vegetables and cheese sandwich	-	-	-	-	/	-	0,062	-	-	-			/	-	NA							1	a
2013	1347	Sandwich jambon beurre	Butter and ham sandwich	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,915	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,884	+	H+	+	+	PA	1	a
2017	2934	Sandwich jambon emmental	RTE Sandwich	st	-	st	-	/	-	0,037	-	st	-			/	-	NA							1	a
2017	2935	Sandwich thon crudités	RTE Sandwich	H-d	-	H-d	-	NC	-	0,059	-	-	-			/	-	NA	0,040	-	-	-	-	NA	1	a
2017	2936	Mini bagel jambon fromage	RTE Sandwich	st	-	-	-	/	-	0,054	-	st	-			/	-	NA							1	a
2017	2937	Sandwich saumon fumé citron ciboulette	RTE Sandwich	st	st	st	st	/	-	0,084	-	st	st			/	-	NA							1	a
2017	2938	Pain surprise thon tomate	RTE food	st	st	st	st	/	-	0,053	-	st	st			/	-	NA							1	a
2017	3195	Sandwich poulet tomates œuf	RTE Sandwich	-	st	-	-	/	-	0,06	-	st	st			/	-	NA							1	a
2017	3196	Sandwich américain	RTE Sandwich	H+	+	H+	st	<i>L.monocytogenes</i>	+	2,761	+	H+/H-	+	+	+	<i>L.monocytogenes</i> / <i>L.innocua</i>	+	PA	2,493	+	H+/H-	+	+	PA	1	a
2017	3197	Croque madame	RTE food	-	-	H-d	-	NC	-	0,05	-	-	-			/	-	NA							1	a
2017	3463	Mini sandwich	RTE Sandwich	-	-	st	-	/	-	0,049	-	H-d	-	NC	NC	NI	-	NA	0,053	-	H-d (NC)	-	-	NA	1	a
2017	3464	Guacamole	RTE food	-	-	-	st	/	-	0,042	-	-	-			/	-	NA							1	a
2017	3465	Sandwich thon tartare legumes	RTE Sandwich	-	-	st	st	/	-	0,044	-	-	-			/	-	NA							1	a
2017	3467	Mini bagels	RTE Sandwich	-	-	-	-	/	-	0,058	-	-	-			/	-	NA							1	a
2017	3468	Sandwich thon tomates œuf	RTE Sandwich	-	-	-	-	/	-	0,064	-	-	-			/	-	NA							1	a
2017	3475	Sandwich poulet roti œuf	RTE Sandwich	-	-	st	-	/	-	0,047	-	st	-			/	-	NA							1	a
2017	3476	Sandwich thon provençal	RTE Sandwich	-	-	-	-	/	-	0,060	-	-	-			/	-	NA							1	a
2017	3717	Maxi sandwich jambon tomates œufs	RTE Pork Sandwich	H-	+	H-	+	<i>L.welshimeri</i>	+	2,730	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,68	+	H-	+	+	PA	1	a
2017	3718	Maxi sandwich jambon tomates œufs	RTE Pork Sandwich	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,658	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,729	+	H+	+	+	PA	1	a
2017	3721	Sandwich jambon œuf sauce burger	RTE Pork Sandwich	H-	+d	H-	+	<i>L.welshimeri</i>	+	2,643	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,66	+	H-	+	+	PA	1	a
2017	3722	Sandwich jambon œuf sauce burger	RTE Pork Sandwich	H+	+d	H+	+	<i>L.monocytogenes</i>	+	2,635	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,652	+	H+	+	+	PA	1	a
2017	3725	Piémontaise jambon	RTE Deli-Salad with pork	H+	-	H+	+	<i>L.monocytogenes</i>	+	1,728	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,054	+	H+	+	+	PA	1	a
2017	3726	Piémontaise jambon	RTE Deli-Salad with pork	H-	+	H-	+	<i>L.innocua</i>	+	2,580	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,629	+	H-	+	+	PA	1	a
2017	3727	Piémontaise jambon	RTE Deli-Salad with pork	H-	+	H-	+	<i>L.welshimeri</i>	+	2,656	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,641	+	H-	+	+	PA	1	a
2017	3728	Piémontaise jambon	RTE Deli-Salad with pork	H+/H-	+	H+/H-	+	<i>L.monocytogenes</i> / <i>L.innocua</i>	+	2,647	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,575	+	H+/H-	+	+	PA	1	a

COMPOSITE FOODS

Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1*						Alternative method: Solus <i>Listeria</i> ELISA														Category	Type		
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser for 22 h at 30°C / RELM for 22 h at 30°C							Half Fraser for 22h at 30°C / RELM for 22h at 30°C + 72h at 5°C ± 3°C										
				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment				
								OA	Palcam			Gram	Catalase	Identification	O&A					Palcam							
2013	1345	Baguette gratinée lardons emmental	Ready to eat	st	st	st	-	/	-	0,023	-	st	st			/	-	NA								1	b
2013	1348	Feuilletés jambon fromage	Ham and cheese puff	H+/H-	-	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	2,823	+	H+/H-	+	+	+	<i>L.innocua/ L.monocytogenes</i>	+	PA	2,861	+	H+/H-	+	+	+	PA	1	b
2013	1351	Galette lardons pommes de terre	Bacon and potatoes	H-	-	H-	-	<i>L.welshimeri</i>	+	3,004	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,854	+	H-	+	+	+	PA	1	b
2013	1355	Tartefine escargots, ail et fines herbes	Ready to eat meal (snails pie with herbs)	-	-	-	-	/	-	0,104	-	st	-			/	-	NA								1	b
2013	1357	Crêpe champignons	Mushrooms pancake	H+/H-	+	H+	+	<i>L.monocytogenes</i>	+	2,937	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,929	+	H+	+	+	+	PA	1	b
2017	3184	Galette boulgour lentilles	RTRH product	-	-	H-	+	<i>L.innocua</i>	+	2,591	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,638	+	H-	+	+	+	PA	1	b
2017	3185	Mini choux escargot	RTRH product	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,706	+	H+	-	+	+	<i>L.monocytogenes</i>	+	PA	2,653	+	H+	+	+	+	PA	1	b
2017	3186	Galette quinoa provençale	RTRH product	-	-	st	-	/	-	0,089	-	-	-			/	-	NA								1	b
2017	3187	Bouchée à la reine	RTRH product	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,726	+	H+/H-	-	+	+	<i>L.monocytogenes/ L.innocua</i>	+	PA	2,552	+	H+/H-	-	+	+	PA	1	b
2017	3189	Brunoise méridionale	RTRH product	st	-	-	-	/	-	0,042	-	-	-			/	-	NA								1	b
2017	3190	Pomme de terre au thon	RTRH product	st	-	-	-	/	-	0,034	-	st	-			/	-	NA								1	b
2017	3191	Raviolis	RTRH product	H-	+(1)	H-	-	<i>L.welshimeri</i>	+	1,225	+	H-	+	+	+	<i>L.innocua</i>	+	PA	1,183	+	H-	+	+	+	PA	1	b
2017	3193	Brunoise méridionale	RTRH product	st	-	-	-	/	-	0,043	-	-	-			/	-	NA								1	b
2017	3194	Galette complete blé noir	RTRH product	H+	+	H+	-	<i>L.monocytogenes</i>	+	2,755	+	H+	-	+	+	<i>L.monocytogenes</i>	+	PA	2,655	+	H+	+	+	+	PA	1	b
2017	3472	Quiches lorraines	RTRH product	-	-	-	-	/	-	0,058	-	-	-			/	-	NA								1	b
2017	3473	Fusilli bolognaise	RTRH product	st	-	st	st	/	-	0,011	-	st	st			/	-	NA								1	b
2017	3474	Pizza trois fromages	Pizza	-	-	H-	+	<i>L.innocua</i>	+	2,742	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,623	+	H-	+	+	+	PA	1	b
2017	3719	Trio jambon beurre à toaster	RTRH food	st	st	st	st	/	-	0,048	-	st	st			/	-	NA								1	b
2017	3720	Trio jambon beurre à toaster	RTRH food	H-	+	H-	+	<i>L.innocua</i>	+	2,723	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,656	+	H-	+	+	+	PA	1	b
2017	3723	Fusilli jambon	RTRH food	st	-	-	-	/	-	0,037	-	st	-			/	-	NA								1	b
2017	3724	Fusilli jambon	RTRH food	H+	-	H+	+	<i>L.monocytogenes</i>	+	2,720	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,633	+	H+	+	+	+	PA	1	b
2013	1344	Œufs durs en rondelles	Hard egg	H+	+(6)	H+	+	<i>L.monocytogenes</i>	+	2,95	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,876	+	H+	+	+	+	PA	1	c
2017	3182	Œuf mimosa	Egg product	st	st	st	-	/	-	0,032	-	st	-			/	-	NA								1	c
2017	3183	Omelette orientale	Egg product	st	st	st	-	/	-	0,064	-	-	-			/	-	NA								1	c
2017	3188	Coquille œuf broyée	Egg product	st	-	-	-	/	-	0,051	-	-	-			/	-	NA								1	c
2017	3192	Mille feuilles	Pastry	st	-	st	st	/	-	0,029	-	st	st			/	-	NA								1	c
2017	3198	Buchette grand marnier	Pastry	st	-	-	-	/	-	0,044	-	-	-			/	-	NA								1	c
2017	3199	Blanc d'œuf congelé	Frozen egg white	st	-	-	-	/	-	0,036	-	st	st			/	-	NA								1	c
2017	3200	Eclair au chocolat	Pastry	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,166	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,176	+	H+	+	+	+	PA	1	c
2017	3201	Eclair au chocolat	Pastry	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,464	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,404	+	H+	-	+	+	PA	1	c
2017	3459	Croissant aux abricots	Pastry	H+	-	H+	-	<i>L.monocytogenes</i>	+	2,547	+	H+	-	+	+	<i>L.monocytogenes</i>	+	PA	2,326	+	H+	-	+	+	PA	1	c
2017	3461	Omelette	Omelet	st	st	st	st	/	-	0,040	-	-	-			/	-	NA								1	c
2017	3477	Palet breton fraise	Pastry	st	-	st	-	/	-	0,055	-	st	-			/	-	NA								1	c
2017	3478	Demi mille feuilles	Pastry	-	-	-	-	/	-	0,048	-	-	-			/	-	NA								1	c

COMPOSITE FOODS

Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1*						Alternative method: Solus <i>Listeria</i> ELISA														Category	Type		
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser for 22 h at 30°C / RELM for 22 h at 30°C								Half Fraser for 22h at 30°C / RELM for 22h at 30°C + 72h at 5°C ± 3°C									
				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment				
								OA	Palcam			Gram	Catalase	Identification	O&A					Palcam							
2017	3729	Œuf entier liquide pasteurisé	Pasteurised liquid egg	st	st	st	st	/	-	0,064	-	st	st			/	-	NA								1	c
2017	3730	Jaune d'œufs liquide pasteurisé	Pasteurised liquid egg yolk	H+	-	H+	+	<i>L. monocytogenes</i>	+	2,802	+	H+	+	+	+	<i>L. monocytogenes</i>	+	PA	2,584	+	H+	+	+	+	PA	1	c
2017	3731	Jaune d'œufs liquide pasteurisé	Pasteurised liquid egg yolk	H+	-	H+	+	<i>L. monocytogenes</i>	+	2,796	+	H+	+	+	+	<i>L. monocytogenes</i>	+	PA	2,605	+	H+	+	+	+	PA	1	c
2017	3732	Tortilla oignons	Omelet	H+	-	H+	+	<i>L. monocytogenes</i>	+	2,787	+	H+	+	+	+	<i>L. monocytogenes</i>	+	PA	2,588	+	H+	+	+	+	PA	1	c
2017	3733	Demi mille feuilles	Pastry	H+	-	H+	+	<i>L. monocytogenes</i>	+	2,751	+	H+	+	+	+	<i>L. monocytogenes</i>	+	PA	2,717	+	H+	+	+	+	PA	1	c
2017	3734	Demi mille feuilles	Pastry	st	-	st	st	/	-	0,106	-	st	-			/	-	NA							1	c	
2017	3735	Religieuses café	Pastry	H+	-	H+	+	<i>L. monocytogenes</i>	+	2,708	+	H+	+	+	+	<i>L. monocytogenes</i>	+	PA	2,669	+	H+	+	+	+	PA	1	c
2017	3736	Religieuses café	Pastry	H+	+	H+	-	<i>L. monocytogenes</i>	+	2,701	+	H+	+	+	+	<i>L. monocytogenes</i>	+	PA	2,623	+	H+	+	+	+	PA	1	c
2017	3737	Eclairs chocolat	Pastry	-	-	-	st	/	-	0,049	-	-	-			/	-	NA							1	c	
2017	3738	Eclairs vanille	Pastry	H+	+	H+	+	<i>L. monocytogenes</i>	+	2,796	+	H+	+	+	+	<i>L. monocytogenes</i>	+	PA	2,654	+	H+	+	+	+	PA	1	c

MEAT PRODUCTS

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				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser for 22 h at 30°C / RELM for 22 h at 30°C								Half Fraser for 22h at 30°C / RELM for 22h at 30°C + 72h at 5°C ± 3°C								
				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment			
								O&A	Palcam			Gram	Catalase	Identification	O&A					Palcam						
2013	1194	Viande triée de poulet	Poultry meat	H+/H-	-	H+/H-	-	<i>L.welshimeri</i> / <i>L.monocytogenes</i>	+	3,012	+	H+/H-	+	+	+	<i>L.monocytogenes</i>	+	PA	3,077	+	H+/H-	+	+	PA	2	a
2013	1195	Sauté de poulet	Chicken meat	H+/H-	+	H+/H-	+	<i>L.innocua</i> / <i>L.monocytogenes</i>	+	2,937	+	H+/H-	+	+	+	<i>L.monocytogenes</i> / <i>L.innocua</i>	+	PA	2,985	+	H+/H-	+	+	PA	2	a
2013	1197	Brochette	Skewers	H-	+	H-	+	<i>L.welshimeri</i>	+	2,403	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,985	+	H-	+	+	PA	2	a
2013	1206	Magret de canard	Duck meat	st	-	-	st	/	-	0,095	-	st	st			/	-	NA						2	a	
2013	1207	Blanquette de dinde	Turkey meat	st	-	st	st	/	-	0,077	-	-	-			/	-	NA						2	a	
2013	1222	Gésiers	Gizzards	H+	-	H+	+	<i>L.monocytogenes</i>	+	2,963	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,987	+	H+	+	+	PA	2	a
2013	1739	Viande de volaille avec peau	Poultry meat with skin	-	-	st	-	/	-	0,106	-	st	-			/	-	NA						2	a	
2013	1740	Filet de dinde	Turkey meat	H+/H-	-	H+/H-	+	<i>L.welshimeri</i> / <i>L.monocytogenes</i>	+	2,918	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,846	+	H+	+	+	PA	2	a
2013	1741	VGG de poulet	Poultry meat	st	-	-	-	/	-	0,121	-	st	-			/	-	NA						2	a	
2013	2386	Filet de poulet	Chicken raw meat	H+	-	H+	+	<i>L.monocytogenes</i>	+	2,333	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,549	+	H+	+	+	PA	2	a
2013	2436	Viande triée de poulet	Chicken meat	H-	-	st	-	catalase-	-	0,042	-	-	-			/	-	NA						2	a	
2013	1214	Jambon DD	Ham	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,915	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,95	+	H+	+	+	PA	2	a
2013	1737	Noix de jambon	Pork meat with aromatic herbs	st	st	st	st	/	-	0,05	-	st	st			/	-	NA						2	a	
2013	1196	Steak	Steak	-	st	st	st	/	-	0,118	-	st	st			/	-	NA						2	a	
2013	1202	Aiguillette baronne	Beef meat	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,809	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,962	+	H+	+	+	PA	2	a
2013	1212	Steak haché	Ground beef	H+/H-	+	H+/H-	+	<i>L.welshimeri</i> / <i>L.monocytogenes</i>	+	2,903	+	H+/H-	+	+	+	<i>L.welshimeri</i> / <i>L.monocytogenes</i>	+	PA	2,971	+	H+/H-	+	+	PA	2	a
2013	1213	Steak haché 15%	Ground beef	H+/H-	+	H+/H-	+	<i>L.welshimeri</i> / <i>L.monocytogenes</i>	+	2,932	+	H+/H-	+	+	+	<i>L.innocua</i> / <i>L.monocytogenes</i>	+	PA	2,976	+	H+/H-	+	+	PA	2	a
2013	1735	Steak haché de bœuf	Ground beef	H+	-	H+	+	<i>L.monocytogenes</i>	+	2,954	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,871	+	H+	+	+	PA	2	a
2013	1736	Steak haché de bœuf	Ground beef	-	-	st	-	/	-	0,114	-	st	-			/	-	NA						2	a	
2013	2385	Steak haché	Ground beef	st	-	-	-	/	-	0,031	-	-	st			/	-	NA						2	a	
2013	2434	Steak haché	Ground beef	H- (1)	+(2)	H+/H-	+	<i>L.innocua</i> / <i>L.monocytogenes</i>	+	1,98	+	H+/H-	+	+	+	<i>L.innocua</i> / <i>L.monocytogenes</i>	+	PA	2,102	+	H+/H-	+	+	PA	2	a
2013	2435	Steak haché	Ground beef	H+	-	H+	+	<i>L.monocytogenes</i>	+	1,833	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,157	+	H+	+	+	PA	2	a
2013	2437	Steak haché	Ground beef	H+ (1)	-	H+	+	<i>L.monocytogenes</i>	+	2,371	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,289	+	H+	+	+	PA	2	a
2013	1198	Cubes de poulets marinés	Marinated pieces of chicken	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,79	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,985	+	H+	+	+	PA	2	b
2013	1204	Aiguillettes de poulet marinés	Marinated pieces of chicken	-	st	H+	+	<i>L.monocytogenes</i>	+	2,884	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,945	+	H+	+	+	PA	2	b
2013	1220	Sot l'y laisse mariné	Poultry meat	H+/H-	+	H+/H-	-	<i>L.welshimeri</i> / <i>L.monocytogenes</i>	+	2,959	+	H+/H-	+	+	+	<i>L.innocua</i> / <i>L.monocytogenes</i>	+	PA	2,901	+	H+/H-	-	+	PA	2	b
2013	1352	Cordon bleu	Cordon bleu	st	-	-	-	/	-	0,103	-	st	-			/	-	NA						2	b	
2013	1354	Paella	Paella	st	-	-	-	/	-	0,099	-	st	-			/	-	NA						2	b	
2013	1956	Panier de volaille	Ready to eat meal (Poultry)	H-	+	H-	+	<i>L.innocua</i>	+	2,217	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,328	+	H-	+	+	PA	2	b
2013	2759	Parmentier poulet	Ready to eat meal (chicken)	st	st	-	-	/	-	0,041	-	st	st			/	-	NA						2	b	
2013	2760	Aiguillettes de poulet cuites	Ready to eat meal (chicken)	st	st	st	st	/	-	0,042	-	st	st			/	-	NA						2	b	

