ADRIA FOOD EXPERTISE

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NF VALIDATION
Validation of alternative analytical methods
Application in food microbiology

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

BAX® System PCR Assay *L. monocytogenes* 24E
(Certificate number: QUA 18/05 – 07/08)
in food products and environmental samples
(excluding samples from primary production)

Qualitative method

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This report consists of 71 pages, including 7 appendices.
Only copies including the totality of this report are authorized.
Competencies of the laboratory are certified by COFRAC accreditation for the analyses marked with the symbol◆.

Version 1
February 17, 2021

Cancels and replaces the previous version
which must be returned to ADRIA Développement or destroyed internally.

The modifications are highlighted.

Quality Assurance documents related to this study can be consulted upon request from **Hygiena**.
The technical protocol and the result interpretation were realized according to the EN ISO 16140-2:2016 and the AFNOR technical rules (revision 6).

Validation protocols	☒ ISO 16140-1 (2016): Microbiology of the food chain - Method validation — *Part 1: Vocabulary* ☒ ISO 16140-2(2016): Microbiology of the food chain - Method validation — *Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method* ☒ AFNOR technical rules (Revision 6)
Reference methods♦	▪ NF EN ISO 11290-1/A1 (February 2005): Microbiology of food and animal feeding stuffs - Horizontal method for the detection and enumeration of *Listeria monocytogenes* - Part 1: detection method ▪ ISO 11290-1 (May 2017): Microbiology of the food chain - Horizontal method for the detection and enumeration of *Listeria monocytogenes* and of *Listeria* spp. - Part 1: detection method
Alternative method	▪ **BAX® System PCR Assay *L. monocytogenes* 24E**
Scope	☒ **Food products** ☒ **Environmental samples** *(excluding samples from primary production)*
Certification organism	AFNOR Certification (http://nf-validation.afnor.org/)

♦ Analyses performed according to the COFRAC accreditation

1 INTRODUCTION

The **BAX® System PCR Assay *L. monocytogenes* 24E** was validated in July 2008 (certificate number QUA 18/05 – 07/08) according to the ISO 16140 (2003). Extension studies and renewal studies were performed:

July 2008	Initial validation for human food products, except smoked fishes, environmental samples (excluding samples from primary production (IPL)
January 2009	Extension study: specific protocol for smoked fishes, as well as raw and cooked delicatessen (IPL)
May 2011	Extension to the 2.8 version of the BAX® software
July 2012	Renewal study (ADRIA)
March 2016	Renewal study (ADRIA)
September 2016	Extension study for using the BAX® System X5 instrument (Hygiena) with the BAX ® System X5 PCR Assay for *L. monocytogenes* (Hygiena internal data)
October 2017	Extension study for a modification of the software as well as an update to be in agreement with the ISO 16140-2:2016 and the AFNOR technical rules (Revision 6). The current version of the software is version 3.6 (ADRIA).
April 2020	Renewal study (ADRIA)

2 METHOD PROTOCOLS

2.1 Alternative method

2.1.1 Principle

The BAX® System PCR Assay *L. monocytogenes* 24E and the BAX® System X5 PCR Assay for *L. monocytogenes* are based on the gene amplification of a *Listeria monocytogenes* specific nucleic sequence by PCR technology.

The reagents necessary for the PCR reaction and for the internal control are including in one PCR tube.

The BAX® System Q7 and BAX® System X5 instruments are composed by a thermocycler and an optical module detecting the fluorescence. The software program analyses the level of fluorescence and provides results, *i.e.* positive or negative.

2.1.2 Protocols

The flow diagrams are given in **Appendix 1**. The protocols are described below:

- *Enrichment*

  - General protocol for food products (except smoked fish, raw and cooked delicatessen) and environmental samples: 26h ± 2h at 37°C ± 1°C in 24 LEB complete broth (ready to use) (BO1205S) or 24 LEB base (CM1107B) + selective supplement (SR0243E)
  - Specific protocol for smoked fish, raw and cooked delicatessen: 26h ± 2h à 37°C ± 1°C in 24 LEB complete broth (ready to use) (BO1205S) + a non-selective supplement (BO1204M) or 24 LEB base (CM1107B) + selective supplement (SR0243E) + a non-selective supplement (BO1204M)

- *DNA extraction step, amplification, detection*

Step	BAX® System PCR Assay *L. monocytogenes* 24E	BAX® System X5 PCR Assay for *L. monocytogenes*
Extraction	○ Addition of 50 µl lysis reagents (40 µL agent 1 and 10 µL agent 2) in a cluster tube ○ Addition of **0.5 ml** enriched sample in the cluster tube ○ Incubation for 30 min at 37°C ○ Addition of 200 µl lysis buffer + protease in a new cluster tube ○ Transfer 5 µl of the heat-treated sample to the cluster tube ○ Incubation for 30 min at 55°C and 10 min at 95°C ○ Cooling for 5 min in a cooling block	○ Addition of 150 µl protease and 200 µl lysis Agent 2 to one 12 ml bottle of lysis buffer ○ Transfer 200 µl prepared lysis reagent to each cluster tube ○ Transfer **5 µl** enriched sample to the cluster tube ○ Incubation for 30 min at 55°C and 10 min at 95°C ○ Cooling for 5 min in a cooling block
Amplification	○ Transfer **30 µl** of the lysate in a PCR tube	○ Transfer **50 µl** of the lysate in a PCR tube
Detection	○ Run the PCR in the automate BAX® System Q7 instrument	○ Run the PCR in the automate BAX® System X5 instrument

- *Confirmation of positive results by:*
  - *Using the conventional tests described by CEN or ISO, including purification step*
  - *Streaking 10µl of 24 enriched sample onto Brilliance Listeria Agar plates, incubated for 24-48 h at 37°C*
  - *Streaking 0.1 ml onto agar Listeria plate according to Ottaviani and Agosti (O&A), incubated for 24-48 h at 37°C.*
  - *The presence of characteristic colonies is sufficient to confirm the presence of Listeria species*

2.1.3 Restrictions

There is no restriction.

2.2 Reference methods◆

The initial and extension studies were run using the EN ISO 11290-1/A1 (2005): Microbiology of food and animal feeding stuffs - Horizontal method for the detection and enumeration of *Listeria monocytogenes* - Part 1: detection method.

The extension study (2017) was run using 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 modifications which occur in the version published in 2017 are considered as minor and have no impact on the previous data.

The flow diagrams are given in **Appendix 2**.

2.3 Study design

The study is **an unpaired study design** as the reference and the alternative methods have different enrichment procedures.

3 INITIAL VALIDATION AND EXTENSION 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/.

◆ Analysis performed according to the COFRAC accreditation

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

449 samples were analysed in 2008 and 2009 by IPL. In agreement with the AFNOR Technical Committee, 29 samples were removed for the extension study interpretation due to an inoculation level above 10 CFU/sample.

In 2017, 75 additional samples were tested by ADRIA as part of the extension study.

Combining the different studies (2008, 2009 and 2017), 227 positive samples and 297 negative samples were obtained for a total of 524 samples. The repartition of samples per category and type is summarised in Table 1.

All the data provided in the report were obtained using the **BAX® System PCR Assay *L. monocytogenes* 24E.**

Table 1 - Repartition per category and type

Category		Type		Protocol	Positive samples	Negative samples	Total
1	Composite foods	a	RTE	General	11	10	21
		b	RTRH		11	12	23
		c	Pastries, desserts, egg products		8	12	20
				Total	30	34	64
2	Meat products	a	Raw meat products (raw, frozen, seasoned)	General	23	22	45
		b	RTRH, RTC		9	11	20
		c	Delicatessen (raw and cooked)	Specific	21	27	48
				Total	53	61	114
3	Dairy products	a	Raw milk cheeses	General	10	10	20
		b	Raw milk		10	11	21
		c	Heat treated dairy products		11	17	28
				Total	31	38	69
4	Fruits and vegetables	a	Raw, non-processed (fresh or frozen)	General	7	13	20
		b	Fresh, bagged		14	9	23
		c	RTE, RTRH		9	23	32
				Total	30	45	75
5	Seafood and fishery products	a	Raw	General	15	26	41
		b	Smoked	Specific	21	17	38
		c	RTE, RTRH	General	15	13	28
				Total	51	56	107
6	Environmental samples	a	Process water	General	10	27	37
		b	Surfaces		10	12	22
		c	Dusts and residues		11	25	36
				Total	31	64	95
All categories					**227**	**297**	**524**
Total General protocol (G)					**185**	**253**	**438**
Total Specific protocol (S)					**42**	**44**	**86**

3.1.1.2 Artificial contamination of samples

The strains were stressed using various injury protocols. For the spiking protocol, the injury efficiency was evaluated by comparing enumeration done onto the selective media (Palcam plates) and the non-selective media (TSYE plates). The artificial contaminations are provided in **Appendix 3**. 94 samples were artificially contaminated; 77 gave a positive result. 150 samples were naturally contaminated.

The repartition of the positive samples per contamination level is given in Table 2.

Table 2 - Repartition of the positive samples per contamination level

	Naturally contaminated	Artificially contaminated							Total
		Spiking protocol				Seeding protocol			
		≤5	5< x≤10	10< x≤30	>30	≤3	5< x≤10	>10	
Number of samples	150	17	18	11	0	31	0	0	227
%	66,1%	7,5%	7,9%	4,8%	0,0%	13,7%	0,0%	0,0%	100,0%

7.9% of the samples were inoculated between 3 or 5 CFU and 10 CFU, this is in agreement with the AFNOR technical rules.

Taking into account all the studies, 66.1 % of the samples were naturally contaminated.

3.1.1.3 Protocols applied during the study

- **Incubation time**

The minimum incubation times were applied:

- 24 LEB: 24 h at 37°C.
- O&A: 24 h to 48 h.

- **Confirmations**

For the initial study and extension study run by IPL, 10 µl of the 24 LEB broth was streaked onto *Brilliance* Listeria Agar.

For the extension study performed in 2017, 0.1 ml of the 24 LEB broth were streaked onto O&A plates and onto Palcam and RAPID'*L.mono* plates when required.

The typical colonies were confirmed by biochemical gallery without purification step and by applying the tests described in the reference method after purification step.

3.1.1.4 Test results

Raw data per category are given in **Appendix 4**. The results are given in the following Table 3.

Table 3 – Summary of results obtained with the reference and the alternative methods

Category		PA	NA*	PD	ND**	PPND	PPNA
1	Composite foods	21	34	4	5	0	0
2	Meat products	41	59	7	5	0	1
3	Dairy products	24	38	4	4	0	0
4	Fruits and vegetables	26	44	1	3	0	1
5	Seafood and fishery products	39	50	8	4	0	6
6	Environmental samples	24	63	4	3	0	1
All categories		**175**	**288**	**28**	**24**	**0**	**9**
Total General protocol		**149**	**248**	**16**	**20**	**0**	**5**
Total Specific protocol		**26**	**40**	**12**	**4**	**0**	**4**

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 the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR)

The results were calculated taking into account all the confirmation protocols (See Table 4).

Table 4 – 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	6	10	2	3	0	0	72,7	81,8	76,2	0
		b	RTRH	8	12	2	1	0	0	90,9	81,8	87,0	0,0
		c	Pastries, desserts, egg products	7	12	0	1	0	0	87,5	100,0	95,0	0,0
			Total	21	34	4	5	0	0	83,3	86,7	85,9	0,0
2	Meat products	a	Raw meat products (raw, frozen, seasoned)	20	21	1	2	0	1	91,3	95,7	93,3	4,8
		b	RTRH, RTC	9	11	0	0	0	0	100,0	100,0	100,0	0,0
		c	Delicatessen (raw and cooked)	12	27	6	3	0	0	85,7	71,4	81,3	0,0
			Total	41	59	7	5	0	1	90,6	86,8	89,5	1,6
3	Dairy products	a	Raw milk cheeses	7	10	1	2	0	0	80,0	90,0	85,0	0,0
		b	Raw milk	9	11	0	2	0	0	90,0	100,0	95,2	0,0
		c	Heat treated dairy products	8	17	3	0	0	0	100,0	72,7	89,3	0,0
			Total	24	38	4	4	0	0	90,3	87,1	89,9	0,0
4	Fruits and vegetables	a	Raw, non-processed (fresh or frozen)	5	13	0	2	0	0	71,4	100,0	90,0	0,0
		b	Fresh, bagged	13	9	1	0	0	0	100,0	92,9	95,7	0,0
		c	RTE, RTRH	8	22	0	1	0	1	88,9	100,0	96,9	4,5
			Total	26	44	1	3	0	1	90,0	96,7	94,7	2,2
5	Seafood and fishery products	a	Raw	14	24	1	0	0	2	100,0	93,3	97,6	8,3
		b	Smoked	14	13	6	1	0	4	95,2	71,4	81,6	30,8
		c	RTE, RTRH	11	13	1	3	0	0	80,0	93,3	85,7	0,0
			Total	39	50	8	4	0	6	92,2	84,3	88,8	10,7
6	Environmental samples	a	Process water	10	27	0	0	0	0	100,0	100,0	100,0	0,0
		b	Surfaces	8	12	2	0	0	0	100,0	80,0	90,9	0,0
		c	Dusts and residues	6	24	2	3	0	1	72,7	81,8	86,1	4,2
			Total	24	63	4	3	0	1	90,3	87,1	92,6	1,6
All categories				**175**	**288**	**28**	**24**	**0**	**9**	**89,4**	**87,7**	**90,1**	**3,0**
Total General protocol				**149**	**248**	**16**	**20**	**0**	**5**	**89,2**	**91,4**	**91,8**	**2,0**
Total Specific protocol				**26**	**40**	**12**	**4**	**0**	**4**	**90,5**	**71,4**	**81,4**	**9,1**

*: PPNA not included

**: PPND not included

The results obtained for all the categories are the following (See Table 5).