MEAT PRODUCTS

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				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment				
								O&A	Palcam			Gram	Catalase	Identification	O&A					Palcam							
2013	2761	Samoussas poulet curry	Ready to eat meal (chicken samoussas)	st	-	-	-	/	-	0,082	-	st	-			/	-	NA								2	b
2013	2762	Nems poulet menthe	Ready to eat meal (chicken nems)	-	-	-	-	/	-	0,088	-	st	-			/	-	NA								2	b
2013	1200	Côte de porc thym et romarin	Pork meat with aromatic herbs	st	-	st	st	/	-	0,095	-	st	-			/	-	NA								2	b
2013	1215	Côte de porc thym et romarin	Pork meat with aromatic herbs	st	-	st	st	/	-	0,111	-	st	st			/	-	NA								2	b
2013	1221	Tomates farcies	Stuffed tomatoes	H+/H-	+	H+/H-	+	<i>L.innocua/ L. monocytogenes</i>	+	2,954	+	H+/H-	+	+	+	<i>L.welshimeri/ L. monocytogenes</i>	+	PA	2,89	+	H+/H-	+	+	+	PA	2	b
2013	1210	Pavé mariné à l'échalotte	Marinated piece of beef	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,954	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,994	+	H+	+	+	+	PA	2	b
2013	1343	Croque Kebab	Croque Kebab	H+	+	H+	-	<i>L.monocytogenes</i>	+	2,919	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,822	+	H+	+	+	+	PA	2	b
2013	1762	Hachis parmentier au bœuf	Ready to eat meal (Hachis parmentier)	H- (1)	+(2)	H-	+	<i>L.welshimeri</i>	+	2,973	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,866	+	H-	+	+	+	PA	2	b
2013	1763	Gratin bœuf courgettes	Beef and zucchini gratin	st	st	st	st	/	-	0,041	-	st	st			/	-	NA								2	b
2013	1764	Moussaka de bœuf	Ready to eat meal (Moussaka)	st	st	st	st	/	-	0,045	-	st	st			/	-	NA								2	b
2013	1765	Bœuf Bourguignon	Ready to eat meal (Bœuf bourguignon)	st	st	st	st	/	-	0,046	-	st	st			/	-	NA								2	b
2013	2384	Souris d'agneau au thym	Ready to eat lamb	st	-	-	-	/	-	0,107	-	-	-			/	-	NA								2	b
2013	2756	Bœuf Bourguignon	Ready to eat meal (beef)	st	st	st	st	/	-	0,068	-	st	st			/	-	NA								2	b
2013	2757	Rognons de boeuf cuits	Ready to eat meal (beef)	st	st	st	st	/	-	0,048	-	st	st			/	-	NA								2	b
2013	2758	Samoussas au bœuf	Ready to eat meal (beef samoussas)	-	-	-	-	/	-	0,076	-	st	-			/	-	NA								2	b
2013	1201	Pâté de campagne	Pâté	st	st	st	st	/	-	0,079	-	st	st			/	-	NA								2	c
2013	1203	Saucisson à l'ail	Cooked sausage with garlic	st	-	st	-	/	-	0,061	-	-	-			/	-	NA								2	c
2013	1205	Saucisson à l'ail	Cooked sausage with garlic	st	st	st	st	/	-	0,114	-	st	st			/	-	NA								2	c
2013	1208	Merguez	Merguez	-	st	st	st	/	-	0,075	-	st	st			/	-	NA								2	c
2013	1209	Farce	Stuff	H-	-	H-	+	<i>L.innocua</i>	+	0,958	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,743	+	H-	+	+	+	PA	2	c
2013	1211	Merguez	Merguez	H+/H-	-	H+/H-	+	<i>L.ivanovii/ L.welshimeri</i>	+	1,332	+	H+/H-	+	+	+	<i>L.welshimeri/ L. monocytogenes</i>	+	PA	2,976	+	H+/H-	+	+	+	PA	2	c
2013	1216	Andouille de Guéméné	Chitterling	H-	+	H-	+	<i>L.innocua</i>	+	3,002	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,933	+	H-	+	+	+	PA	2	c
2013	1217	Andouillette nature	Chitterling	H+	-	H+/H-	+	<i>L.monocytogenes</i>	+	2,468	+	H+	-	+	+	<i>L.monocytogenes</i>	+	PA	2,925	+	H+	-	+	+	PA	2	c
2013	1218	Merguez	Merguez	H+	+	H+	+	<i>L.monocytogenes</i>	+	3,007	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,967	+	H+	+	+	+	PA	2	c
2013	1219	Chipolatas	Sausages	H+/H-	+	H+/H-	+	<i>L.welshimeri/ L. monocytogenes</i>	+	2,978	+	H+/H-	+	+	+	<i>L.welshimeri/ L. monocytogenes</i>	+	PA	2,95	+	H+/H+	+	+	+	PA	2	c
2013	1738	Saucisse cocktail	Cocktail sausages	-	-	H-d	-	gram-	-	0,202	+	H-	-			<i>L.seeligeri</i>	+	PD	0,170	-	-	-	-	-	NA	2	c
2013	2383	Rosette	Raw milk cheese	st	st	st	st	/	-	0,024	-	st	-			/	-	NA								2	c
2013	2387	Chipolatas au persil	Sausages with parsley	st	-	-	-	/	-	0,03	-	st	-			/	-	NA								2	c
2013	2438	Saucisse cocktail	Cocktail sausages	H-	+	H-	+	<i>L.welshimeri</i>	+	2,335	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,291	+	H-	+	+	+	PA	2	c
2013	2439	Terrine de campagne	Terrine	H+	-	st	st	<i>L.monocytogenes</i>	+	2,261	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,347	+	H+	+	+	+	PA	2	c
2017	2947	Rosette	Delicatessen	st	-	st	-	/	-	0,043	-	st	-			/	-	NA								2	c

MEAT PRODUCTS

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				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment			
								O&A	Palcam			Gram	Catalase	Identification	O&A					Palcam						
2017	2948	Saucisson sec	Delicatessen	st	-	st	-	/	-	2,184	+	H-	+	+	+	<i>L. welshimeri</i>	+	PD	2,685	+	H-	+	+	PD	2	c
2017	2949	Mousse de foie	Delicatessen	st	st	st		/	-	0,046	-	st	-			/	-	NA							2	c
2017	2950	Pâté de campagne	Delicatessen	st	-	st	st	/	-	0,038	-	st	-			/	-	NA							2	c
2017	2951	Saucisse de francfort	Delicatessen	st	-	st	st	/	-	0,049	-	st	-			/	-	NA							2	c
2017	3460	Rillettes d'oie	Rillettes	-	-	st	st	/	-	0,040	-	st	-			/	-	NA							2	c
2017	3462	Rillettes pur porc	Rillettes	st	st	st	st	/	-	0,040	-	st	st			/	-	NA							2	c
2017	3466	Rillettes poulet roti	Rillettes	st	-	st	st	/	-	0,042	-	-	st			/	-	NA							2	c
2013	1199	Saucisson sec de porc fermier	Dehydrated pork sausage	st	-	st	st	/	-	0,06	-	st	-			/	-	NA							2	v

DAIRY PRODUCTS

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				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment				
												O&A	Palcam	Gram	Catalase					Identification	O&A					Palcam	
2013	1192	Lait cru entier	Raw milk	st	-	st	-	/	-	0,053	-	st	-			/	-	NA								3	a
2013	1540	Lait cru de vache	Cow raw milk	H+/H-	-	H+/H-	+	<i>L.innocua/</i> <i>L.monocytogenes</i>	+	2,928	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,943	+	H+/H-	+	+	+	PA	3	a
2013	1541	Lait cru de vache	Cow raw milk	-	-	st	-	/	-	0,062	-	st	-			/	-	NA								3	a
2013	1542	Lait cru de vache	Cow raw milk	H+	-	H+/H-	+	<i>L.innocua/</i> <i>L.monocytogenes</i>	+	2,987	+	H+/H-	+	+	+	<i>L.innocua/</i> <i>L.monocytogenes</i>	+	PA	2,974	+	H+/H-	+	+	+	PA	3	a
2013	1543	Lait cru de vache	Cow raw milk	H-	+	H-	+	<i>L.innocua</i>	+	2,814	+	H-	+	+	+	<i>L.innocua</i>	+	PA	3,033	+	H-	+	+	+	PA	3	a
2013	1544	Lait cru de vache	Cow raw milk	H-	+(2)	H-	-	<i>L.seeligeri</i>	+	2,78	+	H-	-	+	+	<i>L.seeligeri</i>	+	PA	2,964	+	H-	-	+	+	PA	3	a
2013	1545	Lait cru de vache	Cow raw milk	H+	+(3)	H+	+	<i>L.monocytogenes</i>	+	2,933	+	-	+	+	+	<i>L.monocytogenes</i>	+	PA	2,947	+	H+	+	+	+	PA	3	a
2013	1546	Lait cru de vache	Cow raw milk	-	-	-	-	/	-	0,11	-	-	-			/	-	NA								3	a
2013	1547	Lait cru de vache	Cow raw milk	H+/H-	-	H+/H-	+	<i>L.innocua/</i> <i>L.monocytogenes</i>	+	2,933	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,969	+	H-	+	+	+	PA	3	a
2013	1548	Lait cru de vache	Cow raw milk	-	-	-	-	/	-	0,08	-	-	-			/	-	NA								3	a
2013	1549	Lait cru de vache	Cow raw milk	-	-	H-d	-	-(catalase-)	-	0,07	-	-	-			/	-	NA								3	a
2013	1550	Lait cru de vache	Cow raw milk	H+	-	H+/H-	+	<i>L.innocua/</i> <i>L.monocytogenes</i>	+	2,913	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,942	+	H+	+	+	+	PA	3	a
2013	1897	Lait cru	Raw milk	st	-	st	-	/	-	0,058	-	-	-			/	-	NA								3	a
2013	1901	Lait cru	Raw milk	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,946	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,454	+	H+	+	+	+	PA	3	a
2013	1952	Lait cru de brebis	Raw ewe milk	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,586	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,667	+	H+	+	+	+	PA	3	a
2013	1953	Lait cru de brebis	Raw ewe milk	st	st	-	-	/	-	0,046	-	-	-			/	-	NA								3	a
2013	1954	Lait cru de brebis	Raw ewe milk	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,474	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,611	+	H+	+	+	+	PA	3	a
2013	1955	Lait cru de vache	Raw cow milk	st	st	st	st	/	-	0,034	-	st	st			/	-	NA								3	a
2013	2465	Lait cru de vache	Raw cow milk	H-	+	H-	+	<i>L.innocua</i>	+	1,148	+	H-	+	+	+	<i>L.innocua</i>	+	PA	1,474	+	H-	+	+	+	PA	3	a
2013	2466	Lait cru de vache	Raw cow milk	st	st	st	st	/	-	0,054	-	st	st			/	-	NA								3	a
2013	1742	Fromage à raclette	Raw milk cheese (Raclette)	-	-	H-d	-	gram-	-	0,109	-	-	-			/	-	NA	0,117	-	-	-	-	-	NA	3	b
2013	1743	Fromage non affiné de brebis	Ewe raw milk cheese	-	-	st	-	/	-	0,084	-	st	-			/	-	NA								3	b
2013	1744	Fromage au lait cru de vache	Cow raw milk cheese	-	-	st	-	/	-	0,085	-	st	-			/	-	NA								3	b
2013	1746	Fromage au lait cru	Raw milk cheese	st	st	st	st	/	-	0,065	-	st	st			/	-	NA								3	b
2013	1747	Fromage au lait cru	Raw milk cheese	st	st	st	st	/	-	0,075	-	st	st			/	-	NA								3	b
2013	1950	Morbier	Raw milk cheese (Morbier)	H+	-	H+	+	<i>L.monocytogenes</i>	+	2,331	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,471	+	H+	+	+	+	PA	3	b
2013	1951	Fromage non affiné au lait cru	Raw milk cheese	st	st	st	st	/	-	0,056	-	st	st			/	-	NA								3	b
2013	2304	Livarot	Raw milk cheese	-	-	st	-	/	-	0,05	-	st	-			/	-	NA								3	b
2013	2305	Moufton	Raw milk cheese	-	-	st	-	/	-	0,051	-	st	-			/	-	NA								3	b
2013	2306	Thym tammare	Raw milk cheese	-	-	st	-	/	-	0,054	-	-	-			/	-	NA								3	b
2013	2307	Ginestarie	Raw milk cheese	-	-	st	-	/	-	0,039	-	st	-			/	-	NA								3	b
2013	2308	Brillat Savarin	Raw milk cheese	-	-	-	-	/	-	0,055	-	-	-			/	-	NA								3	b
2013	2309	Epoisse	Raw milk cheese	st	-	st	-	/	-	0,046	-	st	-			/	-	NA								3	b

* Analyses performed according to the COFRAC accreditation

DAIRY PRODUCTS

Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1*						Alternative method: Solus <i>Listeria</i> ELISA														Category	Type	
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser for 22 h at 30°C / RELM for 22 h at 30°C								Half Fraser for 22h at 30°C / RELM for 22h at 30°C + 72h at 5°C ± 3°C								
				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment			
								O&A	Palcam			Gram	Catalase	Identification	O&A					Palcam						
2013	2310	Maroilles	Raw milk cheese	H-	-	H-	+	<i>L.innocua/L.welshimeri</i>	+	2,433	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,408	+	H-	+	+	PA	3	b
2013	2311	Perche	Raw milk cheese	st	-	st	-	/	-	0,038	-	st	-			/	-	NA							3	b
2013	2312	Camembert	Raw milk cheese	-	-	st	-	/	-	0,074	-	-	-			/	-	NA							3	b
2013	2313	Carré Corse	Raw milk cheese	-	-	st	-	/	-	0,061	-	-	-			/	-	NA	0,035	-	st	-	-	NA	3	b
2013	2314	Chèvre pané	Raw milk cheese	-	-	st	-	/	-	0,064	-	-	-			/	-	NA	0,045	-	st	st	-	NA	3	b
2013	2315	Crottin de chèvre	Raw milk cheese	st	-	st	st	/	-	0,053	-	st	-			/	-	NA							3	b
2013	2316	Saint Nectaire	Raw milk cheese	-	-	st	-	/	-	0,104	-	st	-			/	-	NA							3	b
2013	2317	Munster	Raw milk cheese	-	-	st	-	/	-	0,09	-	st	-			/	-	NA							3	b
2013	2318	Chèvre	Raw milk cheese	st	-	st	st	/	-	0,082	-	st	st			/	-	NA							3	b
2013	2378	Carré corse	Raw milk cheese	-	-	st	st	/	-	0,027	-	st	st			/	-	NA							3	b
2013	2379	Epoisses	Raw milk cheese	st	st	st	st	/	-	0,022	-	st	st			/	-	NA							3	b
2013	2380	Chèvre	Raw milk cheese	st	-	st	st	/	-	0,038	-	H+	+	+	+	<i>L.ivanovii</i>	-	NA	0,064	-	H+	+	-	NA	3	b
2013	2381	Mouffton	Raw milk cheese	H+	-	H+	+	<i>L.ivanovii</i>	+	0,034	-	H+	1+	+	+	<i>L.ivanovii</i>	-	ND	0,078	-	H+	+	-	ND	3	b
2013	2382	Brillat Savarin	Raw milk cheese	st	-	-	st	/	-	0,033	-	st	st			/	-	NA							3	b
2013	2557	Fromage au lait cru	Raw milk cheese	H+	-	H+	-	<i>L.monocytogenes</i>	+	2,164	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,822	+	H+	+	+	PA	3	b
2013	2558	Fromage au lait cru	Raw milk cheese	H+	+	H+/H-	+	<i>L.innocua/L.monocytogenes</i>	+	1,43	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,759	+	H+	+	+	PA	3	b
2013	2559	Fromage au lait cru	Raw milk cheese	-	-	st	st	/	-	0,046	-	st	-			/	-	NA							3	b
2013	2560	Fromage au lait cru	Raw milk cheese	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,63	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,795	+	H+	+	+	PA	3	b
2013	2562	Fromage au lait cru	Raw milk cheese	-	-	H+	+	<i>L.monocytogenes</i>	+	1,314	+	H+/H-	+	+	+	<i>L.innocua/L.monocytogenes</i>	+	PA	2,74	+	H+	+	+	PA	3	b
2013	2563	Fromage au lait cru	Raw milk cheese	-	-	-	-	/	-	0,052	-	st	-			/	-	NA							3	b
2013	2564	Fromage au lait cru	Raw milk cheese	H+	+	H+/H-	+	<i>L.innocua/L.monocytogenes</i>	+	2,546	+	H+/H-	+	+	+	<i>L.innocua/L.monocytogenes</i>	+	PA	2,728	+	H+	+	+	PA	3	b
2013	2708	Maroilles	Raw milk cheese (Maroilles)	H+	+(1)	H+	+	<i>L.monocytogenes</i>	+	1,003	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,816	+	H+	+	+	PA	3	b
2013	2709	Livarot	Raw milk cheese (Livarot)	st	-	st	st	/	-	0,578	+	H-	+	+	+	<i>L.innocua</i>	+	PD	2,657	+	H-	+	+	PD	3	b
2013	2710	Saint Nectaire	Raw milk cheese (Saint Nectaire)	-	-	st	-	/	-	0,041	-	st	-			/	-	NA							3	b
2013	2711	Camembert	Raw milk cheese (Camembert)	-	-	-	-	/	-	0,043	-	st	-			/	-	NA							3	b
2013	2712	Munster	Raw milk cheese (Munster)	-	-	st	-	/	-	0,057	-	st	-			/	-	NA							3	b
2013	1332	Emmental	Cheese (Emmental)	H+	+	H+	+	<i>L.monocytogenes</i>	+	3,004	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,966	+	H+/H+	+	+	PA	3	c
2013	1745	Fromage au lait cru de vache	Cow raw milk cheese	H+	-	H+	+	<i>L.monocytogenes</i>	+	2,791	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,937	+	H+	+	+	PA	3	c
2013	2561	Emmental	Cheese (Emmental)	-	-	st	st	/	-	0,088	-	-	st			/	-	NA							3	c
2013	1193	Crème crue	Raw cream	st	-	st	-	/	-	0,068	-	st	-			/	-	NA							3	c
2013	1331	Préparation pour pizza à la Mozarella	Preparation for pizza	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,984	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,943	+	H+/H+	+	+	PA	3	c
2013	1336	Mélange de fromages pour pizza	Mix of cheese for pizza	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,928	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,938	+	H+	+	+	PA	3	c
2013	1350	Chèvre pané	Goat cheese	H-d	-	-	-	-(Gram-)	-	0,096	-	-	-			/	-	NA							3	c

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				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser for 22 h at 30°C / RELM for 22 h at 30°C								Half Fraser for 22h at 30°C / RELM for 22h at 30°C + 72h at 5°C ± 3°C									
				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment				
								O&A	Palcam			Gram	Catalase	Identification	O&A					Palcam							
2013	1356	Feuilleté chèvre	Goat cheese puff	H+/H-	+	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	2,941	+	H+/H-	+	+	+	<i>L.innocua/ L.monocytogenes</i>	+	PA	2,888	+	H+/H-	+	+	PA	3	c	
2013	2704	Chantilly	Chantilly	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,357	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,94	+	H+	+	+	PA	3	c	
2013	2705	Mascarpone	Mascarpone	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,463	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,875	+	H+	+	+	PA	3	c	
2013	2706	Mascarpone	Mascarpone	H-	+	H-	+	<i>L.innocua</i>	+	2,524	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,868	+	H-	+	+	PA	3	c	
2013	2707	Ricotta	Ricotta	H-	+	H-	+	<i>L.innocua</i>	+	2,587	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,887	+	H-	+	+	PA	3	c	
2017	2939	Mascarpone	Mascarpone	st	st	st	st	/	-	0,053	-	st	st			/	-	NA							3	c	
2017	2940	Ricotta	Ricotta	st	st	st	st	/	-	0,037	-	-	st			/	-	NA								3	c
2017	2941	Roquefort Lait pasteurisé	Pasteurised milk cheese	-	-	st	st	/	-	0,051	-	-	st			/	-	NA								3	c
2017	2942	Bleu d'auvergne Lait pasteurisé	Pasteurised milk cheese	st	-	st	-	/	-	0,045	-	-	-			/	-	NA								3	c
2017	2943	Mozarella	Pasteurised milk cheese	-	st	st	-	/	-	0,034	-	st	-			/	-	NA								3	c
2017	2944	Concoillote	Pasteurised milk cheese	st	st	st	st	/	-	0,037	-	st	st			/	-	NA								3	c
2017	2945	Fromage de chèvre	Pasteurised milk cheese	st	st	st	st	/	-	0,041	-	st	st			/	-	NA								3	c
2017	2946	Panna cotta	Pasteurised milk desert	st	st	st	-	/	-	0,036	-	st	st			/	-	NA								3	c

SEAFOOD																											
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				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser for 22 h at 30°C / RELM 22 h at 30°C								Half Fraser for 22h at 30°C / RELM for 22h at 30°C + 72h at 5°C ± 3°C									
				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment				
												O&A	Palcam	Gram	Catalase					Identification	O&A			Palcam			
2013	1178	Filet de Panga	Panga fillet	H+/H-	+	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	3,08	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,95	+	H-	+	+	PA	4	a	
2013	1179	Bloc de saumon	Piece of salmon	H+	+	H+	+	<i>L.monocytogenes</i>	+	3,05	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,981	+	H+	+	+	PA	4	a	
2013	1180	Filet de Panga	Panga fillet	H+	+	H+	+	<i>L.monocytogenes</i>	+	3,044	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,981	+	H+	+	+	PA	4	a	
2013	1182	Morceaux de filets de saumon	Pieces of salmon	st	-	st	st	/	-	0,12	-	st	st			/	-	NA							4	a	
2013	1183	Filet d'Eglefin	Fillet of haddock	st	-	st	-	/	-	0,098	-	st	-			/	-	NA							4	a	
2013	1783	Filet de carrelet cru	Raw fish fillet	st	st	st	st	/	-	0,058	-	st	-			/	-	NA							4	a	
2013	1785	Noix de Saint-Jacques	Scallops	H-	-	H-	+	<i>L.innocua</i>	+	2,954	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,925	+	H-	+	+	PA	4	a	
2013	1786	Filet de Panga	Fish fillet	H+/H-	+	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	2,859	+	H+/H-	+	+	+	<i>L.innocua/ L.monocytogenes</i>	+	PA	2,954	+	H+	+	+	PA	4	a	
2013	1790	Filet de merlu cru	Raw fish fillet	st	st	st	st	/	-	0,11	-	st	st			/	-	NA							4	a	
2013	2547	Noix de Saint-Jacques	Scallops	-	-	st	-	/	-	0,051	-	-	-			/	-	NA							4	a	
2013	2549	Bloc de saumon	Piece of salmon	st	-	st	st	/	-	0,048	-	-	-			/	-	NA							4	a	
2013	2550	Noix de Saint-Jacques	Scallops	H+/H-	+	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	2,357	+	H+/H-	+	+	+	<i>L.innocua/ L.monocytogenes</i>	+	PA	2,838	+	H+/H-	+	+	PA	4	a	
2013	2551	Filet de Panga	Fish fillet	H+/H-	+	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	2,554	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,759	+	H+/H-	+	+	PA	4	a	
2013	2553	Cubes de poisson blanc	White fish pieces	st	-	st	st	/	-	0,024	-	st	st			/	-	NA							4	a	
2013	2554	Filet de Panga	Fish fillet	-	-	st	st	/	-	0,033	-	st	st			/	-	NA							4	a	
2017	2952	Filet d'eglefin	Raw fish	st	-	H-d	-	<i>L. seeligeri</i>	+	2,714	+	H-d	+	+	+	<i>L. seeligeri</i>	+	PA	2,615	+	H-	+	+	PA	4	a	
2017	2953	Tacaud	Raw fish	st	-	st	st	/	-	0,052	-	st	-			/	-	NA							4	a	
2017	2954	Rouget barbet	Raw fish	st	st	st	-	/	-	0,053	-	st	-			/	-	NA							4	a	
2017	2955	Merlan	Raw fish	st	st	st	-	/	-	0,072	-	st	-			/	-	NA							4	a	
2017	2956	Maquereau	Raw fish	st	-	st	-	/	-	0,062	-	st	-			/	-	NA							4	a	
2017	3469	Filet merlu	Raw fish	st	-	st	-	/	-	0,050	-	st	-			/	-	NA							4	a	
2017	3470	Longe espadon	Raw fish	st	-	st	st	/	-	0,047	-	st	st			/	-	NA							4	a	
2017	3471	Steak de thon	Raw fish	st	-	st	-	/	-	0,048	-	st	-			/	-	NA							4	a	
2013	1381	Saumon fumé	Smoked salmon	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,874	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,875	+	H+	+	+	PA	4	b	
2013	1382	Saumon fumé	Smoked salmon	st	st	st	st	/	-	0,026	-	st	-			/	-	NA							4	b	
2013	1788	Saumon fumé	Smoked salmon	H+	-	H+	+	<i>L.monocytogenes</i>	+	2,932	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,929	+	H+	+	+	PA	4	b	
2013	2345	Saumon fumé	Smoked salmon	st	-	st	-	/	-	0,055	-	st	-			/	-	NA							4	b	
2013	2346	Saumon fumé	Smoked salmon	st	-	st	st	/	-	0,05	-	st	st			/	-	NA							4	b	
2013	2347	Saumon fumé	Smoked salmon	-	-	st	st	/	-	0,045	-	-	-			/	-	NA							4	b	
2013	2348	Saumon fumé	Smoked salmon	st	st	st	st	/	-	0,022	-	st	-			/	-	NA							4	b	
2013	2349	Truite fumée	Smoked trout	st	st	st	st	/	-	0,033	-	st	st			/	-	NA							4	b	
2013	2350	Haddock fumé	Smoked Haddock	st	st	st	st	/	-	0,032	-	st	st			/	-	NA							4	b	

SEAFOOD																											
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				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser for 22 h at 30°C / RELM 22 h at 30°C								Half Fraser for 22h at 30°C / RELM for 22h at 30°C + 72h at 5°C ± 3°C									
				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment				
												O&A	Palcam	Gram	Catalase					Identification	O&A					Palcam	
2013	2351	Truite fumée	Smoked trout	st	st	-	-	/	-	0,198	-	st	-			/	-	NA								4	b
2013	2352	Harengs marinés	Marinated herring	st	-	-	-	/	-	0,076	-	-	-			/	-	NA								4	b
2013	2353	Saumon mariné aneth-citron	Marinated salmon	st	-	st	st	/	-	0,057	-	st	st			/	-	NA								4	b
2013	2354	Saumon mariné	Marinated salmon	st	-	st	st	/	-	0,07	-	st	-			/	-	NA								4	b
2013	2361	Saumon mariné au citron vert	Marinated salmon (green lemon)	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,168	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,338	H+	H+	+	+	+	PA	4	b
2013	2373	Saumon frais mariné	Marinated salmon	st	st	st	st	/	-	0,016	-	st	st			/	-	NA								4	b
2013	2374	Saumon fumé	Smoked salmon	H+ (1)	-	H+	+	<i>L.monocytogenes</i>	+	2,187	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,493	+	H+	+	+	+	PA	4	b
2013	2375	Haddock fumé	Smoked haddock	H+ (1)	+(1)	H+	+	<i>L.monocytogenes</i>	+	2,193	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,478	+	H+	+	+	+	PA	4	b
2013	2376	Emincé de saumon fumé à l'aneth	Smoked sliced salmon with dill	H+ (2)	+(4)	H+	+	<i>L.monocytogenes</i>	+	2,23	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,527	+	H+	+	+	+	PA	4	b
2013	2377	Truite fumée	Smoked trout	H+ (6)	+(5)	H+	+	<i>L.monocytogenes</i>	+	1,985	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,533	+	H+	+	+	+	PA	4	b
2013	2713	Saumon fumé	Smoked salmon	H+	+(2)	H+	+	<i>L.monocytogenes</i>	+	1,34	+	H+	-	+	+	<i>L.monocytogenes</i>	+	PA	2,899	+	H+	+	+	+	PA	4	b
2013	2714	Saumon fumé	Smoked salmon	st	-	st	st	/	-	0,051	+	st	st			/	-	NA								4	b
2013	1177	Tartare de Saint Jacques, estragon et citron	Scallops tartar	-	-	-	-	/	-	0,124	-	st	st			/	-	NA								4	c
2013	1181	Tarama de saumon	Salmon tarama	st	-	-	-	/	-	0,108	-	st	st			/	-	NA								4	c
2013	1333	Scraps de saumon	Salmon scraps	H+	+	H+	+	<i>L.monocytogenes</i>	+	1,192	+	H+/H-	+	+	+	<i>L.innocua/ L.monocytogenes</i>	+	PA	2,398	+	H+/H-	+	+	+	PA	4	c
2013	1335	Poisson blanc pané	White fish	st	st	-	-	/	-	0,096	-	st	st			/	-	NA								4	c
2013	1338	Salade du pêcheur	Salad with seafood	st	+(1)	st	st	<i>L.monocytogenes</i>	+	2,882	+	H+	+			<i>L.monocytogenes</i>	+	PA	2,975	+	H+	+	+	+	PA	4	c
2013	1342	Panier de Saint-Jacques	Ready to eat scallops	st	-	-	-	/	-	0,193	-	-	-			/	-	NA								4	c
2013	1784	Croquettes de poisson panées	Breaded fish	st	-	H-	-	gram-	-	0,093	-	-	-			/	-	NA								4	c
2013	1787	Cabillaud pané	Breaded cod	H+	-	H+	+	<i>L.monocytogenes</i>	+	2,945	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,891	+	H+	+	+	+	PA	4	c
2013	1789	Panier feuilleté de saumon	Salmon puff	-	-	H+	-	<i>L.monocytogenes</i>	+	0,932	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	1,995	+	H+	+	+	+	PA	4	c
2013	1791	Colin cuit	Cooked fish	st	-	st	-	/	-	0,119	-	st	-			/	-	NA								4	c
2013	1792	Tartare de Saint-jacques et légumes	Scallops tartar	-	-	-	-	/	-	0,059	-	-	-			/	-	NA								4	c
2013	1793	Coquille Saint-Jacques	Scallops	H- (1)	-	H-	-	<i>L.seeligeri</i>	+	1,423	+	H-	+	+	+	<i>L.seeligeri</i>	+	PA	2,104	+	H-	+	+	+	PA	4	c
2013	1794	Feuilleté de Saint-Jacques	Scallops puff	H+/H-	-	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	2,772	+	H+/H-	+	+	+	<i>L.innocua/ L.monocytogenes</i>	+	PA	2,902	+	H+/H-	+	+	+	PA	4	c
2013	2355	Coquilles Saint-Jacques	Scallops	st	-	-	-	/	-	0,052	-	-	-			/	-	NA								4	c
2013	2356	Rillettes de thon	Tuna rillettes	H+/H-	+	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	2,225	+	H+/H-	+	+	+	<i>L.innocua/ L.monocytogenes</i>	+	PA	2,356	H+/H-	H+/H-	+	+	+	PA	4	c
2013	2357	Feuilletés saumon crevettes	Salmon and shrimps puff	H+/H-	-	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	2,163	+	H+/H-	+	+	+	<i>L.innocua/ L.monocytogenes</i>	+	PA	2,17	H+/H-	H+/H-	+	+	+	PA	4	c
2013	2358	Coquilles Saint-Jacques à la Bretonne	Cooked scallops	H+	+	H+	-	<i>L.monocytogenes</i>	+	2,387	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,246	H+	H+	+	+	+	PA	4	c

SEAFOOD																										
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1*						Alternative method: Solus <i>Listeria</i> ELISA														Category	Type	
				Half Fraser		Fraser 1		Identification	Re- result	Half Fraser for 22 h at 30°C / RELM 22 h at 30°C								Half Fraser for 22h at 30°C / RELM for 22h at 30°C + 72h at 5°C ± 3°C								
				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree- ment	D.O.	Result	Confirmatory tests		Final result	Agree- ment			
								O&A	Palcam			Gram	Catalase	Identification	O&A					Palcam						
2013	2359	Panier aux deux saumons	Salmon puff	H+/H-	-	H+/H-	+	<i>L.welshimeri/</i> <i>L.monocytogenes</i>	+	1,974	+	H+/H-	+	+	+	<i>L.innocua/</i> <i>L.monocytogenes</i>	+	PA	2,034	H+/H-	H+/H-	+	+	PA	4	c
2013	2360	Tourte au filet de saumon	Salmon fillet pie	H-	-	H-	+	<i>L.innocua</i>	+	2,313	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,483	H-	H-	+	+	PA	4	c
2013	2362	Panier Saint-Jacques asperges	Cooked scallops and asparagus	H+	+	H+	-	<i>L.monocytogenes</i>	+	2,26	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,173	H+	H+	+	+	PA	4	c
2013	2363	Sandwich thon crudités	Vegetables and tuna sandwich	-	-	st	st	/	-	0,06	-	-	-			/	-	NA							4	c
2013	2544	Beurre de saumon	Salmon butter	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,322	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,908	+	H+	+	+	PA	4	c
2013	2545	Merlu blanc pané	Breaded hake	st	-	-	-	/	-	0,158	-	-	-				-	NA							4	c
2013	2546	Scraps de saumon	Salmon scraps	H+ (1)	-	-	st	<i>L.monocytogenes</i>	+	2,870	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	1,105	+	H+	+	+	PA	4	c
2013	2548	Pavé de lieu noir mariné	Marinated fish	H-	+	H-	+	<i>L.welshimeri</i>	+	2,374	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,858	+	H-	+	+	PA	4	c
2013	2552	Filet de poisson meunière	Fish fillet	st	-	-	-	/	-	0,034	-	-	-				-	NA							4	c
2013	2555	Fromentier de saumon fumé	Smoked salmon	H+ (1)	+(2)	H+	+	<i>L.monocytogenes</i>	+	2,33	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,838	+	H+	+	+	PA	4	c
2013	2556	Terrine de saumon	salmon terrine	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,33	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,81	+	H+	+	+	PA	4	c