Table 5 - Summary of results

		All categories	General protocol	Specific protocol
Sensitivity for the alternative method	$SE_{alt} = \frac{(PA+PD)}{(PA+ND+PD)} \times 100\%$	89.4 %	89.2 %	90.5 %
Sensitivity for the reference method	$SE_{ref} = \frac{(PA+ND+)}{(PA+ND+PD)} \times 100\%$	87.7 %	91.4 %	71.4 %
Relative trueness	$RT = \frac{(PA+NA)}{N} \times 100\,\%$	90.1%	91.8 %	81.4 %
False positive ratio for the alternative method* **FP = PPNA + PPND**	$FPR = \frac{(FP)}{NA} \times 100\,\%$	3.0 %	2.0 %	9.1 %

** With ND = ND + PPND*

NA = NA + PPNA

3.1.1.6 Analysis of discordant results

24 negative deviations were observed, 18 on naturally contaminated samples and 6 on artificially contaminated samples. For 7 samples (N° AE2, L7, Z5, C9, 5163, 5956 and 6274), the confirmatory tests concluded to the presence of *Listeria monocytogenes* in the enrichment broth.

Among the 28 samples in positive deviations, 9 were artificially contaminated and 19 naturally contaminated.

The negative deviations are given in Table 6 and the positive deviations in Table 7.

Table 6 - Negative deviations

G: general protocol
S: specific protocol
L.mono: *Listeria monocytogenes*

◆ Analyses performed according to the COFRAC accreditation (ADRIA Développement, Expert laboratory)

Laboratory	Sample N°	Products	Artificial contamination		Global result	Reference method: ISO 11290-1/A1		Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPARISON	Protocol	Category	Type
						CONFIRMATION	RESULT L.mono	BAX® L.mono test	CONFIRMATION 24 LEB			FINAL RESULT				
			Strain	Inoculation level/sample		*IDENTIFICATION*			*Brilliance* D1 (IPL) O&A (ADRIA)	*Brilliance* D2 (IPL) Palcam (ADRIA)	*IDENTIFICATION*					
IPL	AE1	Horse meat	/	/	+	*L.monocytogenes*	+	-	Ø	Ø	/	-	ND	G	2	a
IPL	AE2	Pork chops	/	/	+	*L.monocytogenes* *L.welshimeri*	+	-	+LD	/	*L.monocytogenes* *L.welshimeri*	-	ND	G	2	a
IPL	D13	Fish with bordelaise sauce	/	/	+	*L.monocytogenes*	+	-	-LE	-LE	Ø	-	ND	G	5	c
IPL	J14	Salmon paupiettes with Saint Jacques	/	/	+	*L.monocytogenes* *L.welshimeri*	+	-	-LD	-LD	*L.welshimeri*	-	ND	G	5	c
IPL	**L7**	**Saint Jacques with vegetables**	*Listeria monocytogenes*	5	+	*L.monocytogenes*	+	-	+LB(1)	+LB	*L.monocytogenes*	-	ND	G	5	c
IPL	C16	Raw milk cheese	/	/	+	*L.monocytogenes/ L.innocua*	+	-	-ME	/	/	-	ND	G	3	a
IPL	J8	Cookie dough	/	/	+	*L.monocytogenes*	+	-	-ME	/	/	-	ND	G	1	c
IPL	S12	Frozen spinaches	/	/	+	*L.monocytogenes* *L.innocua*	+	-	-MA	-MA	*L.innocua*	-	ND	G	4	a
IPL	I12	Fried mixed vegetables	/	/	+	*L.monocytogenes*	+	-	-ME	-ME	/	-	ND	G	4	c
IPL	S11	Scraps from cheese dairy	/	/	+	*L.monocytogenes*	+	-	-LE	-LE Fraser : -LE	/	-	ND	G	6	c
IPL	Y13	Scraps from delicatessen preparation line	/	/	+	*L.monocytogenes*	+	-	-LE	-LE Fraser : -LE	/	-	ND	G	6	c
IPL	Z5	Scraps from packaging line	/	/	+	*L.monocytogenes*	+	-	+LD	+LD	*L.monocytogenes*	-	ND	G	6	c
IPL	C9	Merguez	/	/	+	*L.monocytogenes*	+	-	-ME	-ME Fr: +MA	*L.monocytogenes*	-	ND	S	2	c
IPL	G2	Sausage	/	/	+	*L.monocytogenes*	+	-	-ME	/	/	-	ND	S	2	c
IPL	C15	Terrine	/	/	+	*L.monocytogenes*	+	-	-MB	-MB Fr: Ø	/	-	ND	S	2	c
ADRIA	4955	Smoked salmon	/	/	+	*L. monocytogenes*	+	-	-	st	/	-	ND	S	5	b
ADRIA	**5145**	**RTE sandwich**	*L. monocytogenes* Ad268	0-1-0-0-2 (0,6)	+	*L. monocytogenes*	+	-	-	-	/	-	ND	G	1	a
ADRIA	**5146**	**RTE sandwich**	*L. monocytogenes* Ad267	1-1-2-0-2 (1,2)	+	*L. monocytogenes*	+	-	-	-	/	-	ND	G	1	a
ADRIA	**5151**	**Deli-salad**	*L. monocytogenes* Ad2598	0-3-1-0-0 (0,8)	+	*L. monocytogenes*	+	-	-	-	/	-	ND	G	1	a
ADRIA	**5163**	**Raw milk cheese**	*L. monocytogenes* Ad665	0-2-2-0-3 (1,4)	+	*L. monocytogenes*	+	-/+/-	H+	+	*L. monocytogenes*	-	ND	G	3	a
ADRIA	5384	Tuna, tomato and olive rice salad	/	/	+	*L. monocytogenes*	+	-	-	-	/	-	ND	G	1	b
ADRIA	5956	Raw milk	*L. monocytogenes* Ad1784	1-2-2-0-1 (1,2)	+	*L. monocytogenes*	+	-/-/-	H+	H+	*L. monocytogenes*	-	ND	G	3	b
ADRIA	**6274**	**Courgette**	*L. monocytogenes* Ad1238	1-0-1-0-0 (0,4)	+	*L. monocytogenes*	+	-/-/-	H+ni	H+	*L. monocytogenes*	-	ND	G	4	a
ADRIA	6287	Raw milk	/	/	+	*L. monocytogenes* *L. innocua*	+	-	H-	H-	*L. innocua*	-	ND	G	3	b

Table 7 - Positive deviations

G: general protocol
S: specific protocol
L.mono: *Listeria monocytogenes*

◆ Analyses performed according to the COFRAC accreditation (ADRIA Développement, Expert laboratory)

Laboratory	Sample N°	Products	Artificial contamination		Global result	Reference method: ISO 11290-1/A1		Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPARISON	Protocol	Category	Type
						CONFIRMATION	RESULT L.mono	BAX® L.mono test	CONFIRMATION 24 LEB			FINAL RESULT				
			Strain	Inoculation level/sample		*IDENTIFICATION*			*Brilliance* D1 (IPL) O&A (Adria)	*Brilliance* D2 (IPL) Palcam (Adria)	*IDENTIFICATION*					
IPL	AD7	Ground beef	/	/	+	*L.welshimeri*	-	+	-HB	-MB Fraser : -MA RLM : +HD	*L.welshimeri* *L.monocytogenes*	+	**PD**	G	2	a
IPL	C7	Cod fillet	/	/	+	/	-	+	+HD	+MB	*L.monocytogenes*	+	**PD**	G	5	a
IPL	AB7	Sushis	/	/	+	/	-	+	+MA	+MA	*L.monocytogenes*	+	**PD**	G	5	c
IPL	**J21**	**Camembert pasteurized milk cheese**	*Listeria monocytogenes* 4e	10	+	/	-	+	+LB	+MB	*L.monocytogenes*	+	**PD**	G	3	c
IPL	**J22**	**Raw milk cheese (Camembert de Normandie)**	*Listeria monocytogenes* 4	9	+	/	-	+	+LA	+MB	*L.monocytogenes*	+	**PD**	G	3	a
IPL	**N16**	**Camembert cheese**	*Listeria monocytogenes* 4b	6,4	+	/	-	+	+LB	+MB	*L.monocytogenes*	+	**PD**	G	3	c
IPL	**P16**	**Milk powder**	*Listeria monocytogenes* 1/2b	4	+	/	-	+	+LB	+LB	*L.monocytogenes*	+	**PD**	G	3	c
IPL	C15	Frozen French fries	/	/	+	/	-	+	+MA	+MB	*L.monocytogenes*	+	**PD**	G	4	b
IPL	Y14	Scraps from mincer	/	/	+	/	-	+	+MB	+MB	*L.monocytogenes*	+	**PD**	G	6	c
IPL	Z2	Scraps from mincer	/	/	+	/	-	+	+MB	+MD	*L.monocytogenes*	+	**PD**	G	6	c
IPL	D4	Brat's	/	/	+	*L.innocua*	-	+	+LB	+MB	*L.monocytogenes* *L.innocua*	+	**PD**	S	2	c
IPL	B12	Raw ham	/	/	+	/	-	+	+MB	+MB	*L.monocytogenes*	+	**PD**	S	2	c
IPL	D9	Pâté with pickles	/	/	+	/	-	+	+MA	+MA	*L.monocytogenes*	+	**PD**	S	2	c
IPL	D11	Pâté	/	/	+	/	-	+	+MA	+MA	*L.monocytogenes*	+	**PD**	S	2	c
IPL	D20	Pâté with pickles	/	/	+	/	-	+	+MA	+MA	*L.monocytogenes*	+	**PD**	S	2	c
IPL	A11	Pâté with pickles	/	/	+	/	-	+	Ø	Ø Fr: +LA	*L.monocytogenes*	+	**PD**	S	2	c
IPL	B3	Smoked salmon	/	/	+	/	-	+	+LD	+LD	*L.monocytogenes*	+	**PD**	S	5	b
IPL	B6	Salmon roulade	/	/	+	/	-	+	+MB	+MB	*L.monocytogenes*	+	**PD**	S	5	b
IPL	B7	Smoked salmon	/	/	+	/	-	+	+MB	+MB	*L.monocytogenes*	+	**PD**	S	5	b
IPL	D17	Smoked salmon	/	/	+	/	-	+	-LE	-LE F : +LB	*L.monocytogenes*	+	**PD**	S	5	b
IPL	E9	Smoked salmon Scotland	/	/	+	/	-	+	+MA	+MA	*L.monocytogenes*	+	**PD**	S	5	b
IPL	E10	Smoked salmon Ireland	/	/	+	/	-	+	+LB	+LB	*L.monocytogenes*	+	**PD**	S	5	b
ADRIA	4865	RTRH food	/	/	+	NC	-	+/+/+	- (H+ after subculture in Fraser 1)	- (+ after subculture in Fraser 1)	L. monocytogenes (after subculture in Fraser 1)	+	**PD**	G	1	b
ADRIA	**5148**	**RTE sandwich**	*L. monocytogenes* Ad267	1-1-2-0-2 (1,2)	+	/	-	+	H+	+	*L. monocytogenes*	+	**PD**	G	1	a
ADRIA	**5153**	**Deli-salad**	*L. monocytogenes* Ad2598	0-3-1-0-0 (0,8)	+	/	-	+	H+	+d	*L. monocytogenes*	+	**PD**	G	1	a
ADRIA	**5691**	**RTRH Food**	*L. monocytogenes* 32.183	2-0-2-2-1 (2,4)	+	/	-	+	H+	+	*L. monocytogenes*	+	**PD**	G	1	b
ADRIA	**5949**	**Surface sample**	*L. monocytogenes* Ad1271	2-1-1-0-2 (1,2)	+	/	-	+	H+	+	*L. monocytogenes*	+	**PD**	G	6	b
ADRIA	**5953**	**Surface sample**	*L. monocytogenes* Ad1272	2-1-1-1-3 (1,6)	+	/	-	+	H+	+	*L. monocytogenes*	+	**PD**	G	6	b

The analyses of discordant results according to the EN ISO 16140-2:2016 is the following (See Table 8).