VEGETABLES																										
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				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser for 22 h at 30°C / RELM for 22 h at 30°C								Half Fraser for 22h at 30°C / RELM for 22h at 30°C + 72h at 5°C ± 3°C								
				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment			
								O&A	Palcam			Gram	Catalase	Identification	O&A					Palcam						
2013	1175	Epinars hachés	Chopped spinach	-	-	-	-	/	-	0,133	-	st	-			/	-	NA							5	a
2013	1176	Courgettes en julienne	Sliced zucchini	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,971	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,991	+	H+	+	+	+	5	a
2013	1184	Epinars branches	Spinach	-	-	-	-	/	-	0,083	-	-	-			/	-	NA							5	a
2013	1186	Pois carottes surgelés	Frozen peas and carrots	H+/H-	+	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	2,92	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,929	+	H-	+	+	+	5	a
2013	1188	Fagots d'asperges vertes	Green asparagus	H+	+	H+	+	<i>L.monocytogenes</i>	+	3,011	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,942	+	H+	+	+	+	5	a
2013	1191	Jus d'épinards	Spinach juice	st	st	st	st	/	-	0,071	-	st	-			/	-	NA							5	a
2013	1339	Trio de fleurettes	Cauliflower	-	-	-	-	/	-	0,051	-	H-d	-			/	-	NA							5	a
2013	1772	Pois carotte surgelés	Frozen peas and carrots	-	-	-	-	/	-	0,141	-	-	-			/	-	NA							5	a
2013	1774	Lanières de poivrons verts	Slices of green pepper	H+/H-	+	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	2,874	+	H+/H-	+	+	+	<i>L.innocua/ L.monocytogenes</i>	+	PA	3,058	+	H+	+	+	+	5	a
2013	1777	Cubes de poivrons rouges	Red pepper	H+	st	H+	+	<i>L.monocytogenes</i>	+	2,867	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,95	+	H+	+	+	+	5	a
2013	1781	Carottes surgelées	Frozen carrots	H-	+	H-	+	<i>L.innocua</i>	+	2,968	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,91	+	H-	+	+	+	5	a
2013	1782	Légumes pour ratatouille	Vegetables for ratatouille	-	-	-	st	/	-	0,048	-	-	-			/	-	NA							5	a
2013	2367	Courgettes cubes	Zucchini cubes	H-	+	H-	+	<i>L.seeligeri</i>	+	2,528	+	H-	+	+	+	<i>L.seeligeri</i>	+	PA	2,357	H-	H-	+	+	+	5	a
2013	2368	Pommes de terre crues	Raw potatoes	st	st	st	st	/	-	0,071	-	st	st			/	-	NA							5	a
2013	2369	Jeunes carottes	Carrots	-	-	st	st	/	-	0,045	-	-	-			/	-	NA							5	a
2013	2429	Oignons préfaits	Cooked onions	H+/H-	+	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	2,506	+	H+/H-	+	+	+	<i>L.innocua/ L.monocytogenes</i>	+	PA	2,203	+	H+/H-	+	+	+	5	a
2013	2430	Champignons	Mushrooms	H+/H-	+	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	2,19	+	H+/H-	+	+	+	<i>L.innocua/ L.monocytogenes</i>	+	PA	1,191	+	H+/H-	+	+	+	5	a
2013	2431	Epinars hachés	Chopped spinach	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,273	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,305	+	H+	+	+	+	5	a
2013	2433	Légumes pour ratatouille	Vegetables for ratatouille	-	st	st	st	/	-	0,036	-	-	-			/	-	NA							5	a
2013	4046	Fèves extra fines surgelées	Frozen beans	H-	+	H-	+	<i>L.innocua</i>	+	0,954	+	H-	+	+	+	<i>L.innocua</i>	+	PA	3,043	+	H-	+	+	+	5	a
2013	4047	Petis pois surgelées	Frozen peas	H-	+	H-	+	<i>L.innocua</i>	+	2,910	+	H-	+	+	+	<i>L.innocua</i>	+	PA	3,088	+	H-	+	+	+	5	a
2013	4048	Haricots verts surgelés	Frozen beans	H+ (1)	+	H+ (1)	+	<i>L.monocytogenes</i>	+	2,877	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,97	+	H+	+	+	+	5	a
2013	1748	Ciboulette	Chive	-	+(3)	-	-	gram-	-	0,139	-	-	-			/	-	NA	0,109	-	-	-	-	-	5	b
2013	1749	Persil plat	Parsley	H-	-	H-	+	<i>L.innocua</i>	+	3,037	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,893	+	H-	+	+	+	5	b
2013	1750	Persil plat	Parsley	st	st	st	st	/	-	0,084	-	st	st			/	-	NA							5	b
2013	1751	Persil	Parsley	st	st	st	st	/	-	0,075	-	st	st			/	-	NA							5	b
2013	1752	Estragon	Tarragon	st	st	st	st	/	-	0,092	-	st	st			/	-	NA							5	b
2013	1753	Ciboulette	Chive	-	-	-	st	/	-	0,082	-	st	-			/	-	NA							5	b
2013	1754	Persil plat	Parsley	-	-	-	st	/	-	2,933	+	H+/H-	+	+	+	<i>L.innocua/ L.monocytogenes</i>	+	PD	2,829	+	H+/H-	+	+	+	5	b
2013	1755	Persil plat	Parsley	-	-	st	st	/	-	2,918	+	H+	+	+	+	<i>L.innocua</i>	+	PD	2,893	+	H-	+	+	+	5	b

VEGETABLES																											
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				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser for 22 h at 30°C / RELM for 22 h at 30°C										Half Fraser for 22h at 30°C / RELM for 22h at 30°C + 72h at 5°C ± 3°C							
				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests					Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment			
												O&A	Palcam	Gram	Catalase	Identification					O&A	Palcam					
2013	1756	Ciboulette	Chive	-	-	-	-	/	-	0,231	+	-	-			/	-	PPNA	0,166	-	-	-	-	NA	5	b	
2013	2372	Ciboulette	Chive	st	-	-	-	/	-	0,05	-	st	st			/	-	NA							5	b	
2013	2432	Persil plat	Parsley	-	st	-	st	/	-	0,029	-	-	-			/	-	NA							5	b	
2013	2715	Ciboulette	Chive	-	-	-	-	/	-	0,128	-	-	st			/	-	NA							5	b	
2013	2716	Persil	Parsley	-	-	st	st	/	-	0,035	-	st	-			/	-	NA							5	b	
2013	2717	Ciboulette	Chive	-	-	st	st	/	-	0,031	-	-	st			/	-	NA							5	b	
2013	2718	Ciboulette	Chive	-	-	-	-	/	-	0,036	-	-	-			/	-	NA							5	b	
2013	2719	Ciboulette	Chive	-	-	st	st	/	-	0,046	-	-	-			/	-	NA							5	b	
2013	2720	Persil plat	Parsley	-	-	-	st	/	-	0,046	-	-	st			/	-	NA							5	b	
2013	2721	Curry	Curry	-	-	-	-	/	-	0,04	-	-	-			/	-	NA							5	b	
2013	2763	Curcuma	Curcuma	st	st	st	st	/	-	0,037	-	st	st			/	-	NA							5	b	
2013	2764	Paprika	Paprika	-	st	-	-	/	-	0,04	-	st	st			/	-	NA							5	b	
2013	2765	Muscade	Nutmeg	st	st	st	st	/	-	0,048	-	st	st			/	-	NA							5	b	
2013	2766	Curcuma	Curcuma	st	st	st	st	/	-	0,044	-	st	st			/	-	NA							5	b	
2013	2767	Paprika	Paprika	st	st	st	st	/	-	0,048	-	st	st			/	-	NA							5	b	
2013	3456	Ciboulette déshydratée	Dehydrated chive	st	-	-	-	/	-	0,111	-	-	-			/	-	NA							5	b	
2013	3457	Oignons déshydratés	Dehydrated onions	-	-	-	-	/	-	2,189	+	H-	+	+	+	<i>L.seeligeri</i>	+	PD	2,861	+	H-	+	+	+	PD	5	b
2013	3458	Persil déshydraté	Dehydrated parsley	-	-	-	-	/	-	0,141	-	-	-			/	-	NA							5	b	
2013	3459	Basilic déshydraté	Dehydrated basil	-	-	-	-	/	-	0,1	-	-	-			/	-	NA							5	b	
2013	3460	Ciboulette déshydratée	Dehydrated chive	-	-	-	-	/	-	0,109	-	-	-			/	-	NA							5	b	
2013	3461	Persil déshydraté	Dehydrated parsley	-	-	H-	+	<i>L.seeligeri</i>	+	2,809	+	H-	+	+	+	<i>L.seeligeri</i>	+	PA	2,83	+	H-	+	+	+	PA	5	b
2013	3462	Basilic déshydraté	Dehydrated basil	H-d	-	H-	+	<i>L.seeligeri</i>	+	2,772	+	H-	+	+	+	<i>L.seeligeri</i>	+	PA	2,887	+	H-	+	+	+	PA	5	b
2017	3093	Curcuma moulu	Spices	H+	-	H+	-	<i>L.monocytogenes</i>	+	2,616	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,692	+	H+	+	+	+	PA	5	b
2017	3094	Piment fort	Spices	H+	-	H+	+	<i>L.monocytogenes</i>	+	2,577	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,682	+	H+	+	+	+	PA	5	b
2017	3095	Persil frais	Parsley	-	-	-	-	/	-	0,043	-	-	-			/	-	NA							5	b	
2017	3096	Persil frais	Parsley	H-	+	H-	+	<i>L.innocua</i>	+	2,626	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,699	+	H-	+	+	+	PA	5	b
2017	3097	Ciboulette fraiche	Chives	-	-	H+/H-	+	<i>L.monocytogenes / L.seeligeri</i>	+	2,61	+	H+/H-	+	+	+	<i>L.monocytogenes / L.seeligeri</i>	+	PA	2,685	+	H+/H-	+	+	+	PA	5	b
2017	3098	Ciboulette fraiche	Chives	-	-	H-	+	<i>L.innocua</i>	+	1,131	+	H-	-	+	+	<i>L.innocua</i>	+	PA	1,151	+	H-	+	+	+	PA	5	b
2017	3099	Coriandre fraiche	Chives	-	-	-	-	/	-	0,085	-	-	-			/	-	NA							5	b	
2013	1185	Purée de pois cassés	Peas purée	st	st	st	st	/	-	0,125	-	st	st			/	-	NA							5	c	
2013	1187	Velouté de champignons	Cream of mushrooms	st	st	st	st	/	-	0,145	-	-	st			/	-	NA							5	c	
2013	1189	Pois chiches	Chickpeas	H-	+	H-	+	<i>L.innocua / L.monocytogenes</i>	+	2,952	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,942	+	H+	+	+	+	PA	5	c
2013	1190	Poireaux à la crème	Links with cream	st	st	st	st	/	-	0,076	-	st	st			/	-	NA							5	c	
2013	1330	Macédoine	Vegetables mix	-	-	st	-	/	-	0,07	-	st	-			/	-	NA							5	c	

VEGETABLES

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				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment				
								O&A	Palcam			Gram	Catalase	Identification	O&A					Palcam							
2013	1337	Potage aux légumes	Vegetables soup	st	st	st	st	/	-	0,051	-	st	st			/	-	NA								5	c
2013	1340	Gratin de chou fleur	Cauliflower gratin	-	+(2)	H+/H-	+	<i>L.innocua/</i> <i>L.monocytogenes</i>	+	2,994	+	H+/H-	+	+	+	<i>L.innocua/</i> <i>L.monocytogenes</i>	+	PA	2,869	+	H+/H-	+	+	+	PA	5	c
2013	1341	Potage légumes du soleil	Vegetables soup	st	-	-	-	/	-	0,084	-	-	-			/	-	NA								5	c
2013	1349	Poêlée de riz à la Bretonne	Rice and vegetables	-	-	-	-	/	-	0,029	-	st	st			/	-	NA								5	c
2013	1353	Boulgour et céréales en taboulé	Tabbouleh	-	-	-	-	/	-	0,167	-	-	-			/	-	NA								5	c
2013	1773	Purée carottes navets	Carrots and turnip purée	-	-	-	-	/	-	0,175	-	-	st			/	-	NA								5	c
2013	1775	Purée de brocolis	Broccoli purée	st	st	st	st	/	-	0,162	-	st	-			/	-	NA								5	c
2013	1776	Tomates après tranchage	Tomatoes	st	st	st	st	/	-	0,04	-	st	st			/	-	NA								5	c
2013	1778	Gratin de chou fleur	Cauliflower gratin	st	st	-	-	/	-	0,047	-	st	st			/	-	NA								5	c
2013	1779	Aubergines	Eggplants	st	st	st	st	/	-	0,046	-	st	st			/	-	NA								5	c
2013	1780	Potage légumes	Vegetables soup	st	-	H-	+	<i>L.innocua</i>	+	2,983	+	H-	+	+	+	<i>L.innocua</i>	+	PA	3,008	+	H-	+	+	+	PA	5	c
2013	2364	Riz niçois	Rice salad	st	-	st	st	/	-	0,038	-	st	st			/	-	NA								5	c
2013	2365	Bol de soupe Pistou	Pistou soup	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,46	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,461	H+	H+	+	+	+	PA	5	c
2013	2366	Bol de soupe aux céréales	Cereals soup	H+/H-	+	H+/H-	+	<i>L.innocua/</i> <i>L.monocytogenes</i>	+	2,69	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,515	H+	H+	+	+	+	PA	5	c
2013	2370	Salade Niçoise	Deli salad	st	-	-	-	/	-	0,054	-	st	-			/	-	NA								5	c
2013	2371	Tagine de patates douces	Sweet potato tagine	H+/H-	+	H+/H-	+	<i>L.innocua/</i> <i>L.monocytogenes</i>	+	2,613	+	H+/H-	+	+	+	<i>L.innocua/</i> <i>L.monocytogenes</i>	+	PA	2,484	H+/H-	H+/H-	+	+	+	PA	5	c
2013	4049	Galettes de légumes surgelées	Frozen vegetables patties	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,870	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	3,048	+	H+	+	+	+	PA	5	c

ENVIRONMENTAL SAMPLES																										
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1*						Alternative method: Solus <i>Listeria</i> ELISA														Category	Type	
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser for 22 h at 30°C / RELM for 22 h at 30°C								Half Fraser for 22h at 30°C / RELM for 22h at 30°C + 72h at 5°C ± 3°C								
				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment			
												O&A	Palcam	Gram	Catalase					Identification	O&A					Palcam
2013	1455	Eau parmentière à langues	Process water (pork industry)	st	st	st	st	/	-	0,046	-	st	st			/	-	NA							6	a
2013	1456	Eau bac échaudage	Process water (pork industry)	st	st	st	st	/	-	0,113	-	st	st			/	-	NA							6	a
2013	1551	Eau parage N°2	Process water	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,901	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	3,012	+	H+	+	+	PA	6	a
2013	1552	Eau peleuse	Process water	st	st	st	st	/	-	0,133	-	st	st			/	-	NA							6	a
2013	1553	Eau épineuse	Process water	st	-	st	st	/	-	0,063	-	st	st			/	-	NA							6	a
2013	1554	Eau filtre rotatif	Process water	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,977	+	H+/H-	+	+	+	<i>L.welshimeri/ L.monocytogenes</i>	+	PA	2,978	+	H+	+	+	PA	6	a
2013	1555	Eau dessus baader	Process water	st	+	H-d	+	<i>L.welshimeri</i>	+	2,95	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,951	+	H-	+	+	PA	6	a
2013	1644	Eau douchette saussiserie	Process water	st	st	st	st	/	-	0,045	-	st	st			/	-	NA							6	a
2013	1645	Eau parmentière à langues	Process water	st	st	st	st	/	-	0,045	-	st	st			/	-	NA							6	a
2013	1818	Eau de lavage cutter	Process water	H-	+	H-	+	<i>L.innocua</i>	+	2,446	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,927	+	H-	+	+	PA	6	a
2013	2297	Eau polychiller AB1	Process water (poultry industry)	H+/H-	-	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	1,932	+	H+/H-	+	+	+	<i>L.innocua/ L.monocytogenes</i>	+	PA	1,733	+	H+/H-	-	+	PA	6	a
2013	2298	Eau polychiller CD1	Process water (poultry industry)	H+/H-	-	H+/H-	-	<i>L.innocua/ L.monocytogenes</i>	+	1,882	+	H+/H-	-	+	+	<i>L.welshimeri/ L.monocytogenes</i>	+	PA	1,458	+	H+/H-	-	+	PA	6	a
2013	2299	Eau spinchiller B	Process water (poultry industry)	st	st	st	st	/	-	0,031	-	st	st			/	-	NA							6	a
2013	2300	Eau ruissellement cous plumeuses	Process water (poultry industry)	-	-	st	-	/	-	0,033	-	st	-			/	-	NA							6	a
2013	2301	Eau spinchiller cous	Process water (poultry industry)	st	st	st	st	/	-	0,025	-	st	st			/	-	NA							6	a
2017	3100	Eau production poisson	Process water (fish production)	H-	+	H-	+	<i>L.innocua</i>	+	2,704	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,682	+	H-	+	+	PA	6	a
2017	3101	Eau production porc Knacki	Process water (Pork meat production)	H+/H-	+	H+/H-	+	<i>L.monocytogenes / L.innocua</i>	+	2,578	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,598	+	H+	+	+	PA	6	a
2017	3102	Eau production porc	Process water (Pork meat production)	st	-	st	-	/	-	0,032	-	st	st			/	-	NA							6	a
2017	3479	Eau production viande	Process water (Meat production)	st	-	st	st	/	-	0,059	-	st	st			/	-	NA							6	a
2017	3480	Eau production viande animaux	Process water (Feed production)	st	-	st	st	/	-	0,046	-	st	-			/	-	NA							6	a
2017	3481	Eau production végétaux	Process water (Vegetables production)	st	st	st	st	/	-	0,068	-	st	st			/	-	NA							6	a
2013	1459	Chiffonnette tapis bande ligne 3 découpe 2	Wipe	H-	+	H-	+	<i>L.innocua</i>	+	3,051	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,951	+	H-	+	+	PA	6	b
2013	1556	Lingette SAS cafétéria	Wipe	H+/H-	-	H+(2)/H-	+	<i>L.welshimeri/ L.monocytogenes</i>	+	2,929	+	H+/H-	+	+	+	<i>L.welshimeri/ L.monocytogenes</i>	+	PA	2,93	+	H+/H-	+	+	PA	6	b
2013	1557	Lingette SAS hygiène	Wipe	H+/H-	+	H+/H-	+	<i>L.welshimeri/ L.monocytogenes</i>	+	2,929	+	H+/H-	+	+	+	<i>L.welshimeri/ L.monocytogenes</i>	+	PA	2,909	+	H+/H-	+	+	PA	6	b
2013	1558	Lingette sol local déstockage bacs P2	Wipe	st	st	st	st	/	-	0,128	-	st	st			/	-	NA							6	b
2013	1559	Lingette sol frigo N°3	Wipe	st	+	-	+	<i>L.welshimeri</i>	+	2,959	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,942	+	H-	+	+	PA	6	b