Table 8 - Analyses of discordant results

Category		Type		PD	ND	PPND	(ND+PPND)-PD	AL
1	Composite foods	a	RTE	2	3	0	1	
		b	RTRH	2	1	0	-1	
		c	Pastries, desserts, egg products	0	1	0	1	
		Total		4	5	0	1	3
2	Meat products	a	Raw meat products (raw, frozen, seasoned)	1	2	0	1	
		b	RTRH, RTC	0	0	0	0	
		c	Delicatessen (raw and cooked)	6	3	0	-3	
		Total		7	5	0	-2	3
3	Dairy products	a	Raw milk cheeses	1	2	0	1	
		b	Raw milk	0	1	0	2	
		c	Heat treated dairy products	3	0	0	-3	
		Total		4	3	0	0	3
4	Fruits and Vegetables	a	Raw, non-processed (fresh or frozen)	0	2	0	2	
		b	Fresh, bagged	1	0	0	-1	
		c	RTE, RTRH	0	1	0	1	
		Total		1	3	0	2	3
5	Seafood and fishery products	a	Raw	1	0	0	-1	
		b	Smoked	6	1	0	-5	
		c	RTE, RTRH	1	3	0	2	
		Total		8	4	0	-4	3
6	Environmental Samples	a	Process water	0	0	0	0	
		b	Surfaces	2	0	0	-2	
		c	Dusts and residues	2	3	0	1	
		Total		4	3	0	-1	3
All categories				**28**	**24**	**0**	**-4**	**6**
Total General protocol				**16**	**20**	**0**	**3**	**6**
Total Specific protocol				**12**	**4**	**0**	**-7**	**4**

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

3.1.1.7 Confirmations

Confirmations were performed by streaking the 24 LEB broth (10 µl for the 2008 and 2009 studies, and 0.1 ml for the extension study performed in 2017) onto one selective agar, i.e. O&A plates. Characteristic colonies were observed after 24 h incubation except for 15 samples: (See Table 9)

- For 5 of them, characteristic colonies were observed after 48 h incubation time of the O&A plates (AG5, D7, AA5, C14, 5340) with streaking performed on 5 plates for samples AG5 and AA5.

- For 4 samples, a subculture in Fraser broth enabled the recovery of the strain in the enrichment broth (V8, AD7, D17, 4865); on RAPID'*L. mono* plates for samples V8 and AD7 and on O&A plates for samples D17 and 4865.

- For 2 samples, characteristic colonies were observed on Palcam plates (4867, 4876)

- For 1 sample, the characteristic colonies were observed on RAPID'*L. mono* (RLM) and Palcam plates (AF9).

- For 3 samples it was not possible to confirm the presence of *Listeria monocytogenes* in the enrichment broth (J3, U11, U20).

Table 9 - Confirmations

Sample n°	O&A 24 h	O&A 48 h
V8	-	-/Fraser:-
AD7	-	-/Fraser:-/RLM:+
AF9	-	-/Palcam:+/RLM:+
AG5	-	+(5 plates) *Brilliance* Listeria
D7	-	+
J3	-	-
AA5	-	+(5 plates)
C14	-	+
U11	-	-
U20	-	-/Fraser:-
D17	-	-/Fraser:+
4865	-	-/Fraser:+
4867	-	-/Palcam:+
4876	-	-/Palcam:+
5340		+

3.1.1.8 PCR inhibition

Only one PCR inhibition was observed for a liquid egg yolk sample (4949).

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:

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

3.1.2.1 Experimental design

During the studies run in 2008 and 2009, seven (matrix/strain) pairs were analyzed by the reference and the alternative methods (See Table 10). Four inoculation levels were tested; six replicates of each combination were prepared.

Table 10 - Defined (matrix/strain) pairs for the RLOD determination

Study	Category	Matrix	Inoculated strain	Origin	Protocol
Initial validation (2008)	Meat products	Ground beef	*L.monocytogenes* ½ b L49	Pâté	General
	Dairy products	Raw milk	*L.monocytogenes* L51	Cheese	General
	Fishery products	Raw fish fillet	*L.monocytogenes* ½ a L5	Smoked salmon	General
	Vegetables	Raw vegetable mix	*L.monocytogenes* 4 b L58	Salad	General
	Environmental samples	Process water	*L.monocytogenes* ½ c L28	Surface	General
Extension (2009)	Meat products	Rillettes	*L.monocytogenes* ½ b L49	Sausages	Specific
	Fishery products	Smoked Salmon	*L.monocytogenes* ½ a L5	Smoked salmon	Specific
Extension (2017)	Composite foods	Deli salad (Piémontaise)	*L.monocytogenes* Ad494	Pork deli salad	General

Contaminations and enumerations were carried out according to the AFNOR technical rules (protocol for low level inoculation). The contamination levels were:

- Level 1: 0 CFU/g or ml,
- Level 2: level necessary to obtain 0 to 50 % positive,
- Level 3: level necessary to obtain 50 to 75 % positive,
- Level 4: level necessary to obtain 100 % positive.

For the extension study (2017), one matrix/strain pair was tested for the composite food category: a deli salad (Piémontaise) inoculated with *L. monocytogenes* Ad494 (isolated from deli salad), using the protocol described in the EN ISO 16140-2:2016:

- 5 negative samples;
- 20 samples inoculated at a level providing fractional positive results;
- 5 samples inoculated at a higher level.

The matrix was stored for 48 h at 5°C ± 3°C after inoculation and before analysis.

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 in **Table 11**.

Table 11 – Presentation of RLOD before and after confirmation of the alternative method results

	Name	RLOD	RLODL	RLODU	b=ln (RLOD)	sd(b)	z-Test statistic	p-value
Initial validation study (2008)	Ground beef / *L.monocytogenes* 1/2 b 449	0,622	0,240	1,612	-0,474	0,476	0,996	1,681
	Raw milk / *L.monocytogenes* LS1	0,622	0,240	1,612	-0,474	0,476	0,996	1,681
	Raw fish fillet / L.*monocytogenes* 1/2 a L5	1,710	0,463	6,315	0,536	0,653	0,821	0,412
	Salad / *L.monocytogenes* 4b L58	0,838	0,294	2,389	-0,177	0,524	0,338	1,264
	Process water / *L.monocytogenes* 1/2 c L28	1,585	0,519	4,840	0,461	0,558	0,825	0,409
Extension (2009)	Rillettes / *L.monocytogenes* 1/2 b 449	1,000	0,406	2,462	0,000	0,450	0,000	1,000
	Smoked salmon / *L.monocytogenes* 1/2 a L5	0,738	0,303	1,796	-0,304	0,445	0,683	1,505
Extension (2017)	Deli salad / *L.monocytogenes* Ad494	1,249	0,550	2,835	0,222	0,410	0,542	0,588
Combined		0,949	0,690	1,304	-0,052	0,159	0,330	1,258

The RLOD meat the Acceptability Limit fixed at 2.5 for an unpaired study design for each matrix/strain pair and for all matrices combined.

The $LOD_{50\ \%}$ calculations according to Wilrich & Wilrich POD-LOD calculation program - version 9, 2017-09-23 test are given in Table 12.

Table 12 - LOD_{50} results

Category		(Strain / matrix) pair	Level of detection at 50% (CFU / samples size) according to Wilrich & Wilrich)	
			Reference method	Alternative method
Initial validation study 2008	2	Ground beef / *L.monocytogenes* 1/2 b 449	0.3 [0.2; 0.6]	0.2 [0.1; 0.4]
	3	Raw milk / *L.monocytogenes* LS1	0.5 [0.3; 0.9]	0.4 [0.2; 0.6]
	5	Raw fish fillet / *L. monocytogenes* 1/2 a L5	0.4 [0.2; 0.9]	0.6 [0.3; 1.3]
	4	Salad / *L.monocytogenes* 4b L58	0.8 [0.4; 1.4]	0.7 [0.4; 1.3]
	6	Process water /*L.monocytogenes* 1/2 c L28	0.2 [0.1; 0.4]	0.3 [0.2; 0.6]
Extension study 2008	2	Rillettes / *L.monocytogenes* /2 b 449	0.6 [0.4; 1.1]	0.6 [0.3; 1.1]
	5	Smoked salmon / *L.monocytogenes* 1/2 a L5	0.5 [0.3; 0.8]	0.3 [0.2; 0.6]
2017	1	Deli salad / *L. monocytogenes* Ad494	1.1 [0.6; 1.9]	1.3 [0.7; 2.4]
Combined			**0.6 [0.5; 0.7]**	**0.5 [0.4; 0.7]**

The LOD_{50} varies from 0.2 to 0.8 CFU/sample size for the reference method and from 0.2. to 0.7 CFU/ sample size for 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.

3.1.3.1 Test protocols

The inclusivity and the exclusivity of the method were studied by the analysis, of 60 positive strains and 62 negative strains, respectively.

- **Inclusivity**

Listeria monocytogenes strains were tested with the complete BAX® System PCR Assay for *Listeria monocytogenes* 24E protocol.

Exclusivity

The different non-*Listeria monocytogenes* strains were inoculated in a nutrient broth at a level around 10^5 cells per mL. After incubation for 24 hours at 37°C, the BAX® System PCR Assay for *Listeria monocytogenes* 24E test was performed.

3.1.3.2 Results

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

All the 60 *Listeria monocytogenes* strains were detected with the BAX® System PCR Assay for *Listeria monocytogenes* 24E method.
No cross reaction was observed, neither with the 32 *Listeria spp.* strains (species different from *monocytogenes)*, nor with the 30 non-*Listeria* strains.

3.1.4 Practicability

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

Storage conditions, modalities of use after first use	The storage temperature is between 2 to 8°C. Expiration date is shown on the kit package on the different reagent vials. - the reconstituted agent 1 should be stored at room temperature for 3 months maximum - the mixture agent 1 + agent 2 shall be used within 4 hours - lysis reagent + protease, once reconstituted, should be stored 15 days at 2-8°C		
Time-to-result	Steps	**Alternative method**	**Reference method**
	Enrichment step	Day 0	Day 0
	Transfer to selective broths (Fraser)	/	Day 1
	BAX® procedure	Day 1	/
	Test result **Negative result (if test is negative)**	**Day 1**	**/**
	Streaking of selective broths on selective media	Day 1	Day 1 and Day 3
	Reading the plates Confirmation tests	Day 2 to Day 3	Day 2 to Day 5
	Negative result (after streaking and negative confirmation if done, for example with a positive BAX® test)	**Day 2 to Day 9**	**Day 5 to Day 11**
	Positive result Confirmation by the reference method tests (CAMP tests, haemolysis, TSBYE broth) Confirmation with a biochemical gallery Confirmation on Brilliance *Listeria* Agar	**Day 8 to Day 9** **Day 3 to Day 4** **Day 2 to Day 3**	**Day 9 to Day 11** **Day 4 to Day 7**
Common steps with the reference method	None		

3.1.5 Method comparison study conclusion

The method comparison study conclusions are:

- ☒ The **BAX® System PCR Assay *L. monocytogenes* 24E** shows satisfying sensitivity results.
- ☒ The RLOD meet the Acceptability Limit for all the tested matrix/strain pairs.
- ☒ The alternative method is specific and selective.

3.2 Inter-laboratory study: organization and results

3.2.1 Study organisation

Samples were sent to 13 laboratories. A pasteurized milk was inoculated with a *Listeria monocytogenes* strain (origin « raw milk cheese »).

2 sets of 24 samples were prepared per laboratory, one for the BAX® System PCR Assay for *Listeria monocytogenes* 24E method and the other for the reference method. Each set of samples was divided in 3 levels of contamination, with 8 samples per level.

3.2.2 Experimental parameters controls

3.2.2.1 Contamination levels

The contamination levels and the sample codification were the following (see Table 13).

Table 13 - 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 (L0)	3-4-9-10-11-12-19-20	0	0		
Low level (L1)	1-2-5-6-13-14-21-22	3	4.8	1.2	11.0
High level (L2)	7-8-15-16-17-18-23-24	30	48	36	63

3.2.2.2 Logistic conditions

Temperature conditions are given in Table 14.

Table 14 - Sample temperatures at receipt

Laboratory	Reception Temperatures (°C)		Comments
	Communicated by the laboratory	Recorded by the probe	
A	3.5	1.9	/
B	4.0	5.1	/
C	2.0	2.0	/
D	7.2	6.8	/
E	0.4	0.9	/
F	10.0	5.2	/
G	7.3	6.6	/
H	17.0	15.9	Delivery at D2
I	15.5	14.5	Delivery at D2
J	Not communicated	13.6	Delivery at D2
K	Not communicated	8.2	/
L	5.6	4.7	/
M	7.2	6.5	/

Among the 13 laboratories, 3 received their samples at D2 at a temperature above 8.4°C. Labs I and J didn't carry out the analyses.
Due to the delivery conditions, the results of 10 laboratories were used for interpretation: A-B-C-D-E-F-G-K-L-M

3.2.3 Results analysis

3.2.3.1 Expert laboratory results

The results obtained by the expert laboratory are given in Table 15.

Table 15 – 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 of the collaborative laboratories retained for interpretation

The raw data are given in **Appendix 7**.

- ***Aerobic mesophilic flora enumeration***

Depending on the Lab results, the enumeration levels varied from < 1 to 54 000 CFU/ml.

- ***Listeria monocytogenes detection***

The results obtained by the 10 labs for the reference method are provided in Table 16 and the results obtained for the alternative method are in Table 17.

Table 16 - Positive results by the reference method

Collaborator	Contamination level		
	L0	L1	L2
A	0	8	8
B	0	8	8
C	0	8	8
D	0	8	8
E	0	8	8
F	0	8	8
G	0	8	8
K	0	8	8
L	0	8	8
M	0	8	8
TOTAL	$P_0 = 0$	$P_1 = 80$	$P_2 = 80$

Table 17 - Positive results (before and after confirmation) by the alternative method

Collaborators	Contamination level					
	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
K	0	0	7	7	8	8
L	0	0	8	8	8	8
M	0	0	8	8	8	8
TOTAL	**P_0 = 0**	**CP_0 = 0**	**P_1 = 79**	**CP_1 = 79**	**P_2 = 80**	**CP_2 = 80**

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 18).

Table 18 - Percentage specificity

Specificity for the reference method	$SP_{ref} = \left(1 - \left(\frac{P_0}{N\_}\right)\right) x\ 100\ \% =$	100.0 %
Specificity for the alternative method	$SP_{alt} = \left(1 - \left(\frac{CP_0}{N\_}\right)\right) x\ 100\ \% =$	100.0 %

N: number of all L0 tests
P_0 = total number of false-positive results obtained with the blank samples before confirmation
CP_0 = total number of false-positive results obtained with the blank samples

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)*

Fractional positive results were not obtained for this study. The calculations were done with the results obtained for Level 1. A summary of the results obtained by the collaborators with the reference and the alternative methods is provided in Table 19.

Table 19 - Summary of the obtained results with the reference method and the alternative method for Level 1

Response	Reference method positive (R+)	Reference method negative (R-)
Alternative method positive (A+)	Positive agreement (A+/R+) **PA = 79**	Positive deviation (R-/A+) **PD = 0**
Alternative method negative (A-)	Negative deviation (A-/R+) **ND = 1**	Negative agreement (A-/R-) **NA = 0**

Based on the data summarized in Table 19, 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 20).

Table 20 - Sensitivity, relative trueness and false positive ratio percentages

Sensitivity for the alternative method:	$SE_{alt} = \frac{(PA+PD)}{(PA+PD+ND)} x\ 100\% =$	98.8 %
Sensitivity for the reference method:	$SE_{ref} = \frac{(PA+ND)}{(PA+PD+ND)} x\ 100\% =$	100.0 %
Relative trueness	$RT = \frac{(PA+NA)}{N} x\ 100\% =$	98.8 %
False positive ratio for the alternative method	$FPR = \frac{FP}{NA} x\ 100\% =$	/

3.2.4.3 Interpretation of data

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

$$(p+)_{\text{ref}} = \frac{P_x}{N_x}$$

where

P_x = number of samples with a positive result obtained with the reference method at level x (L_1 or L_2) for all the collaborators

N_x = number of samples tested at level x (L_1 or L_2) with the reference method by all the collaborators

$$(p+)_{\text{alt}} = \frac{CP_x}{N_x}$$

where

CP_x = number of samples with a confirmed positive result obtained with the alternative method at level x (L_1 or L_2) for all the collaborators;

N_x = number of samples tested at level x (L_1 or L_2) with the alternative method by all the collaborators.

$$(\text{ND-PD})_{\max} = \sqrt{3N_x \times \left((p+)_{\text{ref}} + (p+)_{\text{alt}} - 2\left((p+)_{\text{ref}} \times (p+)_{\text{alt}}\right)\right)}$$

where

N_x = number of samples tested for level x (L_1 or L_2) with the reference method by all the collaborators.

The AL is not met when the observed value is higher than the AL. When the AL is not met, investigations should be made (e.g. root cause analysis) in order to provide an explanation of the observed results. Based on the AL and the additional information, it is decided whether the alternative method is regarded as not fit for purpose. The reasons for acceptance of the alternative method when the AL is not met shall be stated in the study report.

In this study, fractional recovery was observed at Level 1. The calculations are the following, according to the EN ISO 16140-2:2016 (See Table 21).

Table 21 - Calculations

N_X	80
$(p+)_{ref}$	1.0
$(p+)_{alt}$	1.0
AL = (ND - PD) max	4.77
ND - PD	1
Conclusion	**ND - PD < AL**

The ISO 16140-2 (2016) requirements are fulfilled as (ND - PD) is lower than the AL.

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

The LOD $_{50\%}$, the LOD $_{95\ \%}$ and the RLOD was calculated using the EN ISO 16140-2:2016 Excel spreadsheet available at https://standards.iso.org/iso/16140/-5/ed-1/en/RLOD_inter-lab-study_16140-2_AnnexF_ver1_28-06-2017.xls. The results are used only for information (see Table 22).

Table 22 - LOD $_{50\%}$, LOD $_{95\ \%}$ and RLOD

Method	LOD 50%	LOD 95%	RLOD
Reference	/	/	/
Alternative	0.76 [0.48;1.19]	3.28 [2.08;5.16]	

The calculation for $LOD_{50\%}$ (reference method), $LOD_{95\%}$ (reference method) and RLOD is not possible as all the samples gave positive results using the reference method for both inoculation levels (L1 and L2).

3.2.5 Inter-laboratory study conclusion

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

3.3 General conclusion

The **method comparison study conclusions** are:

☒ The **BAX® System PCR Assay *L. monocytogenes* 24E** shows satisfying sensitivity results.
☒ The RLOD meet the Acceptability Limit for all the tested matrix/strain pairs.
☒ The alternative method is specific and selective.

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

☒ The data and interpretations comply with the EN ISO 16140-2:2016 requirements. **The BAX® System PCR Assay *L. monocytogenes* 24E is considered equivalent to the ISO standard.**

Quimper, 17 February 2021

Lizaïg GOUGUET	Maryse RANNOU
Technical Study Manager	Project Manager
Validation of Alternative methods	Validation of Alternative methods
Food Safety & Quality	*Food Safety & Quality*
I hereby attest to the validation of the results of the analyses carried out under the COFRAC accreditation.	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 methods: BAX® System PCR Assay *L. monocytogenes* 24E and BAX® System X5 PCR Assay for *L. monocytogenes*

- 25 g + 225 ml of 24 LEB complete broth (ready to use) (BO1205S)
  or 24 LEB base (CM1107B) + selective supplement (SR0243E)
  (General protocol)

OR

- 25 g + 225 ml of 24 LEB complete broth (ready to use) (BO1205S)
  + a non-selective supplement (BO1204M)
  or 24 LEB base (CM1107B) + selective supplement (SR0243E)
  + a non-selective supplement (BO1204M)
  (Specific protocol for smoked fish, raw and cooked delicatessen)

↓

Incubation for 26 h ± 2 h at 37°C

↓

BAX System 24E	BAX System X5
40 µl lysis Agent 1 + 10 µl lysis Agent 2 ↓ 50 µl combined agents in a Cluster tube + 0.5 ml enriched sample ↓ 30 min at 37°C ↓ 200 µl reagent (150 µl protease + 12 ml buffer lysis) in a cluster tube + 5 µl heat-treated enriched sample ↓ 55°C for 30 min 95°C for 10 min Cool at 2 - 8°C for 5 min ↓ PCR on **30 µl** lysate ↓ Automatic measurement of the fluorescence using the BAX® Q7	150 µl protease + 200 µl Agent 2 + 12 ml lysis buffer ↓ 200 µl reagent in a Cluster tube + 5 µl enriched sample ↓ 55°C for 30 min 95°C for 10 min Cool at 2 - 8°C for 5 min PCR on **50 µl** lysate ↓ Automatic measurement of the fluorescence using the BAX® X5

↓

Confirmation of positive result by:

- *Using the conventional tests described by CEN or ISO, including purification step*
- *Streaking 10 µl of 24 enriched sample onto Brilliance Listeria Agar plates, incubated for 24-48 h at 37°C*
- *Streaking 0.1 ml onto agar Listeria plate according to Ottaviani and Agosti (O&A), incubated for 24-48 h at 37°C.*

The presence of characteristic colonies is sufficient to confirm the presence of Listeria species

Appendix 2 – Flow diagram of the reference method

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

Test portion (25 g or 25 ml)

↓

Primary enrichment medium (half Fraser broth) (225 g or 225 ml)

↓

Incubation at 30°C ± for 25 h ± 1 h

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

↓

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

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

↓

Incubation of Agar *Listeria* according to
Ottaviani and Agosti for 24 h ± 2 h and an additional 24 h ± 3 h at 37°C ± 1°C
Incubation of second selective medium according
to the chosen medium as specified by the manufacturer

↓

Confirmation:
Gram
Catalase

Appendix 3 – Artificial contamination of samples (IPL Study)

Laboratory	Sample N°	Products	Cat.	Artificial contamination					Global result
				Strain	Origin	Injury protocol	Injury measurement	Inoculation level/ sample	
IPL	**L3**	**Beef meat**	MP1	*Listeria monocytogenes* 1/2a	Rillettes	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	ND	<10	+
IPL	**L4**	**Beef meat**	MP1	*Listeria monocytogenes* 1/2a	Rillettes	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	ND	<10	+
IPL	**L1**	**Ground beef**	MP2	*Listeria monocytogenes* 1/2a	Rillettes	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	ND	<10	+
IPL	**L2**	**Goulash**	MP3	*Listeria monocytogenes* 1/2a	Rillettes	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	ND	<10	+
IPL	**L18**	**Beef balls with tomato sauce**	MP3	*Listeria monocytogenes* 1/2c	Beef	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	0.6	16	+
IPL	**L19**	**Scallop cream**	MP3	*Listeria monocytogenes* 1/2c	Beef	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	0.6	14	+
IPL	**L12**	**Pollock fillet**	SF1	*Listeria monocytogenes* 1/2a	Smoked salmon	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	0.3	4.5	+
IPL	**AG6**	**Trout fillet**	SF1	*Listeria monocytogenes*	Perch fillet	30 min at -80°C, puis 30 min at 55°C	0.7	4.0	+
IPL	**AG7**	**Whiting fillet**	SF1	*Listeria monocytogenes*	Perch fillet	30 min at -80°C, puis 30 min at 55°C	0.7	8.0	+
IPL	**AG8**	**Saithe fillet**	SF1	*Listeria monocytogenes*	Perch fillet	30 min at -80°C, puis 30 min at 55°C	0.7	12.0	+
IPL	**L7**	**Saint Jacques with vegetables**	SF3	*Listeria monocytogenes*	Smoked salmon	49 h at 4°C, 30 min at 55°C, 30 min at -80°C	0.2	5	+
IPL	**L13**	**Fish with bordelaise sauce**	SF3	*Listeria monocytogenes* 1/2a	Smoked salmon	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	0.3	4	+
IPL	**L14**	**Frozen breaded fish**	SF3	*Listeria monocytogenes* 1/2a	Smoked salmon	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	0.3	3.5	+
IPL	**L15**	**Frozen breaded fish**	SF3	*Listeria monocytogenes* 1/2a	Fish shell	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	0.8	2.8	+
IPL	**L17**	**Salmon with hollandaise sauce**	SF3	*Listeria monocytogenes* 1/2a	Fish shell	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	0.8	5.6	+
IPL	**L20**	**Salmon meal**	SF3	*Listeria monocytogenes* 1/2a	Fish shell	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	0.8	8.4	+
IPL	**H5**	**Brie cheese**	DP1	*Listeria monocytogenes* 1/2b	Maroille (raw milk cheese)	45 min at 55°C, 30 min at -80°C	0.9	9	+
IPL	**H8**	**Brie cheese**	DP1	*Listeria monocytogenes* 1/2b	Maroille (raw milk cheese)	45 min at 55°C, 30 min at -80°C	0.9	12.6	+
IPL	**J21**	**Camembert pasteurized milk cheese**	DP1	*Listeria monocytogenes* 4e	Reblochon (raw milk cheese)	45 min at 55°C, 30 min at -80°C	0.6	10	+

Laboratory	Sample N°	Products	Cat.	Artificial contamination					Global result
				Strain	Origin	Injury protocol	Injury measurement	Inoculation level/ sample	
IPL	**J22**	**Camembert de Normandie raw milk cheese**	DP1	*Listeria monocytogenes* 4	Reblochon (raw milk cheese)	45 min at 55°C, 30 min at -80°C	0.6	9	+
IPL	**J23**	**Reblochon raw milk cheese**	DP1	*Listeria monocytogenes* 4e	Reblochon (raw milk cheese)	45 min at 55°C, 30 min at -80°C	0.6	8	+
IPL	**N15**	**Soft cheese**	DP1	*Listeria monocytogenes* 4b	Rind Munster	40% NaCl, 48 h at +4°C	0.5	3.2	+
IPL	**N16**	**Camembert cheese**	DP1	*Listeria monocytogenes* 4b	Rind Munster	40% NaCl, 48 h at +4°C	0.5	6.4	+
IPL	**N17**	**Light cheese**	DP1	*Listeria monocytogenes* 4b	Rind Munster	40% NaCl, 48 h at+4°C	0.5	9.6	+
IPL	**N18**	**Gouda cheese**	DP1	*Listeria monocytogenes* 4b	Rind Munster	40% NaCl, 48 h at +4°C	0.5	12.8	+
IPL	**N19**	**Brie de Meaux raw milk cheese**	DP1	*Listeria monocytogenes* 1/2c	Rind Munster	40% NaCl, 48 h at +4°C	0.6	0.5	-
IPL	**J24**	**Blue cheese**	DP2	*Listeria monocytogenes* 4e	Reblochon (raw milk cheese)	45 min at 55°C, 30 min at -80°C	0.6	10	+
IPL	**F10**	**Skim milk powder**	DP3	*Listeria monocytogenes* 1/2a	Rind Munster	60 min at 55°C, 30 min at -80°C	>2,5	1.5	-
IPL	**F11**	**Skim milk powder**	DP3	*Listeria monocytogenes* 1/2a	Rind Munster	60 min at 55°C, 30 min at -80°C	>2,5	2.5	-
IPL	**H1**	**Whipped cream puff**	DP3	*Listeria monocytogenes* 1/2a	Rind Munster	45 min at 55°C, 30 minutes at -80°C	0.8	28	+
IPL	**N3**	**Raw milk**	DP3	*Listeria monocytogenes*	Coulommiers (raw milk cheese)	40% NaCl, 48 h at +4°C	0.5	9	+
IPL	**N20**	**Cream**	DP3	*Listeria monocytogenes* 1/2c	Rind Munster	40% NaCl, 48 h at +4°C	0.6	0.8	+
IPL	**P2**	**Princesse des ïles pastry**	DP3	*Listeria monocytogenes* 1/2a	Rind Munster	40% NaCl, 48 h at +4°C	0.4	21	+
IPL	**P16**	**Milk powder**	DP3	*Listeria monocytogenes* 1/2b	Maroille (raw milk cheese)	20% NaCl, 24 h at -80°C	0.7	4	+
IPL	**P23**	**Whipped cream puff**	DP3	*Listeria monocytogenes* 1/2b	Maroille (raw milk cheese)	20% NaCl, 24 h at -80°C	0.7	6	+
IPL	**R16**	**Raw milk**	DP3	*Listeria monocytogenes*	Munster	45 min at 55°C, 30 min at -80°C	0.2	1.5	-
IPL	**U2**	**Chocolate mousse**	DP3	*Listeria monocytogenes*	Mozzarella	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	1.4	6	+
IPL	**U3**	**Saint Honoré pastry**	DP3	*Listeria monocytogenes*	Mozzarella	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	1.4	9	+
IPL	**L9**	**Broccoli**	VG2	*Listeria monocytogenes* 4b	Salad	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	0.2	1.2	+
IPL	**L11**	**Grated carrots**	VG2	*Listeria monocytogenes* 4b	salad	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	0.2	2.4	+
IPL	**Y3**	**Broccoli**	VG2	*Listeria monocytogenes* 1/2	Potatoes	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	0.7	2.8	+
IPL	**Z11**	**Mixed vegetables**	VG2	*Listeria monocytogenes*	Fried potatoes	45 min at 55°C, 30 min at -80°C	0.4	15	+