* Analyses performed according to the COFRAC accreditation

ENVIRONMENTAL SAMPLES																											
Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1*						Alternative method: Solus <i>Listeria</i> ELISA																Category	Type
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser for 22 h at 30°C / RELM for 22 h at 30°C								Half Fraser for 22h at 30°C / RELM for 22h at 30°C + 72h at 5°C ± 3°C									
				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment				
								O&A	Palcam			Gram	Catalase	Identification	O&A					Palcam							
2013	1560	Lingette entrée frigo Geba N°1 et 2	Wipe	H-	+	H-	+	<i>L.welshimeri</i>	+	2,946	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	3,002	+	H-	+	+	PA	6	b	
2013	1564	Lingette sous ligne co-produits	Wipe	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,95	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,969	+	H+	+	+	PA	6	b	
2013	1650	Chiffonnette transpalette	Wipe	H+/H-	+	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	2,975	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,856	+	H-	+	+	PA	6	b	
2013	1651	Chiffonnette bac 600l	Wipe	H-	+	H-	+	<i>L.welshimeri</i>	+	2,966	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,877	+	H-	+	+	PA	6	b	
2013	1655	Chiffonnette tapis bande L3 découpe 2	Wipe	H-	+	H-	+	<i>L.welshimeri</i>	+	2,891	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,934	+	H-	+	+	PA	6	b	
2013	1656	Chiffonnette transpalette découpe 2	Wipe	H+/H-	+	H+/H-	+	<i>L.welshimeri/ L.monocytogenes</i>	+	2,91	+	H+/H-	+	+	+	<i>L.innocua/ L.monocytogenes</i>	+	PA	2,943	+	H+/H-	+	+	PA	6	b	
2013	1657	Chiffonnette tapis intralox jambon	Wipe	H-	+	H-	+	<i>L.innocua</i>	+	3,034	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,895	+	H-	+	+	PA	6	b	
2013	2287	Chiffonnette tapis	Wipe (Poultry industry)	H-	-	H-	+	<i>L.welshimeri</i>	+	2,112	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,08	+	H-	-	+	PA	6	b	
2013	2288	Chiffonnette plaque inox	Wipe (Poultry industry)	H-	+	H-	+	<i>L.innocua/ L.welshimeri</i>	+	2,427	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,151	+	H-	+	+	PA	6	b	
2013	2289	Chiffonnette plaque inox	Wipe (Poultry industry)	H+	+	H+/H-	-	<i>L.innocua/ L.monocytogenes</i>	+	0,92	+	H-	+	+	+	<i>L.innocua</i>	+	PA	0,726	+	H-	-	+	PA	6	b	
2013	2290	Chiffonnette hélice	Wipe (Poultry industry)	st	st	st	st	/	-	0,031	-	st	st			/	-	NA						6	b		
2013	2291	Chiffonnette goulotte éviscération	Wipe (Poultry industry)	H-	-	H-	-	<i>L.innocua</i>	+	0,373	+	H-	+	+	+	<i>L.innocua</i>	+	PA	0,353	+	H-	-	+	PA	6	b	
2013	2292	Chiffonnette goulotte sortie plumeuse	Wipe (Poultry industry)	-	-	st	-	/	-	0,028	-	st	-			/	-	NA						6	b		
2013	2293	Chiffonnette table récupération poulet	Wipe (Poultry industry)	H-	+(2)	H-	+	<i>L.innocua</i>	+	2,284	+	H-	+	+	+	<i>L.innocua</i>	+	PA	2,221	+	H-	+	+	PA	6	b	
2013	2294	Chiffonnette trémie récupération pattes	Wipe (Poultry industry)	-	-	-	-	/	-	0,036	-	-	-			/	-	NA						6	b		
2013	2295	Chiffonnette plaque	Wipe (Poultry industry)	-	-	-	-	/	-	0,044	-	-	-			/	-	NA						6	b		
2013	2296	Chiffonnette tapis blanc	Wipe (Poultry industry)	H+/H-	+	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	2,54	+	H+/H-	+	+	+	<i>L.innocua/ L.monocytogenes</i>	+	PA	2,477	+	H+/H-	+	+	PA	6	b	
2013	2442	Chiffonnette grille découpe	Wipe	st	st	st	st	/	-	0,038	-	st	st			/	-	NA						6	b		
2013	2443	Chiffonnette table	Wipe	st	st	st	st	/	-	0,022	-	st	-			/	-	NA						6	b		
2013	2444	Chiffonnette évier	Wipe	st	st	st	st	/	-	0,034	-	st	st			/	-	NA						6	b		
2013	1457	Chiffonnette machine à cartons(poussières)	Wipe (dusts)	st	-	st	-	/	-	0,188	-	st	-			/	-	NA						6	c		
2013	1458	Chiffonnette machine à cartons-découpe 1(poussières)	Wipe (dusts)	st	st	-	st	/	-	0,228	+	-	-			/	-	PPNA	0,068	-	-	-	-	NA	6	c	
2013	1460	Chiffonnette bouche d'égout frigo pièce découpe	Wipe (fridge sewer)	H-	+	H-	+	<i>L.welshimeri</i>	+	2,968	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,942	+	H-	+	+	PA	6	c	
2013	1561	Lingette sol maturation salage	Wipe (floor)	st	st	st	-	/	-	0,076	-	st	st			/	-	NA						6	c		
2013	1562	Lingette caniveau frigo refroidissemnt	Wipe (gutter)	H+	+	H+	+	<i>L.monocytogenes</i>	+	2,95	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,969	+	H+	+	+	PA	6	c	
2013	1563	Lingette fente au sol filetage	Wipe (floor)	st	st	st	st	/	-	0,111	-	st	st			/	-	NA						6	c		

ENVIRONMENTAL SAMPLES

Year of analysis	N° Sample	Product (French name)	Product	Reference method: ISO 11290-1/A1*						Alternative method: Solus <i>Listeria</i> ELISA														Category	Type	
				Half Fraser		Fraser 1		Identification	Re-sult	Half Fraser for 22 h at 30°C / RELM for 22 h at 30°C						Half Fraser for 22h at 30°C / RELM for 22h at 30°C + 72h at 5°C ± 3°C										
				O&A	Palcam	O&A	Palcam			D.O.	Result	Confirmatory tests				Final result	Agree-ment	D.O.	Result	Confirmatory tests		Final result	Agree-ment			
								O&A	Palcam			Gram	Catalase	Identification	O&A					Palcam						
2013	1565	Lingette sol dépalettisation (poussières)	Wipe (floor-dusts)	H+/H-	+	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	2,909	+	H+	+	+	+	<i>L.monocytogenes</i>	+	PA	2,917	+	H+/H-	+	+	PA	6	c
2013	1646	Poussières bouche d'égout machine à cartons	Dusts (sewer)	H+/H-	+	H+/H-	+	<i>L.innocua/ L.monocytogenes</i>	+	2,998	+	H+/H-	+	+	+	<i>L.welshimeri/ L.monocytogenes</i>	+	PA	2,96	+	H+/H-	+	+	PA	6	c
2013	1647	Poussières cartons local cartons	Dusts(cardboard)	H-(2)	-	H-	+	<i>L.welshimeri</i>	+	2,808	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,951	+	H-	+	+	PA	6	c
2013	1648	Chiffonnette bouche d'égout frigo pièce découpe	wipe (fridge sewer)	H-	-	H-	+	<i>L.welshimeri</i>	+	2,817	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,968	+	H-	+	+	PA	6	c
2013	1649	Chiffonnette bouche d'égout frigo 208	Wipe (fridge sewer)	H-	+(1)	H-	+	<i>L.welshimeri</i>	+	3,018	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,947	+	H-	+	+	PA	6	c
2013	1652	Chiffonnette sol local stockage barquettes	Wipe (floor)	st	-	st	-	/	-	0,078	-	st	-			/	-	NA							6	c
2013	1653	Chiffonnette bouche d'égout frigo 211	Wipe (fridge sewer)	H-	-	H+/H-	+	<i>L.welshimeri/ L.monocytogenes</i>	+	2,952	+	H+/H-	+	+	+	<i>L.innocua/ L.monocytogenes</i>	+	PA	2,866	+	H+/H-	+	+	PA	6	c
2013	1654	Chiffonnette bouche d'égout atelier brochettes	Wipe (sewer)	st	st	st	st	/	-	0,084	-	st	st			/	-	NA							6	c
2013	1766	Chiffonnette poussières local sous escalier	Dusts	H-	+	H-	+	<i>L.welshimeri</i>	+	2,943	+	H-	+	+	+	<i>L.welshimeri</i>	+	PA	2,973	+	H-	+	+	PA	6	c
2013	1767	Chiffonnette poussières mur conditionnement distributeur	Dusts	st	st	st	st	/	-	0,058	-	st	st			/	-	NA							6	c
2013	1768	Chiffonnette poussières bloc électrique local tablier	Dusts	st	st	st	st	/	-	0,074	-	st	st			/	-	NA							6	c
2013	1769	Chiffonnette poussières bloc électrique maturation salage	Dusts	st	st	st	st	/	-	0,083	-	st	st			/	-	NA							6	c
2013	1770	Chiffonnette bloc électrique réception matière première	Dusts	st	st	st	st	/	-	0,056	-	st	st			/	-	NA							6	c
2013	2302	Poussières 1 structure inox	Dusts (poultry industry)	-	-	-	-	/	-	0,203	+	-	-			/	-	PPNA	0,126	-	-	-	-	NA	6	c
2013	2303	Poussières 2 rebords tapis	Dusts (poultry industry)	-	-	-	-	/	-	0,071	-	-	-			/	-	NA							6	c
2013	2440	Poussières (laiterie)	Dusts (Dairy industry)	-	-	-	-	/	-	0,047	-	-	-			/	-	NA							6	c
2013	2441	Poussières filtres à lait	Dusts (Dairy industry)	st	-	-	-	/	-	0,049	-	-	-			/	-	NA							6	c

Appendix 5 – Relative level of detection study: raw data

Matrix : Deli-salad (2017)

Strain : *Listeria monocytogenes* Ad1494Aerobic mesophilic flora: 5,2.10² CFU/

N° sample	Level	Inoculation level (cfu/sample)	Reference method: ISO 11290-1/A1 ♦					Alternative method: Solus <i>Listeria</i> ELISA					
			Half Fraser		Fraser		Final Result	Number positive samples/Total	22h at 30°C Half Fraser / 22h at 30°C RELM				
			O&A	Palcam	O&A	Palcam			Solus <i>Listeria</i>		Confirmation	Final result	Number positive samples/Total
		Optical density	Result										
3552	0	/	st	st	st	st	-	0/5	0,028	-	-	-	0/5
3553			st	-	-	-	-		0,062	-	-	-	
3554			st	st	st	-	-		0,029	-	-	-	
3555			st	-	-	-	-		0,035	-	-	-	
3556			st	st	-	-	-		0,040	-	-	-	
3557	Low	1,5	H+	+	H+	+	+	13/20	2,639	+	+	+	13/20
3558			H+	+	H+	+	+		2,604	+	+	+	
3559			st	st	st	st	-		0,056	-	-	-	
3560			st	st	-	-	-		0,035	-	-	-	
3561			H+	+	H+	+	+		2,486	+	+	+	
3562			H+	+	H+	+	+		2,587	+	+	+	
3563			st	st	st	st	-		0,069	-	-	-	
3564			st	st	st	st	-		0,051	-	-	-	
3565			H+	+	H+	+	+		2,674	+	+	+	
3566			H+	+	H+	+	+		2,699	+	+	+	
3567			st	st	-	-	-		0,087	-	-	-	
3568			H+	+	H+	+	+		2,699	+	+	+	
3569			st	st	st	st	-		0,055	-	-	-	
3570			H+	+	H+	-	+		2,669	+	+	+	
3571			st	st	st	st	-		0,051	-	-	-	
3572			H+	+	H+	-	+		2,637	+	+	+	
3573			H+	+	H+	-	+		2,838	+	+	+	
3574			H+	+	H+	-	+		2,752	+	+	+	
3575			H+	+	H+	-	+		2,749	+	+	+	
3576			H+	+	H+	-	+		2,739	+	+	+	
3577	High	4,2	H+	+	H+	-	+	5/5	2,721	+	+	+	5/5
3578			H+	+	H+	-	+		2,711	+	+	+	
3579			H+	+	H+	-	+		2,742	+	+	+	
3580			H+	+	H+	-	+		2,729	+	+	+	
3581			H+	+	H+	-	+		2,669	+	+	+	

♦ Analysis performed according to the COFRAC accreditation

ADRIA Développement

Summary report (Version 0)

Solus *Listeria* ELISA

Rillettes (2013)

Listeria monocytogenes Ad669Aerobic mesophilic flora: 2,0.10² cfu/g

N°Sample	Level	Inoculation (cfu/25g)	Reference method: NF EN ISO 11290-1 ♦					Alternative method: SOLUS <i>Listeria</i> ELISA						
			Fraser 1/2		Fraser		Result	Positive/total	Half Fraser 22H at 30°C / RELM 22H at 30°C		Final result	Positive/total		
			O&A	PALCAM	O&A	PALCAM			D.O.	Result			Confirmatory tests	
		O&A	PALCAM	O&A	PALCAM			O&A	PALCAM					
1252	0	/	st	st	st	st	-	0/6	0.058	-	st	st	-	0/6
1253			st	st	st	st	-		0.055	-	st	st	-	
1254			st	-	st	st	-		0.113	-	st	st	-	
1255			st	st	st	st	-		0.118	-	st	-	-	
1256			st	st	st	st	-		0.077	-	st	st	-	
1257			st	st	st	st	-		0.076	-	st	st	-	
1701	1	0,1	st	st	st	st	-	0/6	0.057	-	st	st	-	0/6
1702			st	st	st	st	-		0.057	-	st	st	-	
1703			st	st	st	st	-		0.055	-	st	st	-	
1704			st	st	st	st	-		0.066	-	st	st	-	
1705			st	st	st	st	-		0.083	-	st	st	-	
1706			st	st	st	st	-		0.089	-	st	st	-	
1812	2	0,5	H+	+	H+	+	+	4/6	2.502	+	H+	+	+	4/6
1813			H+	+	H+	+	+		2.526	+	H+	+	+	
1814			st	st	st	st	-		0.04	-	st	st	-	
1815			H+	+	H+	+	+		2.435	+	H+	+	+	
1816			H+	+	H+	+	+		2.456	+	H+	+	+	
1817			st	st	st	st	-		0.036	-	st	st	-	
1258	3	0,9	st	st	st	st	-	3/6	2.446	-	st	st	-	3/6
1259			st	st	st	st	-		0.067	-	st	-	-	
1260			H+	+	/	/	+		3.09	+	H+	+	+	
1261			H+	+	/	/	+		3.027	+	H+	+	+	
1262			st	st	st	st	-		0.096	-	s	st	-	
1263			H+	+	/	/	+		2.987	+	H+	+	+	
1264	4	1,8	H+	+	/	/	+	6/6	2.977	+	H+	+	+	6/6
1265			H+	+	/	/	+		2.987	+	H+	+	+	
1266			H+	+	/	/	+		2.937	+	H+	+	+	
1267			H+	+	/	/	+		3.084	+	H+	+	+	
1268			H+	+	/	/	+		3.076	+	H+	+	+	
1269			H+	+	/	/	+		3.043	+	H+	+	+	
1270	5	3,5	H+	+	/	/	+	6/6	3.017	+	H+	+	+	6/6
1271			H+	+	/	/	+		3.027	+	H+	+	+	
1272			H+	+	/	/	+		2.968	+	H+	+	+	
1273			H+	+	/	/	+		2.992	+	H+	+	+	
1274			H+	+	/	/	+		2.963	+	H+	+	+	
1275			H+	+	/	/	+		2.996	+	H+	+	+	
1276	6	8,9	H+	+	/	/	+	6/6	2.959	+	H+	+	+	6/6
1277			H+	+	/	/	+		2.959	+	H+	+	+	
1278			H+	+	/	/	+		2.937	+	H+	+	+	
1279			H+	+	/	/	+		2.884	+	H+	+	+	
1280			H+	+	/	/	+		2.903	+	H+	+	+	
1281			H+	+	/	/	+		2.916	+	H+	+	+	