Laboratory	Sample N°	Products	Cat.	Artificial contamination					Global result
				Strain	Origin	Injury protocol	Injury measurement	Inoculation level/ sample	
IPL	**L10**	**Rice salad**	VG3	*Listeria monocytogenes* 4b	Salad	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	0.2	1.8	+
IPL	**P19**	**Cucumber salad**	VG3	*Listeria monocytogenes* 1/2a	Sauté potatoes	20% NaCl, 24 h at -80°C	1.4	1.2	-
IPL	**P20**	**Grated carrots salad**	VG3	*Listeria monocytogenes* 1/2a	Sauté potatoes	20% NaCl, 24 h at -80°C	1.4	2.4	-
IPL	**P22**	**Rice salad**	VG3	*Listeria monocytogenes* 1/2a	Sauté potatoes	20% NaCl, 24 h at - 80°C	1.4	4.8	-
IPL	**P25**	**Celery with mayonnaise**	VG3	*Listeria monocytogenes* 1/2a	Sauté potatoes	20% NaCl, 24 h at -80°C	1.4	3.6	-
IPL	**Y1**	**Zucchinis flan**	VG3	*Listeria monocytogenes* 1/2	Potatoes	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	0.7	2	-
IPL	**Y2**	**Spinaches with cream**	VG3	*Listeria monocytogenes* 1/2	Potatoes	48 h at 4°C, 30 min at 55°C, 30 min at -80°C	0.7	2.4	-
IPL	**Z9**	**Mashed celery**	VG3	*Listeria monocytogenes*	Fried potatoes	45 min at 55°C, 30 min at -80°C	0.4	10	+
IPL	**Z10**	**Lenses salad**	VG3	*Listeria monocytogenes*	Fried potatoes	45 min at 55°C, 30 min at -80°C	0.4	12.5	+
IPL	**K9**	**Water of wash lines pea**	EN1	*Listeria monocytogenes*	Environmental sample	45 min at 55°C, 30 min at -80°C	2.4	8.6	+
IPL	**X1**	**Process water fish retail**	EN1	*Listeria monocytogenes* 1/2a	Smoked salmon	45 min at 55°C, 30 min at -80°C	0.8	8.1	+
IPL	**X2**	**Water process**	EN1	*Listeria monocytogenes*	Perch fillet	45 min at 55°C, 30 min at -80°C	0.6	9	+
IPL	**X5**	**Water process**	EN1	*Listeria monocytogenes*	Spinach	45 min at 55°C, 30 min at -80°C	0.4	11	+
IPL	**X3**	**Sponge**	EN2	*Listeria monocytogenes* 1/2a	Smoked salmon	45 min at 55°C, 30 min at -80°C	0.8	16.2	+

ADRIA STUDY (2017)

Laboratory	Sample N°	Products	Artificial contamination					Global result
			Strain	Origin	Injury protocol	Injury measurement	Inoculation level/sample	
ADRIA	**5138**	**Pizza**	*L. monocytogenes* Ad267	Ham	Seeding 48h 2-8°C	/	1-1-2-0-2 (1,2)	+
ADRIA	**5139**	**Pizza**	*L. monocytogenes* Ad268	Ham	Seeding 48h 2-8°C	/	0-1-0-0-2 (0,6)	-
ADRIA	**5140**	**Pizza**	*L. monocytogenes* Ad267	Ham	Seeding 48h 2-8°C	/	1-1-2-0-2 (1,2)	+
ADRIA	**5141**	**Pizza**	*L. monocytogenes* Ad268	Ham	Seeding 48h 2-8°C	/	0-1-0-0-2 (0,6)	+
ADRIA	**5142**	**RTE sandwich**	*L. monocytogenes* Ad267	Ham	Seeding 48h 2-8°C	/	1-1-2-0-2 (1,2)	+
ADRIA	**5143**	**RTE sandwich**	*L. monocytogenes* Ad268	Ham	Seeding 48h 2-8°C	/	0-1-0-0-2 (0,6)	+
ADRIA	**5144**	**RTE sandwich**	*L. monocytogenes* Ad267	Ham	Seeding 48h 2-8°C	/	1-1-2-0-2 (1,2)	+
ADRIA	**5145**	**RTE sandwich**	*L. monocytogenes* Ad268	Ham	Seeding 48h 2-8°C	/	0-1-0-0-2 (0,6)	+
ADRIA	**5146**	**RTE sandwich**	*L. monocytogenes* Ad267	Ham	Seeding 48h 2-8°C	/	1-1-2-0-2 (1,2)	+
ADRIA	**5148**	**RTE sandwich**	*L. monocytogenes* Ad267	Ham	Seeding 48h 2-8°C	/	1-1-2-0-2 (1,2)	+
ADRIA	**5149**	**RTE sandwich**	*L. monocytogenes* Ad268	Ham	Seeding 48h 2-8°C	/	0-1-0-0-2 (0,6)	+
ADRIA	**5150**	**Deli-salad**	*L. innocua* Ad1230	Salad	Seeding 48h 2-8°C	/	0-1-0-0-2 (0,6)	-
ADRIA	**5151**	**Deli-salad**	*L. monocytogenes* Ad2598	Salad	Seeding 48h 2-8°C	/	0-3-1-0-0 (0,8)	+
ADRIA	**5152**	**Deli-salad**	*L. innocua* Ad1230	Salad	Seeding 48h 2-8°C	/	1-0-1-1-0 (0,6)	-
ADRIA	**5153**	**Deli-salad**	*L. monocytogenes* Ad2598	Salad	Seeding 48h 2-8°C	/	0-3-1-0-0 (0,8)	+
ADRIA	**5154**	**Deli-salad**	*L. innocua* Ad1230	Salad	Seeding 48h 2-8°C	/	1-0-1-1-0 (0,6)	-
ADRIA	**5156**	**Deli-salad**	*L. innocua* Ad1230	Salad	Seeding 48h 2-8°C	/	1-0-1-1-0 (0,6)	-
ADRIA	**5157**	**Deli-salad**	*L. monocytogenes* Ad2598	Salad	Seeding 48h 2-8°C	/	0-3-1-0-0 (0,8)	+
ADRIA	**5159**	**Raw milk cheese**	*L. monocytogenes* Ad665	Raw milk	Seeding 48h 2-8°C	/	0-2-2-0-3 (1,4)	+
ADRIA	**5163**	**Raw milk cheese**	*L. monocytogenes* Ad665	Raw milk	Seeding 48h 2-8°C	/	0-2-2-0-3 (1,4)	+
ADRIA	**5339**	**Pastry**	*L. monocytogenes* Ad551	Pastry	Seeding 48h 2-8°C	/	2-0-3-0-3 (1,6)	-
ADRIA	**5340**	**Pastry**	*L. monocytogenes* Ad551	Pastry	Seeding 48h 2-8°C	/	2-0-3-0-3 (1,6)	+
ADRIA	**5691**	**RTRH Food**	*L. monocytogenes* 32.183	RTRH food	Seeding 48h 2-8°C	/	2-0-2-2-1 (2,4)	+
ADRIA	**5943**	**Rinse water**	*L. monocytogenes* Ad2519	Environmental sample	Seeding 48h 2-8°C	/	0-2-3-3-0 (1,6)	+
ADRIA	**5944**	**Rinse water**	*L. monocytogenes* Ad2519	Environmental sample	Seeding 48h 2-8°C	/	0-2-3-3-0 (1,6)	+

Laboratory	Sample N°	Products	Artificial contamination					Global result
			Strain	Origin	Injury protocol	Injury measurement	Inoculation level/sample	
ADRIA	**5945**	**Rinse water**	*L. monocytogenes* Ad2519	Environmental sample	Seeding 48h 2-8°C	/	0-2-3-3-0 (1,6)	+
ADRIA	**5946**	**Rinse water**	*L. monocytogenes* Ad2600	Environmental sample	Seeding 48h 2-8°C	/	1-3-4-1-1 (2,0)	+
ADRIA	**5947**	**Rinse water**	*L. monocytogenes* Ad2600	Environmental sample	Seeding 48h 2-8°C	/	1-3-4-1-1 (2,0)	+
ADRIA	**5949**	**Surface sample**	*L. monocytogenes* Ad1271	Environmental sample	Seeding 48h 2-8°C	/	2-1-1-0-2 (1,2)	+
ADRIA	**5950**	**Surface sample**	*L. monocytogenes* Ad1271	Environmental sample	Seeding 48h 2-8°C	/	2-1-1-0-2 (1,2)	+
ADRIA	**5951**	**Surface sample**	*L. monocytogenes* Ad1271	Environmental sample	Seeding 48h 2-8°C	/	2-1-1-0-2 (1,2)	+
ADRIA	**5952**	**Surface sample**	*L. monocytogenes* Ad1271	Environmental sample	Seeding 48h 2-8°C	/	2-1-1-0-2 (1,2)	+
ADRIA	**5953**	**Surface sample**	*L. monocytogenes* Ad1272	Environmental sample	Seeding 48h 2-8°C	/	2-1-1-1-3 (1,6)	+
ADRIA	**5956**	**Raw milk**	*L. monocytogenes* Ad1784	Milk	Seeding 48h 2-8°C	/	1-2-2-0-1 (1,2)	+
ADRIA	**5958**	**Raw milk**	*L. monocytogenes* Ad1785	Milk	Seeding 48h 2-8°C	/	6-0-2-1-2 (2,2)	+
ADRIA	**6273**	**Eggplant**	*L. monocytogenes* Ad1212	Vegetables	Seeding 48h 2-8°C	/	1-1-1-2-0 (1,0)	+
ADRIA	**6274**	**Zucchini**	*L. monocytogenes* Ad1238	Vegetables	Seeding 48h 2-8°C	/	1-0-1-0-0 (0,4)	+
ADRIA	**6276**	**Tomato**	*L. monocytogenes* Ad1238	Vegetables	Seeding 48h 2-8°C	/	1-0-1-0-0 (0,4)	-

Appendix 4 – Sensitivity study: raw data (2008 and 2009 studies carried out by IPL, and 2017 extension study carried out by ADRIA)

IPL Legend

Total bacteria growth

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

Distribution of flora

A = pure culture of suspicious colonies
B = mix with a majority of suspicious colonies
C = mix with a minority of suspicious colonies
D = mix with rare suspicious colonies
E = absence of suspicious colonies
(x) : x characteristic colonies of *Listeria* if x ≤ 5

- (L)(M)(H) (A to D) : presence of blue colonies without halo
+ (L)(M)(H) (A to D) : presence of characteristic colony of *L. monocytogenes*

FN: false negative
PS: additional positive
FP: false positive

ADRIA Legend

H-: characteristic *Listeria* colonies without halo
H+: characteristic *Listeria* 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
*: new extraction
L. mono: *Listeria monocytogenes*