♦ Analysis performed according to the COFRAC accreditation

ADRIA Développement

Summary report (Version 0)

Solus *Listeria* ELISA

56/81

12 March 2021

Raw milk (2013)

Listeria ivanovii Ad991Aerobic mesophilic flora: 3,0.10⁶ cfu/g

N°Sample	Level	Inoculation (cfu/25g)	Reference method: NF EN ISO 11290-1 ♦					Alternative method: SOLUS <i>Listeria</i> ELISA					
			Fraser 1/2		Fraser		Result	Positive/total	Half Fraser 22H at 30°C / RELM 22H at 30°C			Positive/total	
			O&A	PALCAM	O&A	PALCAM			D.O.	Result	Confirmatory tests		Final result
		O&A	PALCAM	O&A	PALCAM	O&A	PALCAM						
2538	0	/	st	-	-	-	-	0.037	-	st	st	-	0/6
2539			st	-	st	-	-	0.031	-	st	st	-	
2540			-	-	-	-	-	0.046	-	st	st	-	
2541			-	-	st	-	-	0.029	-	st	st	-	
2542			st	-	-	-	-	0.037	-	st	st	-	
2543			st	-	-	-	-	0.025	-	st	st	-	
2732	1	0,6	4H+	+	/	/	+	2.037	+	H+	+	+	3/6
2733			H+	4+	/	/	+	1.123	+	H+	+	+	
2734			st	-	-	-	-	0.054	-	st	-	-	
2735			4H+	+	/	/	+	1.551	+	H+	+	+	
2736			st	-	-	-	-	0.052	-	-	-	-	
2737			st	st	-	-	-	0.051	-	st	st	-	
2738	2	1,2	H+	+	/	/	+	2.804	+	H+	+	+	5/6
2739			1H+	1+	/	/	+	0.325	+	H+	+	+	
2740			H+	+	/	/	+	2.743	+	H+	+	+	
2741			st	-	-	-	-	0.062	-	st	st	-	
2742			H+	+	/	/	+	2.835	+	H+	+	+	
2743			H+	+	/	/	+	2.646	+	H+	+	+	
2744	3	2,5	H+	+	/	/	+	2.841	+	H+	+	+	6/6
2745			H+	+	/	/	+	2.908	+	H+	+	+	
2746			H+	+	/	/	+	1.916	+	H+	+	+	
2747			H+	+	/	/	+	2.844	+	H+	+	+	
2748			H+	+	/	/	+	1.975	+	H+	+	+	
2749			H+	+	/	/	+	2.841	+	H+	+	+	
2750	4	6,2	H+	+	/	/	+	2.854	+	H+	+	+	6/6
2751			H+	+	/	/	+	2.816	+	H+	+	+	
2752			H+	+	/	/	+	2.838	+	H+	+	+	
2753			H+	+	/	/	+	2.828	+	H+	+	+	
2754			H+	+	/	/	+	2.868	+	H+	+	+	
2755			H+	+	/	/	+	2.841	+	H+	+	+	

♦ Analysis performed according to the COFRAC accreditation

ADRIA Développement

Summary report (Version 0)

Solus *Listeria* ELISA

57/81

12 March 2021

Smoked salmon (2013)

Listeria innocua 1

Aerobic mesophilic flora: 2,0.10⁶ cfu/g

N° Sample	Level	Inoculation (cfu/25g)	Reference method: NF EN ISO 11290-1 ♦					Alternative method: SOLUS Listeria ELISA						
			Fraser 1/2		Fraser		Result	Positive/total	Half Fraser 22H at 30°C / RELM 22H at 30°C				Positive/total	
			O&A	PALCAM	O&A	PALCAM			D.O.	Result	Confirmatory tests			Final result
								O&A	PALCAM					
1695	0	/	-	-	-	-	-	0/6	0.107	-	st	-	-	0/6
1696			-	-	-	-	-		0.127	-	st	-	-	
1697			-	-	-	-	-		0.107	-	st	-	-	
1698			-	-	-	-	-		0.113	-	st	-	-	
1699			-	-	-	-	-		0.117	-	st	-	-	
1700			-	-	-	-	-		0.101	-	st	-	-	
2666			1	0,2	st	st	st		st	-	1/6	0.053	-	
2667	st	st			st	st	-	0.056	-	st		-	-	
2668	st	st			st	st	-	0.072	-	st		st	-	
2669	st	st			st	st	-	0.066	-	st		st	-	
2670	H-	+			H-	+	+	2.224	+	H-		+	+	
2671	st	st			st	st	-	0.065	-	st		st	-	
2672	2	0,5	H-	+	H-	+	+	2/6	2.373	+	H-	+	+	2/6
2673			st	st	st	st	-		0.058	-	st	-	-	
2674			H-	+	H-	+	+		2.362	+	H-	+	+	
2675			st	st	st	st	-		0.067	-	st	st	-	
2676			st	st	st	st	-		0.053	-	st	st	-	
2677			st	st	st	st	-		0.048	-	st	-	-	
2678	3	0,9	H-	+	H-	+	+	3/6	2.362	+	H-	+	+	3/6
2679			st	st	st	st	-		0.056	-	st	st	-	
2680			st	st	st	st	-		0.056	-	st	st	-	
2681			H-	+	H-	+	+		2.406	+	H-	+	+	
2682			H-	+	H-	+	+		2.283	+	H-	+	+	
2683			st	st	st	st	-		0.064	-	st	st	-	
2684	4	2,3	H-	+	H-	+	+	6/6	2.302	+	H-	+	+	6/6
2685			H-	+	H-	+	+		2.404	+	H-	+	+	
2686			H-	+	H-	+	+		2.169	+	H-	+	+	
2687			H-	+	H-	+	+		2.514	+	H-	+	+	
2688			H-	+	H-	+	+		2.298	+	H-	+	+	
2689			H-	+	H-	+	+		2.415	+	H-	+	+	

♦ Analysis performed according to the COFRAC accreditation

ADRIA Développement

Summary report (Version 0)

Solus Listeria ELISA

58/81

12 March 2021

Zucchini (2013)

Listeria seeligeri Ad1293

Aerobic mesophilic flora: 1,2.10⁴ cfu/g

N°Sample	Level	Inoculation (cfu/25g)	Reference method: NF EN ISO 11290-1 ♦					Alternative method: SOLUS Listeria ELISA					
			Fraser 1/2		Fraser		Result	Positive/total	Half Fraser 22H at 30°C / RELM 22H at 30°C			Positive/total	
			O&A	PALCAM	O&A	PALCAM			D.O.	Result	Confirmatory tests		Final result
O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	O&A	PALCAM	Final result					
1891	0	/	-	-	-	-	-	0.069	-	-	-	-	0/6
1892			-	-	-	-	-	0.071	-	-	-	-	
1893			-	-	-	-	-	0.084	-	-	-	-	
1894			-	-	-	-	-	0.085	-	-	-	-	
1895			-	-	-	-	-	0.09	-	-	-	-	
1896			-	-	-	-	-	0.057	-	-	-	-	
2453	1	0,2	-	-	-	-	-	0.023	-	-	-	-	2/6
2454			H-	+	H-	+	+	2.086	+	H-	+	+	
2455			-	-	-	-	-	0.058	-	-	-	-	
2456			-	-	-	-	-	0.027	-	-	-	-	
2457			H-	+	H-	+	+	2.1	+	H-	+	+	
2458			-	-	-	-	-	0.03	-	-	-	-	
2405	2	0,6	H-	+	/	/	+	2.313	+	H-	+	+	5/6
2406			-	-	-	-	-	0.075	-	-	-	-	
2407			H-	+	/	/	+	2.343	+	H-	+	+	
2408			H-	+	/	/	+	2.318	+	H-	+	+	
2409			H-	+	/	/	+	2.368	+	H-	+	+	
2410			H-	+	/	/	+	2.376	+	H-	+	+	
2411	3	1,2	H-	+	/	/	+	2.252	+	H-	+	+	6/6
2412			H-	+	/	/	+	2.303	+	H-	+	+	
2413			H-	+	/	/	+	2.298	+	H-	+	+	
2414			H-	+	/	/	+	2.263	+	H-	+	+	
2415			H-	+	/	/	+	2.274	+	H-	+	+	
2416			H-	+	/	/	+	2.252	+	H-	+	+	
2417	4	2,3	H-	+	/	/	+	2.264	+	H-	+	+	6/6
2418			H-	+	/	/	+	2.319	+	H-	+	+	
2419			H-	+	/	/	+	2.307	+	H-	+	+	
2420			H-	+	/	/	+	2.325	+	H-	+	+	
2421			H-	+	/	/	+	2.332	+	H-	+	+	
2422			H-	+	/	/	+	2.409	+	H-	+	+	
2423	5	5,8	H-	+	/	/	+	2.376	+	H-	+	+	6/6
2424			H-	+	/	/	+	2.392	+	H-	+	+	
2425			H-	+	/	/	+	2.426	+	H-	+	+	
2426			H-	+	/	/	+	2.514	+	H-	+	+	
2427			H-	+	/	/	+	2.434	+	H-	+	+	
2428			H-	+	/	/	+	2.407	+	H-	+	+	

♦ Analysis performed according to the COFRAC accreditation

ADRIA Développement

Summary report (Version 0)

Solus Listeria ELISA

Process water (2013)

Listeria monocytogenes 877/113Aerobic mesophilic flora: 6,0.10² cfu/g

N°Sample	Level	Inoculation (cfu/25g)	Reference method: NF EN ISO 11290-1 ♦					Alternative method: SOLUS <i>Listeria</i> ELISA						
			Fraser 1/2		Fraser		Result	Positive/total	Half fraser 22H 30°C / RELM 22H 30°C				Positive/total	
			O&A	PALCAM	O&A	PALCAM			D.O.	Result	Confirmatory tests			Final result
								O&A	Palcam					
2459	0	/	st	st	st	st	-	0/6	0,025	-	st	st	-	0/6
2460			st	st	st	st	-		0,025	-	st	st	-	
2461			st	st	st	st	-		0,026	-	st	st	-	
2462			st	st	st	st	-		0,023	-	st	st	-	
2463			st	st	st	st	-		0,022	-	st	st	-	
2464			st	st	st	st	-		0,022	-	st	st	-	
2590	1	0,4	st	st	st	st	-	3/6	0,036	-	st	st	-	3/6
2591			st	st	st	st	-		0,034	-	st	st	-	
2592			st	st	st	st	-		0,033	-	st	st	-	
2593			H+	+	/	/	+		2,497	+	H+	+	+	
2594			H+	+	/	/	+		2,539	+	H+	+	+	
2595			H+	+	/	/	+		2,626	+	H+	+	+	
2596	2	0,7	st	st	st	st	-	4/6	0,041	-	st	st	-	4/6
2597			H+	+	/	/	+		2,549	+	H+	+	+	
2598			H+	+	/	/	+		2,525	+	H+	+	+	
2599			st	st	st	st	-		0,037	-	st	st	-	
2600			H+	+	/	/	+		2,5	+	H+	+	+	
2601			H+	+	/	/	+		2,435	+	H+	+	+	
2602	3	1,5	H+	+	/	/	+	5/6	2,478	+	H+	+	+	5/6
2603			H+	+	/	/	+		2,696	+	H+	+	+	
2604			st	st	st	st	-		0,037	-	st	st	-	
2605			H+	+	/	/	+		2,59	+	H+	+	+	
2606			H+	+	/	/	+		2,53	+	H+	+	+	
2607			H+	+	/	/	+		2,53	+	H+	+	+	
2608	4	3,7	H+	+	/	/	+	6/6	2,634	+	H+	+	+	6/6
2609			H+	+	/	/	+		2,613	+	H+	+	+	
2610			H+	+	/	/	+		2,632	+	H+	+	+	
2611			H+	+	/	/	+		2,599	+	H+	+	+	
2612			H+	+	/	/	+		2,588	+	H+	+	+	
2613			H+	+	/	/	+		2,59	+	H+	+	+	

♦ Analysis performed according to the COFRAC accreditation

ADRIA Développement

Summary report (Version 0)

Solus *Listeria* ELISA

Appendix 6 – Inclusivity and exclusivity study: raw data

INCLUSIVITY STRAINS												
Strains				Molecular Serovar	Origin	Inoculation level (cfu/225ml Half Fraser)	Alternative method: Solus <i>Listeria</i> ELISA				Reference method* ISO 11290-1	
							D.O.	Result	O&A	Palcam	O&A	Palcam
1.	<i>Listeria</i>	<i>grayi</i>	Ad 1198		Smoked salmon	5	0.029	-	st	st	st	st
						7 (+milk)	0.056	-	st	st	st	st
						87	0.022	-	st	st	st	st
						87 (+milk)	0.015	-	st	st	st	st
						496	0.018	-	st	st	1 colony	st
						496 (+milk)	0.017	-	st	st	st	st
						BHI	2.860	+	/	/	/	/
2.	<i>Listeria</i>	<i>grayi</i>	Ad 1443		Pork	5	0.034	-	st	st	st	st
						28 (+milk)	0.025	-	st	st	st	st
						300	0.019	-	st	st	st	st
						300 (+milk)	0.021	-	st	st	3 colonies	st
						1680	0.059	-	st	st	st	st
						1680 (+milk)	0.018	-	st	st	4 colonies	st
						BHI	2.566	+	/	/	/	/
3.	<i>Listeria</i>	<i>innocua</i>	1		Smoked salmon	28	2.974	+	H-	+	/	/
4.	<i>Listeria</i>	<i>innocua</i>	Ad 658		Gorgonzola	43	2.853	+	H-	+	/	/

* Analyses performed according to the COFRAC accreditation

ADRIA Développement

Summary report (Version 0)

Solus *Listeria* ELISA

INCLUSIVITY STRAINS												
Strains				Molecular Serovar	Origin	Inoculation level (cfu/225ml Half Fraser)	Alternative method: Solus <i>Listeria</i> ELISA				Reference method* ISO 11290-1	
							D.O.	Result	O&A	Palcam	O&A	Palcam
5.	<i>Listeria</i>	<i>innocua</i>	Ad 655		Brine	18	2.818	+	H-	+	/	/
6.	<i>Listeria</i>	<i>innocua</i>	Ad 660		Breadcrumbs	15	2.916	+	H-	+	/	/
7.	<i>Listeria</i>	<i>innocua</i>	Ad 663		Environment (dairy industry)	17	2.952	+	H-	+	/	/
8.	<i>Listeria</i>	<i>innocua</i>	Ad 671		Smoked salmon	39	2.966	+	H-	+	/	/
9.	<i>Listeria</i>	<i>innocua</i>	Ad 661		Soft cheese (Pont L'Evêque)	44	2.904	+	H-	+	/	/
10.	<i>Listeria</i>	<i>innocua</i>	Ad 659		Environment (dairy industry)	53	2.921	+	H-	+	/	/
11.	<i>Listeria</i>	<i>ivanovii</i>	Ad 466		Raw veal meat	44	2.888	+	H+	+	/	/
12.	<i>Listeria</i>	<i>ivanovii</i>	Ad 662		Environment (dairy industry)	39	2.857	+	H+	+	/	/
13.	<i>Listeria</i>	<i>ivanovii</i>	BR11		Environment (fruit production unit)	26	2.71	+	H+	+	/	/
14.	<i>Listeria</i>	<i>ivanovii londoniensis</i>	CIP103466		/	30	3.027	+	H+	+	/	/
15.	<i>Listeria</i>	<i>ivanovii</i>	Ad 1289		Raw milk cheese	26	2.98	+	H+	+	/	/
16.	<i>Listeria</i>	<i>ivanovii</i>	Ad 1290		Milk powder	55	2.98	+	H+	+	/	/
17.	<i>Listeria</i>	<i>ivanovii</i>	Ad 1291		Poultry	39	2.943	+	H+	+	/	/
18.	<i>Listeria</i>	<i>ivanovii</i>	Ad 1288		Sheep milk	50	2.966	+	H+	+	/	/
19.	<i>Listeria</i>	<i>seeligeri</i>	Ad 649		Cheese	35	2.934	+	H-	+	/	/
20.	<i>Listeria</i>	<i>seeligeri</i>	Ad 651		Trout	69	2.966	+	H-	+	/	/
21.	<i>Listeria</i>	<i>seeligeri</i>	Ad 652		Environment (dairy industry)	49	2.938	+	H-	+	/	/