♦ Analyses performed according to the COFRAC accreditation

COMPOSITE FOODS																		
Laboratory	Sample N°	Products (French name)	Products	Reference method: ISO 11290-1/A1						Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPA-RISON	Protocol	Category	Type
				FRASER 1/2		FRASER		CONFIRMATION	RESULT L.mono	BAX® *L.mono* test	CONFIRMATION 24 LEB			FINAL RESULT				
											Brilliance D1 (IPL)	*Brilliance* D2 (IPL)						
				O&A1	P1	O&A2	P2	*IDENTIFICATION*			O&A D1 (Adria)	O&A D2 (Adria)	*IDENTIFICATION*					
IPL	K4	Sandwich thon	Tuna sandwich	+LA	+LA	+MA	+MA	*L. monocytogenes*	+	+	+LB	+MB	*L. monocytogenes*	+	**PA**	G	1	a
ADRIA	4866	Allumette poulet fumé	RTE chicken meat	H-d	+ (4)	H-	+	*L. welshimeri*	-	**-/-/-**	H+ (2)	H+ (2)	*L. monocytogenes*	-	**NA**	G	1	a
ADRIA	**5142**	**Sandwich jambon tomates œufs**	**RTE sandwich**	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	1	a
ADRIA	**5143**	**Sandwich jambon tomates œufs**	**RTE sandwich**	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	1	a
ADRIA	**5144**	**Sandwich jambon beurre**	**RTE sandwich**	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	1	a
ADRIA	**5145**	**Sandwich jambon beurre**	**RTE sandwich**	H+	+	H+	+	*L. monocytogenes*	+	-	-	-	/	-	**ND**	G	1	a
ADRIA	**5146**	**Sandwich jambon emmental**	**RTE sandwich**	H+	+	H+	+	*L. monocytogenes*	+	-	-	-	/	-	**ND**	G	1	a
ADRIA	**5148**	**Sandwich jambon emmental**	**RTE sandwich**	-	-	-	-	/	-	+	H+	H+	*L. monocytogenes*	+	**PD**	G	1	a
ADRIA	**5149**	**Sandwich jambon emmental**	**RTE sandwich**	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	1	a
ADRIA	**5150**	**Salade jambon emmental**	**Deli-salad**	-	-	st	st	/	-	-	-	-	/	-	**NA**	G	1	a
ADRIA	**5151**	**Salade jambon emmental**	**Deli-salad**	H+ (1)	+ (11)	H+	+	*L. monocytogenes*	+	-	-	-	/	-	**ND**	G	1	a
ADRIA	**5152**	**Salade jambon emmental**	**Deli-salad**	H-	+	H-	+	*L. innocua*	-	-	-	-	/	-	**NA**	G	1	a
ADRIA	**5153**	**Salade jambon emmental**	**Deli-salad**	st	st	-	-	/	-	+	H+	H+	*L. monocytogenes*	+	**PD**	G	1	a
ADRIA	**5154**	**Salade poulet emmental**	**Deli-salad**	-	-	st	st	/	-	-	H-	H-	*L. innocua*	-	**NA**	G	1	a
ADRIA	**5156**	**Salade césar poulet parmesan crouton**	**Deli-salad**	H-	+	H-	+	*L. innocua*	-	-	-	-	/	-	**NA**	G	1	a
ADRIA	**5157**	**Salade césar poulet parmesan crouton**	**Deli-salad**	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	1	a
ADRIA	5388	Sandwich poulet crudités	Sandwich with chicken	-	st	st	st	/	-	-	-	-	/	-	**NA**	G	1	a
ADRIA	5392	Salade pomme de terre hareng	RTE Food	st	st	st	st	/	-	-	-	-	/	-	**NA**	G	1	a
ADRIA	5934	Club sandwich rosette	Sandwich with pork	-	-	-	-	/	-	-	-	-	/	-	**NA**	G	1	a
ADRIA	5935	Piémontaise au jambon	Deli-salad	st	-	-	-	/	-	-	st	st	/	-	**NA**	G	1	a
ADRIA	5936	Piémontaise au jambon	Deli-salad	st	st	st	st	/	-	-	st	st	/	-	**NA**	G	1	a
ADRIA	4864	Poêlée de pommes de terre	RTRH potatoes	-	-	-	-	/	-	-	-	-	/	-	**NA**	G	1	b
ADRIA	4865	Galette soja tomates	RTRH food	H-d	-	-	-	NC	-	+/+/+	-	- (H+ after subculture in Fraser 1)	L. monocytogenes (after subculture in Fraser 1)	+	**PD**	G	1	b
ADRIA	4867	Poêlée de riz au poulet	RTRH chicken meat and rice	H-d	-	H+/H-	+	*L. monocytogenes / L. innocua*	+	+	H-d	H-d (+on Palcam)	*L. monocytogenes*	+	**PA**	G	1	b
ADRIA	4869	Sauce colombo	RTRH dressing	-	-	-	-	/	-	-	-	-	/	-	**NA**	G	1	b
ADRIA	4870	Galette de blé noir épaisse	RTRH food	H+	+	H+	+	*L. monocytogenes*	+	+	H+/H-d	H+/H-d	*L. monocytogenes* / NC	+	**PA**	G	1	b
ADRIA	4871	Galette quinoa provençale	RTRH food	H-d	-	-	-	*NC, NI*	-	-	H-d	H-d	NI	-	**NA**	G	1	b
ADRIA	4875	Blanquette de poulet	RTRH food	st	-	-	-	/	-	-	-	-		-	**NA**	G	1	b
ADRIA	4876	Paella	Paella	H+ (2)	-	H+	+	*L. monocytogenes*	+	+	H-d	H-d (+on Palcam)	*L.monocytogenes / L. innocua*	+	**PA**	G	1	b
ADRIA	4877	Galette boulgour lentilles	RTRH food	H-d	-	-	-	NC	-	-	-	-	/	-	**NA**	G	1	b
ADRIA	4878	Tajine olives	RTRH food	-	-	-	-	/	-	-	-	-	/	-	**NA**	G	1	b
ADRIA	4958	Brandade de morue parmentier	RTRH food	-	-	-	-	/	-	-	-	-	/	-	**NA**	G	1	b
ADRIA	**5138**	**Pizza jambon champignons de Paris**	**Pizza**	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	1	b
ADRIA	**5139**	**Pizza jambon champignons de Paris**	**Pizza**	st	st	st	st	/	-	-	st	-	/	-	**NA**	G	1	b
ADRIA	**5140**	**Pizza pâte fine jambon fromage**	**Pizza**	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	1	b
ADRIA	**5141**	**Pizza pâte fine jambon fromage**	**Pizza**	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	1	b
ADRIA	5384	Riz au thon olives tomates	RTRH Foods	H+	+	H+	+	*L. monocytogenes*	+	-	-	-	/	-	**ND**	G	1	b
ADRIA	5385	Pommes de terre salardaise	RTRH Foods	-	-	-	-	/	-	-	-	-	/	-	**NA**	G	1	b
ADRIA	5386	Pommes de terre au beurre	RTRH Foods	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	1	b
ADRIA	5387	Bouchée à la reine	RTRH Foods	st	st	st	st	/	-	-	-	-	/	-	**NA**	G	1	b
ADRIA	5389	Friand au fromage	RTRH Foods	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	1	b
ADRIA	5390	Tartinable formage saumon	RTE Food	-	-	-	-	/	-	-	-	-	/	-	**NA**	G	1	b
ADRIA	5391	Friand au fromage	RTRH Foods	st	-	-	-	/	-	-	-	-	/	-	**NA**	G	1	b
ADRIA	**5691**	**Croissant au jambon**	**RTRH Food**	-	-	-	-	/	-	+	H+	H+	*L. monocytogenes*	+	**PD**	G	1	b
IPL	**H1**		**Whipped cream puff**	+LA	+LA	+HA	+HA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	1	c

COMPOSITE FOODS																		
Laboratory	Sample N°	Products (French name)	Products	Reference method: ISO 11290-1/A1						Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPA-RISON	Protocol	Category	Type
				FRASER 1/2		FRASER		CONFIRMATION	RESULT L.mono	BAX® *L.mono* test	CONFIRMATION 24 LEB			FINAL RESULT				
				O&A1	P1	O&A2	P2	*IDENTIFICATION*			*Brilliance* D1 (IPL) O&A D1 (Adria)	*Brilliance* D2 (IPL) O&A D2 (Adria)	*IDENTIFICATION*					
IPL	J8		Cookie dough	-ME	-ME	+MB	+MB	*L.monocytogenes*	+	-	-ME	/	/	-	ND	G	1	c
IPL	**P2**		**Princesse des ïles pastry**	+LB	+LB	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	1	c
IPL	**P23**		**Whipped cream puff**	Ø	Ø	+MA	+MA	*L.monocytogenes*	+	+	+LB	+LB	*L.monocytogenes*	+	**PA**	G	1	c
IPL	P26		Chocolate cream pastry	Ø	Ø	-LE	Ø	/	-	-	-ME	/	/	-	**NA**	G	1	c
IPL	R12		Whipped cream puff	Ø	Ø	-LE	-LE	/	-	-	-ME	-ME	/	-	**NA**	G	1	c
IPL	R17		Flan	Ø	Ø	Ø	Ø	/	-	-	-LE	-LE	/	-	**NA**	G	1	c
IPL	**U2**		**Chocolate mousse**	+MA	+MA	+MA	+MB	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	1	c
IPL	**U3**		**Saint Honoré pastry**	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+LB	+MB	*L.monocytogenes*	+	**PA**	G	1	c
ADRIA	4863	Plaque à croissant	Pastry	-	-	-	-	/	-	-	-	-	/	-	**NA**	G	1	c
ADRIA	4868	Omelette orient	Omelet	st	-	-	-	/	-	-	-	-	/	-	**NA**	G	1	c
ADRIA	4872	Mille feuilles	Pastry	st	st	st	st	/	-	-	-	-	/	-	**NA**	G	1	c
ADRIA	4873	Omelette	Omelet	-	-	-	-	/	-	-	-	-	/	-	**NA**	G	1	c
ADRIA	4874	Eclair au chocolat	Pastry	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	1	c
ADRIA	4946	Blanc d'œuf en neige	Egg white	st	st	st	-	/	-	-	-	-	/	-	**NA**	G	1	c
ADRIA	4947	Œuf entier liquide pasteurisé	Pasteurized liquid whole egg	st	st	st	st	/	-	-	st	st	/	-	**NA**	G	1	c
ADRIA	4948	Œuf entier liquide pasteurisé	Pasteurized liquid whole egg	st	st	st	st	/	-	-	st	-	/	-	**NA**	G	1	c
ADRIA	4949	Jaune d'œuf liquide pasteurisé	Pasteurized liquid yolk egg	st	st	st	st	/	-	i/-	st	st	/	-	**NA**	G	1	c
ADRIA	**5339**	**Framboisier**	**Pastry**	-	-	-	-	/	-	-	-	-	/	-	**NA**	G	1	c
ADRIA	**5340**	**Choux chantilly**	**Pastry**	H-d	+	H+	+	*L. monocytogenes*	+	+	-	H+	*L. monocytogenes*	+	**PA**	G	1	c

MEAT PRODUCTS																		
Laboratory	Sample N°	Products (French name)	Products	Reference method: ISO 11290-1/A1						Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPA-RISON	Protocol	Category	Type
				FRASER 1/2		FRASER		CONFIRMATION	RESULT L.mono	BAX® *L.mono* test	CONFIRMATION 24 LEB			FINAL RESULT				
											Brilliance D1 (IPL)	*Brilliance* D2 (IPL)	*IDENTIFICATION*					
				O&A1	P1	O&A2	P2	*IDENTIFICATION*			O&A D1 (Adria)	O&A D2 (Adria)						
IPL	A3		Pork chops	-LA	+LA	-MA	+MB	*L.welshimeri*	-	-	-MA	-MA	*L.welshimeri*	-	**NA**	G	2	a
IPL	A10		Guinea fowl leg	+MB	+MB	+MB	+MB	*L.monocytogenes* *L.welshimeri*	+	+	+MB	+HB	*L.monocytogenes* *L.innocua*	+	**PA**	G	2	a
IPL	B8		Rumsteak	Ø	Ø	Ø	Ø	/	-	-	-LE	-LE	/	-	**NA**	G	2	a
IPL	I11		Chicken leg	+LA	+LB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	+	+MB	+MB	*L.monocytogenes* *L.innocua*	+	**PA**	G	2	a
IPL	J12		Duck leg	Ø	Ø	Ø	Ø	/	-	+	Ø	Ø	/	-	**PPNA**	G	2	a
IPL	K5		Chicken leg	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	2	a
IPL	**L3**		**Beef meat**	+LA	+LA	+MA	+MB	*L.monocytogenes*	+	+	+MB	+HB	*L.monocytogenes*	+	**PA**	G	2	a
IPL	**L4**		**Beef meat**	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	+	+LA	+MA	*L.monocytogenes*	+	**PA**	G	2	a
IPL	V8		Chicken fillet	+LB	+LB	-MB	+MB	*L.monocytogenes* *L.welshimeri*	+	+	-MB	-MB Fraser: -MA RLM: +HD	*L.welshimeri* *L.monocytogenes*	+	**PA**	G	2	a
IPL	V9		Duck	-LA(2)	+LA(1)	-LA	+LA	*L.welshimeri*	-	-	-MB	-MB	*L.welshimeri*	-	**NA**	G	2	a
IPL	AA1		Ground beef	-ME	-ME	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	2	a
IPL	AA3		Pork chops	-LE	-LE	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	2	a
IPL	AD2		Pork chops	-LA(5)	+LA	-MA	+MB	*L.welshimeri*	-	-	-MA	-MB	*L.welshimeri*	-	**NA**	G	2	a
IPL	AD3		Horse meat	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	2	a
IPL	AD8		Chicken meat	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	2	a
IPL	AD9		Turkey meat	Ø	Ø	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	2	a
IPL	AE1		Horse meat	+LB	+LB	+MA	+MA	*L.monocytogenes*	+	-	Ø	Ø	/	-	**ND**	G	2	a
IPL	AE2		Pork chops	+LB	+LB	+MB	+MB	*L.monocytogenes* *L.welshimeri*	+	-	+LD	/	*L.monocytogenes* *L.welshimeri*	-	**ND**	G	2	a
IPL	AE3		Turkey meat	+LB	+LA(3)	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	2	a
IPL	AF8		Pork meat	+LB	+LB	+MB	+MB	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	2	a
IPL	AG1		Beef meat	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	2	a
IPL	AG2		Pork chops	-LE	-LE	-LE	-LE	/	-	-	-LE	/	/	-	**NA**	G	2	a
IPL	AG3		Beef meat	Ø	Ø	-ME	Ø	/	-	-	-ME	/	/	-	**NA**	G	2	a
IPL	A2		Ground beef	-LA	+LA	-MA	+MB	*L.innocua*	-	-	-MB	-MA	*L.innocua*	-	**NA**	G	2	a
IPL	B1		Ground beef	Ø	Ø	Ø	Ø	/	-	-	Ø	Ø	/	-	**NA**	G	2	a
IPL	D4		Ground beef	-LA	+LA	+MB	+MA	*L.innocua* *(Bacillus)*	-	-	-MB	-MB	*L.innocua*	-	**NA**	G	2	a
IPL	K7		Chopped steak	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	2	a
IPL	**L1**		**Ground beef**	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	2	a
IPL	M5		Ground beef	+LA	+LA	+MA	+MA	*L.ivanovii*	-	-	+MA	+MB	*L.ivanovii*	-	**NA**	G	2	a
IPL	M6		Ground beef	+LA	+LA	+MA	+MA	*L.ivanovii*	-	-	-ME	/	/	-	**NA**	G	2	a
IPL	N11		Ground horse meat	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	2	a
IPL	P12		Ground beef	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	+	+LA	+LB	*L.monocytogenes*	+	**PA**	G	2	a
IPL	AA2		Chopped steak	-LE	-LE	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	2	a
IPL	AD5		Ground beef	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MA	*L.monocytogenes*	+	**PA**	G	2	a
IPL	AD7		Ground beef	-LA	+LA	-MB	+MB	*L.welshimeri*	-	+	-HB	-MB Fraser: -MA RLM: +HD	*L.welshimeri* *L.monocytogenes*	+	**PD**	G	2	a
IPL	AD15		Ground beef	Ø	-LE	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	2	a
IPL	AF2		Halal beef minced meat	+MB	+MB	+MB	+MB	*L.monocytogenes*	+	+	+HB	+HB	*L.monocytogenes*	+	**PA**	G	2	a
IPL	AF4		Frozen ground beef	+LB	+LB	+MB	+MB	*L.monocytogenes* *L.welshimeri*	+	+	+MB	+MB	*L.monocytogenes* *L.innocua*	+	**PA**	G	2	a
IPL	AF5		Ground beef	+MB	+MB	+MB	+MB	*L.monocytogenes* *L.welshimeri*	+	+	+MB	+MB	*L.monocytogenes* *L.welshimeri*	+	**PA**	G	2	a
IPL	AF6		Ground beef	+MA	+MB	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	2	a
IPL	AF7		Ground beef	-LE	-LE	-ME	-ME	/	-	-	-LE	/	/	-	**NA**	G	2	a

MEAT PRODUCTS																		
Laboratory	Sample N°	Products (French name)	Products	Reference method: ISO 11290-1/A1					RESULT L.mono	Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPA-RISON	Protocol	Category	Type
				FRASER 1/2		FRASER		CONFIRMATION		BAX® *L.mono* test	CONFIRMATION 24 LEB			FINAL RESULT				
											Brilliance D1 (IPL)	*Brilliance* D2 (IPL)	IDENTIFICATION					
				O&A1	P1	O&A2	P2	IDENTIFICATION			O&A D1 (Adria)	O&A D2 (Adria)						
IPL	AF9		Ground beef	-LB	+LB	-MA	+MB	*L.monocytogenes* *L.welshimeri*	+	+	-MB	-MB +MB: Palcam and RLM	*L.welshimeri* *L.monocytogenes*	+	**PA**	G	2	a
IPL	AF10		Ground beef	+MB	+MB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	+	+MB	+MB	*L.monocytogenes* *L.innocua*	+	**PA**	G	2	a
IPL	AF11		Ground beef	+LB	+LB	+MB	+MB	*L.monocytogenes* *L.welshimeri*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	2	a
IPL	AG5		Ground beef	+LA	+LA	+MB	+MB	*L.monocytogenes*	+	+	-ME	+MA (5 plates)	*L.monocytogenes*	+	**PA**	G	2	a
IPL	A4		Hamburger	+LA	+LB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	+	+MB	+MB	*L.monocytogenes* *L.innocua*	+	**PA**	G	2	b
IPL	A5		Beef balls	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	2	b
IPL	B5		Hamburger	Ø	Ø	-MA	+MA	*L.welshimeri*	-	-	-MA	-MA	*L.grayi*	-	**NA**	G	2	b
IPL	D1		Hamburger	-LE	-LE	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	2	b
IPL	AD1		Beef balls	-MD	+MD	-MB	+LD	*L.innocua*	-	-	-MB	-MB	*L.innocua*	-	**NA**	G	2	b
IPL	AD4		Hamburger	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	2	b
IPL	AE4		Raw hamburger	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	2	b
IPL	AE5		Seasoned ground beef	-LE	-LE	Ø	-MB?	/	-	-	-LE	/	/	-	**NA**	G	2	b
IPL	AF1		Frozen hamburger	+MB	+MB	+MB	+MB	*L.monocytogenes* *L.welshimeri*	+	+	+MB	+MB	*L.monocytogenes* *L.welshimeri*	+	**PA**	G	2	b
IPL	AF3		Frozen hamburger	+LB	+LB	+MB	+MB	*L.monocytogenes* *L.welshimeri*	+	+	+MB	+MB	*L.monocytogenes* *L.welshimeri*	+	**PA**	G	2	b
IPL	B9		Foie gras	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+MA	+HA	*L.monocytogenes*	+	**PA**	G	2	b
IPL	D7		Foie gras	Ø	Ø	+HA	+MA	*L.monocytogenes*	+	+	-LD	+LD	*L.monocytogenes*	+	**PA**	G	2	b
IPL	H11		Roast pork	Ø	Ø	-ME	-ME	/	-	-	Ø	/	/	-	**NA**	G	2	b
IPL	H12		Roast pork with ketchup	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	2	b
IPL	**L2**		**Goulash**	+LA	+LA	+MB	+MB	*L.monocytogenes* *L.welshimeri*	+	+	+LB	+MB	*L.monocytogenes* *L.welshimeri*	+	**PA**	G	2	b
IPL	**L18**		**Beef balls with tomato sauce**	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+MA	+MB	*L.monocytogenes*	+	**PA**	G	2	b
IPL	**L19**		**Scallop cream**	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	2	b
IPL	P11		Pie	Ø	Ø	Ø	-LE	/	-	-	-LE	/	/	-	**NA**	G	2	b
IPL	AD6		Chicken with Thai sauce	-LA	+LA	-MB	+MB	*L.welshimeri*	-	-	-ME	/	/	-	**NA**	G	2	b
ADRIA	6458♦	Canard laqué	RTRH duck meat	-	-	-	-	/	-	-	-	-	/	-	**NA**	G	2	b
IPL	A5		Chipolatas	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	S	2	c
IPL	C1		Toulouse sausage	-ME	-LE	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	S	2	c
IPL	C7		Sausage	-ME	-ME	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	S	2	c
IPL	C8		Bacon	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	S	2	c
IPL	C9		Merguez	-LE	-LE	+MA	+MA	*L.monocytogenes*	+	-	-ME	-ME Fr: +MA	*L.monocytogenes*	-	**ND**	S	2	c
IPL	C12		Black pudding	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MA	*L.monocytogenes*	+	**PA**	S	2	c
IPL	C13		Savoie sausage	+MB	+LB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	+	+MB	-MA	*L.monocytogenes* *L.innocua*	+	**PA**	S	2	c
IPL	C14		Toulouse sausage	+LB	+LB	+MB	+MB	*L.monocytogenes* *L.welshimeri*	+	+	-MB +MB	-MB	*L.monocytogenes* *L.welshimeri*	+	**PA**	S	2	c
IPL	D2		Sausage	-LE	-LE	-LE	-ME	/	-	-	-ME	/	/	-	**NA**	S	2	c
IPL	D3		Sausage with herbs	Ø	Ø	Ø	-ME	/	-	-	-ME	/	/	-	**NA**	S	2	c
IPL	D4		Brat's	+LA	+LA	+MA	+MB	*L.innocua*	-	+	+LB	+MB	*L.monocytogenes* *L.innocua*	+	**PD**	S	2	c
IPL	D8		Merguez	+LC	+LC	+MB	+MB	*L.monocytogenes* *L.welshimeri*	+	+	+MB	+MB	*L.monocytogenes* *L.welshimeri*	+	**PA**	S	2	c
IPL	D10		Sausage	+LB	+LB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	+	+MB	+MB	*L.monocytogenes* *L.innocua*	+	**PA**	S	2	c
IPL	F1		Chipolatas	+LB	+LB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	+	+MB	+MB	*L.monocytogenes* *L.innocua*	+	**PA**	S	2	c

MEAT PRODUCTS																		
Laboratory	Sample N°	Products (French name)	Products	Reference method: ISO 11290-1/A1						Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPA-RISON	Protocol	Category	Type
				FRASER 1/2		FRASER		CONFIRMATION	RESULT L.mono	BAX® *L.mono* test	CONFIRMATION 24 LEB			FINAL RESULT				
											Brilliance D1 (IPL)	*Brilliance* D2 (IPL)	*IDENTIFICATION*					
				O&A1	P1	O&A2	P2	*IDENTIFICATION*			O&A D1 (Adria)	O&A D2 (Adria)						
IPL	F2		Chipolatas	+MB	+MB	+MB	+HB	*L.monocytogenes* *L.innocua*	+	+	+MB	+MB	*L.monocytogenes* *L.innocua*	+	**PA**	S	2	c
IPL	G1		Sausage	-LE	-LE	-ME	-ME	/	-	-	-ME	/	/	-	**NA**	S	2	c
IPL	G2		Sausage	-ME	-ME	+MB	+MB	*L.monocytogenes*	+	-	-ME	/	/	-	**ND**	S	2	c
IPL	G3		Merguez	-ME	-ME	-ME	-ME	/	-	-	-ME	/	/	-	**NA**	S	2	c
IPL	G4		Chipolatas	-LE	-LE	-ME	-ME	/	-	-	-ME	/	/	-	**NA**	S	2	c
IPL	A6		Frankfurter	+LA	+LB	+MA	+MB	*L.monocytogenes*	+	+	+MA	+LA	*L.monocytogenes*	+	**PA**	S	2	c
IPL	B12		Raw ham	Ø	Ø	Ø	Ø	/	-	+	+MB	+MB	*L.monocytogenes*	+	**PD**	S	2	c
IPL	C2		Pâté	Ø	Ø	Ø	Ø	/	-	-	-MB	-MB	*L.innocua*	-	**NA**	S	2	c
IPL	C3		Raw ham	-LE	-LE	Ø	-ME	/	-	-	-ME	/	/	-	**NA**	S	2	c
IPL	C4		Pâté with olives	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	S	2	c
IPL	C5		Terrine of rabbit	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	S	2	c
IPL	C6		Pâté	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	S	2	c
IPL	C10		Saucisson	-LE	-LE	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	S	2	c
IPL	C11		White ham	+MB	+MB	+MD	+MB	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	S	2	c
IPL	C15		Terrine	+LD	+LD	+MA	+MA	*L.monocytogenes*	+	-	-MB	-MB Fr: Ø	/	-	**ND**	S	2	c
IPL	D1		Foie gras	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	S	2	c
IPL	D5		Pâté	Ø	Ø	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	S	2	c
IPL	D7		Ham	Ø	-LE	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	S	2	c
IPL	D9		Pâté with pickles	Ø	Ø	Ø	Ø	/	-	+	+MA	+MA	*L.monocytogenes*	+	**PD**	S	2	c
IPL	D11		Pâté	Ø	Ø	Ø	Ø	/	-	+	+MA	+MA	*L.monocytogenes*	+	**PD**	S	2	c
IPL	D13		Raw ham	Ø	-LE	Ø	-ME	/	-	-	-ME	/	/	-	**NA**	S	2	c
IPL	D14		Pâté	-LE	-LE	-LE	-ME	/	-	-	-ME	/	/	-	**NA**	S	2	c
IPL	D15		Raw ham	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MA	*L.monocytogenes*	+	**PA**	S	2	c
IPL	D16		Smoked sausage	-LE	-LE	Ø	-LE	/	-	-	-ME	/	/	-	**NA**	S	2	c
IPL	D19		Chorizo	-LE	-LE	+MD	+MC	*L.welshimeri*	-	-	-ME	+LB(1)	*L.welshimeri*	-	**NA**	S	2	c
IPL	D20		Pâté with pickles	Ø	Ø	Ø	Ø	/	-	+	+MA	+MA	*L.monocytogenes*	+	**PD**	S	2	c
IPL	D21		Pâté with pickles	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	S	2	c
IPL	E11		Rillettes	+LA	+LC	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	S	2	c
IPL	E12		Bacon	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	S	2	c
IPL	E13		Pâté	+MB	+MB	+MB	+MB	*L.monocytogenes* *L.seeligeri*	+	+	+MA	+MB	*L.monocytogenes*	+	**PA**	S	2	c
IPL	E14		Terrine	-LE	-ME	-LE	-ME	/	-	-	-ME	/	/	-	**NA**	S	2	c
IPL	E15		Bayonne ham	Ø	Ø	Ø	-ME	/	-	-	-LE	/	/	-	**NA**	S	2	c
IPL	E16		Raw ham	Ø	-LE	Ø	-LE	/	-	-	-ME	/	/	-	**NA**	S	2	c
IPL	A11		Pâté with pickles	Ø	Ø	Ø	Ø	/	-	+	Ø	Ø Fr: +LA	*L.monocytogenes*	+	**PD**	S	2	c