INCLUSIVITY STRAINS												
Strains				Molecular Serovar	Origin	Inoculation level (cfu/225ml Half Fraser)	Alternative method: Solus <i>Listeria</i> ELISA				Reference method* ISO 11290-1	
							D.O.	Result	O&A	Palcam	O&A	Palcam
22.	<i>Listeria</i>	<i>seeligeri</i>	Ad 674		Soft cheese (Munster)	11	3.068	+	H-	+	/	/
23.	<i>Listeria</i>	<i>seeligeri</i>	BR1		Trout	21	3.074	+	H-	+	/	/
24.	<i>Listeria</i>	<i>seeligeri</i>	BR18		Environment (fish)	28	2.996	+	H-	+	/	/
25.	<i>Listeria</i>	<i>seeligeri</i>	CIP100100	/		7	0.213	+	H-	+	/	/
						124	0.234	+	H-	+	st	+
						876	0.251	+	H-	+	st	+
26.	<i>Listeria</i>	<i>welshimeri</i>	Ad1276		Environment (slaughterhouse)	14	3.068	+	H-	+	/	/
27.	<i>Listeria</i>	<i>welshimeri</i>	Ad1235		Beef meat	17	2.98	+	H-	+	/	/
28.	<i>Listeria</i>	<i>welshimeri</i>	191424			3	2.985	+	H-	+	/	/
29.	<i>Listeria</i>	<i>welshimeri</i>	Ad 1175		Ready-to-eat food	3	2.925	+	H-	+	/	/
30.	<i>Listeria</i>	<i>welshimeri</i>	Ad 650		Poultry	39	2.99	+	H-	+	/	/
31.	<i>Listeria</i>	<i>monocytogenes</i>	1011/1410	II a	Frozen broccoli	16	3.027	+	H+	+	/	/
32.	<i>Listeria</i>	<i>monocytogenes</i>	153	VI b	Soft cheese (Munster)	9	2.98	+	H+	+	/	/
33.	<i>Listeria</i>	<i>monocytogenes</i>	1973/2400	VI b	Egg and ham pastry (Quiche Lorraine)	10	2.916	+	H+	+	/	/
34.	<i>Listeria</i>	<i>monocytogenes</i>	38/181	II a	Toulouse sausages	6	2.966	+	H+	+	/	/
35.	<i>Listeria</i>	<i>monocytogenes</i>	7111/7516	IV b	Pâté (Rillettes)	16	3.064	+	H+	+	/	/

INCLUSIVITY STRAINS												
Strains				Molecular Serovar	Origin	Inoculation level (cfu/225ml Half Fraser)	Alternative method: Solus <i>Listeria</i> ELISA				Reference method* ISO 11290-1	
							D.O.	Result	O&A	Palcam	O&A	Palcam
36.	<i>Listeria</i>	<i>monocytogenes</i>	913/1 048	IV b	Black pudding	2	2.916	+	H+	+	/	/
37.	<i>Listeria</i>	<i>monocytogenes</i>	A00C036	II a	Poultry (guinea)	5	2.896	+	H+	+	/	/
38.	<i>Listeria</i>	<i>monocytogenes</i>	A00C041	L a	Sausage	20	3.099	+	H+	+	/	/
39.	<i>Listeria</i>	<i>monocytogenes</i>	A00C044	II b	Poultry (Duck)	18	3.022	+	H+	+	/	/
40.	<i>Listeria</i>	<i>monocytogenes</i>	A00L097	II a	Milk	30	3.001	+	H+	+	/	/
41.	<i>Listeria</i>	<i>monocytogenes</i>	A00M009	II a	Smoked salmon	14	2.985	+	H+	+	/	/
42.	<i>Listeria</i>	<i>monocytogenes</i>	Ad253	II b	Semi-hard cheese	3	2.346	+	H+	+	/	/
43.	<i>Listeria</i>	<i>monocytogenes</i>	Ad266	li a	Poultry	1	2.985	+	H+	+	/	/
44.	<i>Listeria</i>	<i>monocytogenes</i>	Ad270	IV b	Fermented sausage	5	2.98	+	H+	+	/	/
45.	<i>Listeria</i>	<i>monocytogenes</i>	Ad273	II b	Cured delicatessen	15	2.943	+	H+	+	/	/
46.	<i>Listeria</i>	<i>monocytogenes</i>	Ad274	II a	Ready-to-eat food (Asiatic meal)	14	3.022	+	H+	+	/	/
47.	<i>Listeria</i>	<i>monocytogenes</i>	Ad534	II b	Fruits	24	3.011	+	H+	+	/	/
48.	<i>Listeria</i>	<i>monocytogenes</i>	Ad548	II a	Environment (Seafood)	13	2.99	+	H+	+	/	/
49.	<i>Listeria</i>	<i>monocytogenes</i>	Ad623	II b	Breadcrumbs	31	3.006	+	H+	+	/	/
50.	<i>Listeria</i>	<i>monocytogenes</i>	Ad665	II a	Raw milk	37	3.016	+	H+	+	/	/

NEGATIVE STRAINS							
I Strains				Origin	Inoculation level (cfu/ml BPW)	Alternative method: Solus <i>Listeria</i> ELISA	
						D.O.	Result
1	<i>Bacillus</i>	<i>cereus</i>	Ad 465	Salmon Terrine	4.8 10 ⁴	0.156	-
2	<i>Bacillus</i>	<i>coagulans</i>	Ad 731	Dairy product	2.7 10 ⁵	0.028	-
3	<i>Bacillus</i>	<i>licheniformis</i>	Ad 978	Dairy product	2.0 10 ⁴	0.059	-
4	<i>Bacillus</i>	<i>mycoïdes</i>	Ad 762	Milk	1.5 10 ⁴	0.031	-
5	<i>Bacillus</i>	<i>pseudomycoïdes</i>	Ad 765	Raw vegetable	1.2 10 ⁴	0.033	-
6	<i>Bacillus</i>	<i>pumilus</i>	Ad 284	Ready-to-eat	1.9 10 ⁵	0.043	-
7	<i>Bacillus</i>	<i>weihenstephanensis</i>	Ad 726	Egg product	2.4 10 ⁴	0.151	-
8	<i>Brochothrix</i>	<i>thermosphacta</i>	EN 15129	/	4.0 10 ²	0.055	-
9	<i>Brochothrix</i>	<i>compessis</i>	CIP 1029205	Environment	3.6 10 ⁴	0.07	-
10	<i>Carnobacterium</i>	<i>diversgens</i>	CIP 101029 ^T	/	5.0 10 ⁶	0.053	-
11	<i>Carnobacterium</i>	<i>piscicola</i>	Ad 369	Raw milk	2.8 10 ⁶	0.069	-
12	<i>Corynebacterium</i>	<i>spp</i>	Ad 364	Food	3.0 10 ⁴	0.034	-
13	<i>Enterococcus</i>	<i>durans</i>	Ad 149	Ham	2.8 10 ⁵	0.044	-
14	<i>Enterococcus</i>	<i>faecalis</i>	89L326	Soft cheese (Vacherin)	1.9 10 ⁵	0.042	-
15	<i>Lactobacillus</i>	<i>brevis</i>	86L126	Ham	1.3 10 ⁶	0.037	-
16	<i>Lactobacillus</i>	<i>curvatus</i>	Ad 380	Delicatessen	1.2 10 ⁶	0.031	-
17	<i>Lactobacillus</i>	<i>fermentum</i>	Ad 482	Food	8.4 10 ⁵	0.045	-
18	<i>Lactobacillus</i>	<i>sakei</i>	Ad 473	Ham	3.2 10 ⁴	0.06	-
19	<i>Lactococcus</i>	<i>lactis cremoris</i>	Ad 136	Food (Dairy)	1.8 10 ⁴	0.041	-
20	<i>Leuconostoc</i>	<i>camosum</i>	Ad 411	Ham	8.1 10 ⁶	0.049	-

NEGATIVE STRAINS							
I Strains				Origin	Inoculation level (cfu/ml BPW)	Alternative method: Solus <i>Listeria</i> ELISA	
						D.O.	Result
21	<i>Leuconostoc</i>	<i>citreum</i>	Ad 396	Ham	7.6 10 ⁶	0.047	-
22	<i>Micrococcus</i>	<i>luteus</i>	Ad 432	Cocktail	9.2 10 ⁴	0.058	-
23	<i>Pediococcus</i>	<i>pentosaceus</i>	ATCC 33316	/	1.7 10 ⁶	0.042	-
24	<i>Staphylococcus</i>	<i>aureus</i>	Ad 165	Smoked delicatessen	5.7 10 ⁵	0.067	-
25	<i>Staphylococcus</i>	<i>aureus</i>	Ad 910	Food	5.6 10 ⁵	0.064	-
26	<i>Staphylococcus</i>	<i>aureus</i>	Ad 902	Food	5.5 10 ⁵	0.095	-
27	<i>Staphylococcus</i>	<i>epidermidis</i>	Ad 931	Fruits	8.8 10 ⁴	0.047	-
28	<i>Staphylococcus</i>	<i>haemoliticus</i>	Ad 989	Dairy products	3.8 10 ⁵	0.063	-
29	<i>Streptococcus</i>	<i>bovis</i>	91L518	Dairy products	1.0 10 ⁴	0.041	-
30	<i>Streptococcus</i>	<i>salivarius sps thermophilus</i>	Ad441	Dairy products	2.0 10 ⁴	0.041	-

Appendix 7 – Inter-laboratory study: results obtained by the collaborative laboratories and the expert laboratory

Laboratory : A

Aerobic mesophilic flora: $2,8 \cdot 10^7$ CFU/g

Sample N°	Reference method: ISO 11290-1					Alternative method: Solus <i>Listeria</i> ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
A2	-	-	-	-	-	0.023	-	-	-	NA
A8	-	-	-	-	-	0.022	-	-	-	NA
A10	-	-	-	-	-	0.023	-	-	-	NA
A12	-	-	-	-	-	0.023	-	-	-	NA
A15	-	-	-	-	-	0.024	-	-	-	NA
A16	-	-	-	-	-	0.023	-	-	-	NA
A20	-	-	-	-	-	0.021	-	-	-	NA
A23	-	-	-	-	-	0.033	-	-	-	NA
A6	+	+	+	+	+	5,000	+	+	+	PA
A7	+	+	+	+	+	5,000	+	+	+	PA
A9	+	+	+	+	+	5,000	+	+	+	PA
A11	+	+	+	+	+	5,000	+	+	+	PA
A14	+	+	+	+	+	5,000	+	+	+	PA
A19	+	+	+	+	+	5,000	+	+	+	PA
A21	+	+	+	+	+	5,000	+	+	+	PA
A24	+	+	+	+	+	5,000	+	+	+	PA
A1	+	+	+	+	+	2.959	+	+	+	PA
A3	+	+	+	+	+	2.901	+	+	+	PA
A4	+	+	+	+	+	2.929	+	+	+	PA
A5	+	+	+	+	+	5,000	+	+	+	PA
A13	+	+	+	+	+	5,000	+	+	+	PA
A17	+	+	+	+	+	5,000	+	+	+	PA
A18	+	+	+	+	+	5,000	+	+	+	PA
A22	+	+	+	+	+	5,000	+	+	+	PA

Laboratory : BAerobic mesophilic flora: $2,8 \cdot 10^7$ CFU/g

Sample N°	Reference method: ISO 11290-1					Alternative method: Solus <i>Listeria</i> ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
B2	-	-	-	-	-	0.027	-	-	-	NA
B8	-	-	-	-	-	0.036	-	-	-	NA
B10	-	-	-	-	-	0.024	-	-	-	NA
B12	-	-	-	-	-	0.041	-	-	-	NA
B15	-	-	-	-	-	0.04	-	-	-	NA
B16	-	-	-	-	-	0.032	-	-	-	NA
B20	-	-	-	-	-	0.04	-	-	-	NA
B23	-	-	-	-	-	0.05	-	-	-	NA
B6	+	+	+	+	+	2.618	+	+	+	PA
B7	+	+	+	+	+	1.607	+	+	+	PA
B9	+	+	+	+	+	2.541	+	+	+	PA
B11	+	+	+	+	+	2.407	+	+	+	PA
B14	+	+	+	+	+	2.408	+	+	+	PA
B19	+	+	+	+	+	2.347	+	+	+	PA
B21	+	+	+	+	+	2.408	+	+	+	PA
B24	+	+	+	+	+	2.592	+	+	+	PA
B1	+	+	+	+	+	2.767	+	+	+	PA
B3	+	+	+	+	+	2.754	+	+	+	PA
B4	+	+	+	+	+	2.731	+	+	+	PA
B5	+	+	+	+	+	2.767	+	+	+	PA
B13	+	+	+	+	+	2.713	+	+	+	PA
B17	+	+	+	+	+	2.599	+	+	+	PA
B18	+	+	+	+	+	2.092	+	+	+	PA
B22	+	+	+	+	+	2.694	+	+	+	PA

Laboratory CAerobic mesophilic flora: $1,3 \cdot 10^7$ CFU/g

Sample N°	Reference method: ISO 11290-1					Alternative method: Solus <i>Listeria</i> ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
C2	-	-	-	-	-	0.065	-	-	-	NA
C8	-	-	-	-	-	0.15	-	-	-	NA
C10	-	-	-	-	-	0.035	-	-	-	NA
C12	-	-	-	-	-	0.131	-	-	-	NA
C15	-	-	-	-	-	0.109	-	-	-	NA
C16	-	-	-	-	-	0.031	-	-	-	NA
C20	-	-	-	-	-	0.133	-	-	-	NA
C23	-	-	-	-	-	0.031	-	-	-	NA
C6	+	+	+	+	+	2.779	+	+	+	PA
C7	+	+	+	+	+	2.707	+	+	+	PA
C9	+	+	+	+	+	2.754	+	+	+	PA
C11	+	+	+	+	+	2.752	+	+	+	PA
C14	+	+	+	+	+	2.997	+	+	+	PA
C19	+	+	+	+	+	2.912	+	+	+	PA
C21	+	+	+	+	+	3.006	+	+	+	PA
C24	+	+	+	+	+	2.974	+	+	+	PA
C1	+	+	+	+	+	2.801	+	+	+	PA
C3	+	+	+	+	+	2.814	+	+	+	PA
C4	+	+	+	+	+	2.84	+	+	+	PA
C5	+	+	+	+	+	2.879	+	+	+	PA
C13	+	+	+	+	+	2.809	+	+	+	PA
C17	+	+	+	+	+	2.95	+	+	+	PA
C18	+	+	+	+	+	2.997	+	+	+	PA
C22	+	+	+	+	+	3.035	+	+	+	PA

Laboratory DAerobic mesophilic flora: $1,5 \cdot 10^7$ CFU/g

Sample N°	Reference method: ISO 11290-1				Alternative method: Solus <i>Listeria</i> ELISA				Agreement	
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation		
	O&A	Palcam	O&A	Palcam				O&A		Final result
D2	-	-	-	-	-	0.032	-	-	-	NA
D8	-	-	-	-	-	0.061	-	-	-	NA
D10	-	-	-	-	-	0.085	-	-	-	NA
D12	-	-	-	-	-	0.034	-	-	-	NA
D15	-	-	-	-	-	0.075	-	-	-	NA
D16	-	-	-	-	-	0.05	-	-	-	NA
D20	-	-	-	-	-	0.052	-	-	-	NA
D23	-	-	-	-	-	0.031	-	-	-	NA
D6	+	+	+	+	+	5.000	+	+	+	PA
D7	+	+	+	+	+	5.000	+	+	+	PA
D9	+	+	+	+	+	5.000	+	+	+	PA
D11	+	+	+	+	+	5.000	+	+	+	PA
D14	+	+	+	+	+	5.000	+	+	+	PA
D19	+	+	+	+	+	5.000	+	+	+	PA
D21	+	+	+	+	+	5.000	+	+	+	PA
D24	+	+	+	+	+	2.97	+	+	+	PA
D1	+	+	+	+	+	5.000	+	+	+	PA
D3	+	+	+	+	+	5.000	+	+	+	PA
D4	+	+	+	+	+	5.000	+	+	+	PA
D5	+	+	+	+	+	5.000	+	+	+	PA
D13	+	+	+	+	+	5.000	+	+	+	PA
D17	+	+	+	+	+	5.000	+	+	+	PA
D18	+	+	+	+	+	2.997	+	+	+	PA
D22	+	+	+	+	+	5.000	+	+	+	PA

Laboratory EAerobic mesophilic flora: $2,8 \cdot 10^6$ CFU/g

Sample N°	Reference method: ISO 11290-1					Alternative method: Solus <i>Listeria</i> ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
E2	-	-	-	-	-	0.02	-	-	-	NA
E8	-	-	-	-	-	0.007	-	-	-	NA
E10	-	-	-	-	-	0.014	-	-	-	NA
E12	-	-	-	-	-	0.084	-	-	-	NA
E15	-	-	-	-	-	0.05	-	-	-	NA
E16	-	-	-	-	-	0.019	-	-	-	NA
E20	-	-	-	-	-	0.004	-	-	-	NA
E23	-	-	-	-	-	0.002	-	-	-	NA
E6	+	+	+	+	+	2.513	+	+	+	PA
E7	+	+	+	+	+	2.264	+	+	+	PA
E9	+	+	+	+	+	2.854	+	+	+	PA
E11	+	+	+	+	+	2.627	+	+	+	PA
E14	+	+	+	+	+	2.428	+	+	+	PA
E19	+	+	+	+	+	2.727	+	+	+	PA
E21	+	+	+	+	+	2.806	+	+	+	PA
E24	+	+	+	+	+	2.758	+	+	+	PA
E1	+	+	+	+	+	2.616	+	+	+	PA
E3	+	+	+	+	+	2.752	+	+	+	PA
E4	+	+	+	+	+	2.978	+	+	+	PA
E5	+	+	+	+	+	2.835	+	+	+	PA
E13	+	+	+	+	+	2.952	+	+	+	PA
E17	+	+	+	+	+	2.758	+	+	+	PA
E18	+	+	+	+	+	2.879	+	+	+	PA
E22	+	+	+	+	+	2.4	+	+	+	PA

Laboratory FAerobic mesophilic flora: $2,2 \cdot 10^7$ CFU/g

Sample N°	Reference method: ISO 11290-1					Alternative method: Solus <i>Listeria</i> ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
F2	-	-	-	-	-	0.033	-	-	-	NA
F8	-	-	-	-	-	0.032	-	-	-	NA
F10	-	-	-	-	-	0.05	-	-	-	NA
F12	-	-	-	-	-	0.03	-	-	-	NA
F15	-	-	-	-	-	0.031	-	-	-	NA
F16	-	-	-	-	-	0.037	-	-	-	NA
F20	-	-	-	-	-	0.027	-	-	-	NA
F23	-	-	-	-	-	0.035	-	-	-	NA
F6	+	+	+	+	+	9.999	+	+	+	PA
F7	+	+	+	+	+	9.999	+	+	+	PA
F9	+	+	+	+	+	9.999	+	+	+	PA
F11	+	+	+	+	+	9.999	+	+	+	PA
F14	+	+	+	+	+	9.999	+	+	+	PA
F19	+	+	+	+	+	9.999	+	+	+	PA
F21	+	+	+	+	+	9.999	+	+	+	PA
F24	+	+	+	+	+	9.999	+	+	+	PA
F1	+	+	+	+	+	9.999	+	+	+	PA
F3	+	+	+	+	+	9.999	+	+	+	PA
F4	+	+	+	+	+	9.999	+	+	+	PA
F5	+	+	+	+	+	9.999	+	+	+	PA
F13	+	+	+	+	+	9.999	+	+	+	PA
F17	+	+	+	+	+	9.999	+	+	+	PA
F18	+	+	+	+	+	9.999	+	+	+	PA
F22	+	+	+	+	+	9.999	+	+	+	PA

Laboratory GAerobic mesophilic flora: $7,9 \cdot 10^6$ CFU/g

Sample N°	Reference method: ISO 11290-1					Alternative method: Solus <i>Listeria</i> ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
G2	-	-	-	-	-	0.03	-	-	-	NA
G8	-	-	-	-	-	0.024	-	-	-	NA
G10	-	-	-	-	-	0.031	-	-	-	NA
G12	-	-	-	-	-	0.028	-	-	-	NA
G15	-	-	-	-	-	0.025	-	-	-	NA
G16	-	-	-	-	-	0.027	-	-	-	NA
G20	-	-	-	-	-	0.032	-	-	-	NA
G23	-	-	-	-	-	0.03	-	-	-	NA
G6	+	+	+	+	+	2.498	+	+	+	PA
G7	+	+	+	+	+	2.464	+	+	+	PA
G9	+	+	+	+	+	2.459	+	+	+	PA
G11	+	+	+	+	+	2.478	+	+	+	PA
G14	+	+	+	+	+	2.6	+	+	+	PA
G19	+	+	+	+	+	2.453	+	+	+	PA
G21	+	+	+	+	+	2.626	+	+	+	PA
G24	+	+	+	+	+	2.516	+	+	+	PA
G1	+	+	+	+	+	2.576	+	+	+	PA
G3	+	+	+	+	+	2.576	+	+	+	PA
G4	+	+	+	+	+	2.579	+	+	+	PA
G5	+	+	+	+	+	2.695	+	+	+	PA
G13	+	+	+	+	+	2.606	+	+	+	PA
G17	+	+	+	+	+	2.502	+	+	+	PA
G18	+	+	+	+	+	2.545	+	+	+	PA
G22	+	+	+	+	+	2.531	+	+	+	PA

Laboratory HAerobic mesophilic flora: $1,6 \cdot 10^7$ CFU/g

Sample N°	Reference method: ISO 11290-1					Alternative method: Solus <i>Listeria</i> ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
H2	-	-	-	-	-	0.025	-	-	-	NA
H8	-	-	-	-	-	0.022	-	-	-	NA
H10	-	-	-	-	-	0.024	-	-	-	NA
H12	-	-	-	-	-	0.024	-	-	-	NA
H15	-	-	-	-	-	0.021	-	-	-	NA
H16	-	-	-	-	-	0.019	-	-	-	NA
H20	-	-	-	-	-	0.023	-	-	-	NA
H23	-	-	-	-	-	0.02	-	-	-	NA
H6	+	+	+	+	+	2.778	+	+	+	PA
H7	+	+	+	+	+	2.752	+	+	+	PA
H9	+	+	+	+	+	2.703	+	+	+	PA
H11	+	+	+	+	+	2.735	+	+	+	PA
H14	+	+	+	+	+	2.599	+	+	+	PA
H19	+	+	+	+	+	2.702	+	+	+	PA
H21	+	+	+	+	+	2.817	+	+	+	PA
H24	+	+	+	+	+	2.451	+	+	+	PA
H1	+	+	+	+	+	2.808	+	+	+	PA
H3	+	+	+	+	+	2.798	+	+	+	PA
H4	+	+	+	+	+	2.852	+	+	+	PA
H5	+	+	+	+	+	2.913	+	+	+	PA
H13	+	+	+	+	+	2.711	+	+	+	PA
H17	+	+	+	+	+	2.717	+	+	+	PA
H18	+	+	+	+	+	2.674	+	+	+	PA
H22	+	+	+	+	+	2.263	+	+	+	PA

Laboratory IAerobic mesophilic flora: $2,6 \cdot 10^5$ CFU/g

Sample N°	Reference method: ISO 11290-1					Alternative method: Solus <i>Listeria</i> ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
I2	-	-	-	-	-	0.035	-	-	-	NA
I8	-	-	-	-	-	0.044	-	-	-	NA
I10	-	-	-	-	-	0.031	-	-	-	NA
I12	-	-	-	-	-	0.036	-	-	-	NA
I15	-	-	-	-	-	0.034	-	-	-	NA
I16	-	-	-	-	-	0.031	-	-	-	NA
I20	-	-	-	-	-	0.032	-	-	-	NA
I23	-	-	-	-	-	0.034	-	-	-	NA
I6	+	+	+	+	+	2.587	+	+	+	PA
I7	+	+	+	+	+	2.563	+	+	+	PA
I9	+	+	+	+	+	2.525	+	+	+	PA
I11	+	+	+	+	+	2.552	+	+	+	PA
I14	+	+	+	+	+	2.655	+	+	+	PA
I19	+	+	+	+	+	2.692	+	+	+	PA
I21	+	+	+	+	+	2.7	+	+	+	PA
I24	+	+	+	+	+	2.601	+	+	+	PA
I1	+	+	+	+	+	2.714	+	+	+	PA
I3	+	+	+	+	+	2.792	+	+	+	PA
I4	+	+	+	+	+	2.78	+	+	+	PA
I5	+	+	+	+	+	2.724	+	+	+	PA
I13	+	+	+	+	+	2.681	+	+	+	PA
I17	+	+	+	+	+	2.695	+	+	+	PA
I18	+	+	+	+	+	2.773	+	+	+	PA
I22	+	+	+	+	+	2.647	+	+	+	PA

Laboratory J**Samples reception and analyses at day 3**Aerobic mesophilic flora: $8,0 \cdot 10^6$ CFU/g

Sample N°	Reference method: ISO 11290-1					Alternative method: Solus <i>Listeria</i> ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
J2	-	-	-	-	-	0.031	-	-	-	NA
J8	-	-	-	-	-	0.031	-	-	-	NA
J10	-	-	-	-	-	0.03	-	-	-	NA
J12	-	-	-	-	-	0.033	-	-	-	NA
J15	-	-	-	-	-	0.039	-	-	-	NA
J16	-	-	-	-	-	0.025	-	-	-	NA
J20	-	-	-	-	-	0.028	-	-	-	NA
J23	-	-	-	-	-	0.033	-	-	-	NA
J6	+	+	+	+	+	2.638	+	+	+	PA
J7	-	-	+	+	+	1.2	+	+	+	PA
J9	+	+	+	+	+	1.097	+	+	+	PA
J11	+	+	+	+	+	1.451	+	+	+	PA
J14	+	+	+	+	+	1.259	+	+	+	PA
J19	+	+	+	+	+	2.388	+	+	+	PA
J21	+	+	+	+	+	2.37	+	+	+	PA
J24	+	+	+	+	+	2.765	+	+	+	PA
J1	-	-	+	+	+	2.685	+	+	+	PA
J3	+	+	+	+	+	2.856	+	+	+	PA
J4	+	+	+	+	+	2.913	+	+	+	PA
J5	+	+	+	+	+	2.638	+	+	+	PA
J13	+	+	+	+	+	2.774	+	+	+	PA
J17	+	+	+	+	+	2.774	+	+	+	PA
J18	+	+	+	+	+	2.855	+	+	+	PA
J22	+	+	+	+	+	2.763	+	+	+	PA

Laboratory KAerobic mesophilic flora: $6,8 \cdot 10^5$ CFU/g

Sample N°	Reference method: ISO 11290-1					Alternative method: Solus <i>Listeria</i> ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
K2	-	-	-	-	-	0.036	-	-	-	NA
K8	-	-	-	-	-	0.041	-	-	-	NA
K10	-	-	-	-	-	0.037	-	-	-	NA
K12	-	-	-	-	-	0.041	-	-	-	NA
K15	-	-	-	-	-	0.04	-	-	-	NA
K16	-	-	-	-	-	0.033	-	-	-	NA
K20	-	-	-	-	-	0.039	-	-	-	NA
K23	-	-	-	-	-	0.042	-	-	-	NA
K6	+	+	+	+	+	4.949	+	+	+	PA
K7	+	+	+	+	+	4.949	+	+	+	PA
K9	+	+	+	+	+	3.392	+	+	+	PA
K11	+	+	+	+	+	3.339	+	+	+	PA
K14	+	+	+	+	+	3.367	+	+	+	PA
K19	+	+	+	+	+	3.296	+	+	+	PA
K21	+	+	+	+	+	3.361	+	+	+	PA
K24	+	+	+	+	+	3.256	+	+	+	PA
K1	+	+	+	+	+	3.323	+	+	+	PA
K3	+	+	+	+	+	3.328	+	+	+	PA
K4	+	+	+	+	+	3.33	+	+	+	PA
K5	+	+	+	+	+	3.415	+	+	+	PA
K13	+	+	+	+	+	3.389	+	+	+	PA
K17	+	+	+	+	+	3.331	+	+	+	PA
K18	+	+	+	+	+	3.326	+	+	+	PA
K22	+	+	+	+	+	3.314	+	+	+	PA

Laboratory LAerobic mesophilic flora: $2,4 \cdot 10^7$ CFU/g

Sample N°	Reference method: ISO 11290-1					Alternative method: Solus <i>Listeria</i> ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
L2	-	-	-	-	-	0.063	-	-	-	NA
L8	-	-	-	-	-	0.059	-	-	-	NA
L10	-	-	-	-	-	0.058	-	-	-	NA
L12	-	-	-	-	-	0.062	-	-	-	NA
L15	-	-	-	-	-	0.051	-	-	-	NA
L16	-	-	-	-	-	0.059	-	-	-	NA
L20	-	-	-	-	-	0.061	-	-	-	NA
L23	-	-	-	-	-	0.05	-	-	-	NA
L6	+	+	+	+	+	2.971	+	+	+	PA
L7	+	+	+	+	+	2.968	+	+	+	PA
L9	+	+	+	+	+	2.96	+	+	+	PA
L11	+	+	+	+	+	2.966	+	+	+	PA
L14	+	+	+	+	+	2.841	+	+	+	PA
L19	+	+	+	+	+	2.876	+	+	+	PA
L21	+	+	+	+	+	2.853	+	+	+	PA
L24	+	+	+	+	+	2.849	+	+	+	PA
L1	+	+	+	+	+	2.857	+	+	+	PA
L3	+	+	+	+	+	2.85	+	+	+	PA
L4	+	+	+	+	+	2.817	+	+	+	PA
L5	+	+	+	+	+	2.878	+	+	+	PA
L13	+	+	+	+	+	2.991	+	+	+	PA
L17	+	+	+	+	+	2.801	+	+	+	PA
L18	+	+	+	+	+	2.817	+	+	+	PA
L22	+	+	+	+	+	2.815	+	+	+	PA

Laboratory MAerobic mesophilic flora: $2,2 \cdot 10^7$ CFU/g

Sample N°	Reference method: ISO 11290-1					Alternative method: Solus <i>Listeria</i> ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
M2	-	-	-	-	-	0.036	-	-	-	NA
M8	-	-	-	-	-	0.042	-	-	-	NA
M10	-	-	-	-	-	0.035	-	-	-	NA
M12	-	-	-	-	-	0.039	-	-	-	NA
M15	-	-	-	-	-	0.044	-	-	-	NA
M16	-	-	-	-	-	0.043	-	-	-	NA
M20	-	-	-	-	-	0.038	-	-	-	NA
M23	-	-	-	-	-	0.054	-	-	-	NA
M6	+	+	+	+	+	2.781	+	+	+	PA
M7	+	+	+	+	+	2.783	+	+	+	PA
M9	+	+	+	+	+	2.644	+	+	+	PA
M11	+	+	+	+	+	2.592	+	+	+	PA
M14	+	+	+	+	+	2.778	+	+	+	PA
M19	+	+	+	+	+	2.866	+	+	+	PA
M21	+	+	+	+	+	2.79	+	+	+	PA
M24	+	+	+	+	+	2.671	+	+	+	PA
M1	+	+	+	+	+	3,000	+	+	+	PA
M3	+	+	+	+	+	2.9	+	+	+	PA
M4	+	+	+	+	+	2.893	+	+	+	PA
M5	+	+	+	+	+	2.852	+	+	+	PA
M13	+	+	+	+	+	2.977	+	+	+	PA
M17	+	+	+	+	+	2.994	+	+	+	PA
M18	+	+	+	+	+	2.807	+	+	+	PA
D22	+	+	+	+	+	3.018	+	+	+	PA

Laboratory NAerobic mesophilic flora: $1,3 \cdot 10^7$ CFU/g

Sample N°	Reference method: ISO 11290-1					Alternative method: Solus <i>Listeria</i> ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
N2	-	-	-	-	-	0.032	-	-	-	NA
N8	-	-	-	-	-	0.031	-	-	-	NA
N10	-	-	-	-	-	0.028	-	-	-	NA
N12	-	-	-	-	-	0.04	-	-	-	NA
N15	-	-	-	-	-	0.098	-	-	-	NA
N16	-	-	-	-	-	0.03	-	-	-	NA
N20	-	-	-	-	-	0.029	-	-	-	NA
N23	-	-	-	-	-	0.088	-	-	-	NA
N6	+	+	+	+	+	2.982	+	+	+	PA
N7	+	+	+	+	+	2.954	+	+	+	PA
N9	+	+	+	+	+	3.113	+	+	+	PA
N11	+	+	+	+	+	3.069	+	+	+	PA
N14	+	+	+	+	+	2.939	+	+	+	PA
N19	+	+	+	+	+	3.182	+	+	+	PA
N21	+	+	+	+	+	2.934	+	+	+	PA
N24	+	+	+	+	+	3.051	+	+	+	PA
N1	+	+	+	+	+	3.168	+	+	+	PA
N3	+	+	+	+	+	3.133	+	+	+	PA
N4	+	+	+	+	+	3.115	+	+	+	PA
N5	+	+	+	+	+	3.203	+	+	+	PA
N13	+	+	+	+	+	3.193	+	+	+	PA
N17	+	+	+	+	+	2.834	+	+	+	PA
N18	+	+	+	+	+	3.079	+	+	+	PA
N22	+	+	+	+	+	2.99	+	+	+	PA

Laboratory : O (ADRIA)Aerobic mesophilic flora:1,1.10⁷/g

Sample N°	Reference method ISO 11290-1♦					Alternative method: Solus <i>Listeria</i> ELISA				Agreement
	Fraser 1/2		Fraser 1		Final result	O.D.	Test result	Confirmation	Final result	
	O&A	Palcam	O&A	Palcam				O&A		
O2	-	-	-	-	-	0.018	-	-	-	NA
O8	-	-	-	-	-	0.030	-	-	-	NA
O10	-	-	-	-	-	0.013	-	-	-	NA
O12	-	-	-	-	-	0.032	-	-	-	NA
O15	-	-	-	-	-	0.019	-	-	-	NA
O16	-	-	-	-	-	0.016	-	-	-	NA
O20	-	-	-	-	-	0.019	-	-	-	NA
O23	-	-	-	-	-	0.036	-	-	-	NA
O6	+	+	+	+	+	2.878	+	+	+	PA
O7	+	+	+	+	+	2.941	+	+	+	PA
O9	+	+	+	+	+	2.846	+	+	+	PA
O11	+	+	+	+	+	2.760	+	+	+	PA
O14	+	+	+	+	+	3.041	+	+	+	PA
O19	+	+	+	+	+	2.697	+	+	+	PA
O21	+	+	+	+	+	2.697	+	+	+	PA
O24	+	+	+	+	+	2.807	+	+	+	PA
O1	+	+	+	+	+	2.929	+	+	+	PA
O3	+	+	+	+	+	2.760	+	+	+	PA
O4	+	+	+	+	+	2.622	+	+	+	PA
O5	+	+	+	+	+	2.678	+	+	+	PA
O13	+	+	+	+	+	2.497	+	+	+	PA
O17	+	+	+	+	+	2.874	+	+	+	PA
O18	+	+	+	+	+	2.823	+	+	+	PA
O22	+	+	+	+	+	2.959	+	+	+	PA

♦ Analysis performed according to the COFRAC accreditation