DAIRY PRODUCTS																		
Laboratory	Sample N°	Products (French name)	Products	Reference method: ISO 11290-1/A1						Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPA-RISON	Protocol	Category	Type
				FRASER 1/2		FRASER		CONFIRMATION	RESULT L.mono	BAX® *L.mono* test	CONFIRMATION 24 LEB			FINAL RESULT				
											Brilliance D1 (IPL)	*Brilliance* D2 (IPL)	*IDENTIFICATION*					
				O&A1	P1	O&A2	P2	*IDENTIFICATION*			O&A D1 (Adria)	O&A D2 (Adria)						
IPL	C11		Maroilles raw milk cheese	-LE	Ø	-LE	Ø	/	-	-	+LD	+LD	*L.innocua*	-	**NA**	G	3	a
IPL	C16		Epoisses raw milk cheese	+LB	+LB	+MB	+MB	*L.monocytogenes L.innocua*	+	-	-ME	/	/	-	**ND**	G	3	a
IPL	D3		Maroilles raw milk cheese	+LB	+LB	+MB	+MB	*L. monocytogenes / L. innocua*	+	+	+MB	+MB	*L. monocytogenes / L. innocua*	+	**PA**	G	3	a
IPL	E1		Maroilles raw milk cheese	+LA	+LA	+LB	+LB	*L. monocytogenes / L. innocua*	+	+	+MB	+MB	*L. monocytogenes / L. innocua*	+	**PA**	G	3	a
IPL	E2		Maroilles raw milk cheese	+MA	+MA	+MB	+MB	*L. monocytogenes / L. innocua*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	3	a
IPL	E5		Comté raw milk cheese	-MA	+MB	-MB	+MB	*L.innocua*	-	-	-ME	-ME	Ø	-	**NA**	G	3	a
IPL	**J22**		**Camembert de Normandie raw milk cheese**	Ø	-LE	Ø	Ø	/	-	+	+LA	+MB	*L.monocytogenes*	+	**PD**	G	3	a
IPL	**J23**		**Reblochon raw milk cheese**	-LE	-ME	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L. monocytogenes / L. innocua*	+	**PA**	G	3	a
IPL	K12		Camembert raw milk cheese	-LE	-LE	Ø	-LE	/	-	-	-LE	/	/	-	**NA**	G	3	a
IPL	K13		Camembert de Normandie raw milk cheese	Ø	-ME	-ME	-ME	/	-	-	-HE	/	/	-	**NA**	G	3	a
IPL	**N19**		**Brie de Meaux raw milk cheese**	Ø	Ø	-LE	-LE	/	-	-	-ME	/	/	-	**NA**	G	3	a
IPL	P8		Brie de Meaux raw milk cheese	Ø	Ø	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	3	a
IPL	P13		Reblochon raw milk cheese	-MA	+MA	-MA	+MA	*L.innocua*	-	-	-MB	-MB	*L.innocua*	-	**NA**	G	3	a
IPL	Q7		Reblochon raw milk cheese	-ME	Ø	-LE	Ø	/	-	-	-ME	/	/	-	**NA**	G	3	a
IPL	Q8		Epoisses raw milk cheese	-LE	-LE	-LE	-LE	/	-	-	-MD	-MD	*L.welshimeri*	-	**NA**	G	3	a
IPL	T12		Roquefort cheese	Ø	Ø	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	3	a
ADRIA	**5159**	**Reblochon de Savoie au Lait cru**	**Raw milk cheese**	H+	+	H+	+	*L. monocytogenes*	+	+	H+d	H+d	*L. monocytogenes*	+	**PA**	G	3	a
ADRIA	**5163**	**Brie de Meaux lait cru**	**Raw milk cheese**	H+	+	H+	+	*L. monocytogenes*	+	**-/+/-**	H+	H+	*L. monocytogenes*	-	**ND**	G	3	a
ADRIA	5393	Maroile au lait cru	Raw milk cheese	H+ (13)	+ (4)	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	3	a
ADRIA	5394	Fromage au lait cru de vache	Raw milk cheese	H+ (8)	+	H+	+	*L. monocytogenes*	+	+	H+	H+/H-d	*L. monocytogenes / L. innocua*	+	**PA**	G	3	a
IPL	B11		Raw milk	Ø	Ø	Ø	Ø	/	-	-	-LE	Ø	/	-	**NA**	G	3	b
IPL	C17		Raw milk	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	3	b
IPL	C20		Raw milk	-LE	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	3	b
IPL	**N3**		**Raw milk**	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	+	+MA	+MB	*L. monocytogenes / L. innocua*	+	**PA**	G	3	b
IPL	R2		Raw milk	-LE	-LE	-ME	-ME	/	-	-	-ME	-ME	/	-	**NA**	G	3	b
IPL	R3		Raw milk	-LE	-LE	-MA	+MB	*L.innocua*	-	-	-LD	-LD	*Bacillus*	-	**NA**	G	3	b
IPL	**R16**		**Raw milk**	-LE	-LE	-LE	-LE	/	-	-	-ME	-ME	/	-	**NA**	G	3	b
ADRIA	4942	Lait cru fermier	Raw milk	H-	+	H-	+	*L. innocua*	-	-	-	-	/	-	**NA**	G	3	b
ADRIA	4943	Lait cru fermier	Raw milk	st	st	-	-	/	-	-	-	-	/	-	**NA**	G	3	b
ADRIA	4944	Lait cru fermier	Raw milk	st	st	-	-	/	-	-	-	-	/	-	**NA**	G	3	b
ADRIA	4945	Lait cu de vache jersiaise	Raw milk	-	st	-	-	/	-	-	-	-	/	-	**NA**	G	3	b
ADRIA	5395	Lait cru de brebis	Raw milk	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	3	b
ADRIA	5396	Lait cru de brebis	Raw milk	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	3	b
ADRIA	5397	Lait cru de brebis	Raw milk	H+	+	H+	+	*L. monocytogenes*	+	+	H+/H-	H+/H-	*L. monocytogenes / L. innocua*	+	**PA**	G	3	b
ADRIA	5398	Lait cru de brebis	Raw milk	st	-	-	-	/	-	-	-	-	/	-	**NA**	G	3	b
ADRIA	5399	Lait cru de brebis	Raw milk	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	3	b
ADRIA	5400	Lait cru de brebis	Raw milk	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	3	b
ADRIA	5401	Lait cru de brebis	Raw milk	H+ (8)	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	3	b

DAIRY PRODUCTS																		
Laboratory	Sample N°	Products (French name)	Products	Reference method: ISO 11290-1/A1						Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPA-RISON	Protocol	Category	Type
				FRASER 1/2		FRASER		CONFIRMATION	RESULT L.mono	BAX® *L.mono* test	CONFIRMATION 24 LEB			FINAL RESULT				
											Brilliance D1 (IPL)	*Brilliance* D2 (IPL)	*IDENTIFICATION*					
				O&A1	P1	O&A2	P2	*IDENTIFICATION*			O&A D1 (Adria)	O&A D2 (Adria)						
ADRIA	5402	Lait cru de brebis	Raw milk	H+	+	H+	+	*L. monocytogenes*	+	+	H+/H-	H+/H-	*L. monocytogenes / L. innocua*	+	**PA**	G	3	b
ADRIA	**5956**	**Lait cru fermier**	**Raw milk**	H+ (2)	+ (1)	H+	+	*L. monocytogenes*	+	**-/-/-**	H+	H+	*L. monocytogenes*	-	**ND**	G	3	b
ADRIA	**5958**	**Lait cru fermier**	**Raw milk**	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	3	b
ADRIA	6287	Lait cru fermier	Raw milk	H+/H-	+	H+/H-	+	*L. monocytogenes / L. innocua*	+	**-/-/-**	H-	H-	*L. innocua*	-	**ND**	G	3	b
IPL	**H5**		**Brie cheese**	+LA	+LA	+HA	+HA	*L.monocytogenes*	+	+	+HA	+MA	*L. monocytogenes / L. innocua*	+	**PA**	G	3	c
IPL	**H8**		**Brie cheese**	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	3	c
IPL	**J21**		**Camembert pasteurized milk cheese**	Ø	-LE	Ø	Ø	/	-	+	+LB	+MB	*L.monocytogenes*	+	**PD**	G	3	c
IPL	K14		Camembert cheese	-LE	-LE	-HE	-HE	/	-	-	-ME	/	/	-	**NA**	G	3	c
IPL	**N15**		**Soft cheese**	+MB	+MB	+LA	+LB	*L.monocytogenes*	+	+	+MD	+MB	*L.monocytogenes*	+	**PA**	G	3	c
IPL	**N16**		**Camembert cheese**	-LE	Ø	Ø	Ø	/	-	+	+LB	+MB	*L.monocytogenes*	+	**PD**	G	3	c
IPL	**N17**		**Light cheese**	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	+	+MB	+HB	*L.monocytogenes*	+	**PA**	G	3	c
IPL	**N18**		**Gouda cheese**	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+LB	+MB	*L.monocytogenes*	+	**PA**	G	3	c
IPL	P9		Coulommier pasteurized milk cheese	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	3	c
IPL	P14		Soft cheese	-LE	-LE	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	3	c
IPL	C14		Ossau Iraty cheese	+MA	+MA	+MB	+MB	*L.monocytogenes L.innocua*	+	+	-MB	+MB	*L.monocytogenes L.innocua*	+	**PA**	G	3	c
IPL	**J24**		**Blue cheese**	Ø	-LE	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	3	c
IPL	K15		Goat's cheese	Ø	-LE	-LE	-ME	/	-	-	Ø	/	/	-	**NA**	G	3	c
IPL	P5		Ewe's milk cheese	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	3	c
IPL	P7		Angeroux	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	3	c
IPL	P10		Goat's cheese	-ME	-LE	-LE	-LE	/	-	-	-LE	/	/	-	**NA**	G	3	c
IPL	Q9		Goat's cheese	-LE	-LE	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	3	c
IPL	R18		Petit Bethmale cheese	-LE	Ø	-LE	-LE	/	-	-	-ME	-ME	/	-	**NA**	G	3	c
IPL	T3		Goat's cheese	Ø	Ø	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	3	c
IPL	T4		Goat's cheese	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	3	c
IPL	T7		Blue cheese	Ø	-LE	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	3	c
IPL	T8		Goat's cheese	-LE	Ø	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	3	c
IPL	T14		Goat's cheese	-LE	-LE	-LE	-LE	/	-	-	-ME	/	/	-	**NA**	G	3	c
IPL	T18		Goat's cheese	-LE	-LE	-ME	-ME	/	-	-	-LE	/	/	-	**NA**	G	3	c
IPL	**F10**		**Skim milk powder**	-ME	-ME	-ME	-ME	/	-	-	-HE	-ME	/	-	**NA**	G	3	c
IPL	**F11**		**Skim milk powder**	-LE	-LE	Ø	-LE	/	-	-	-ME	/	/	-	**NA**	G	3	c
IPL	**N20**		**Cream**	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+LA	+LA	*L.monocytogenes*	+	**PA**	G	3	c
IPL	**P16**		**Milk powder**	-LE	-LE	-LE	-LE	/	-	+	+LB	+LB	*L.monocytogenes*	+	**PD**	G	3	c

FRUIT AND VEGETABLES																		
Laboratory	Sample N°	Products (French name)	Products	Reference method: ISO 11290-1/A1						Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPA-RISON	Protocol	Category	Type
				FRASER 1/2		FRASER		CONFIRMATION	RESULT L.mono	BAX® *L.mono* test	CONFIRMATION 24 LEB			FINAL RESULT				
											Brilliance D1 (IPL)	*Brilliance* D2 (IPL)	*IDENTIFICATION*					
				O&A1	P1	O&A2	P2	*IDENTIFICATION*			O&A D1 (Adria)	O&A D2 (Adria)						
IPL	R14		Frozen coco beans	Ø	Ø	-ME	-ME	/	-	-	-ME	-ME	*Bacillus*	-	**NA**	G	4	a
IPL	S12		Frozen spinaches	+MA	+MA	+MB*	+MB*	*L.monocytogenes* *L.innocua*	+	-	-MA	-MA	*L.innocua*	-	**ND**	G	4	a
IPL	T15		Frozen carrots	-LE	-LE	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	4	a
IPL	T17		Frozen leeks	Ø	-LE	-ME	-ME	/	-	-	Ø	/	/	-	**NA**	G	4	a
IPL	T19		Frozen onions	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	4	a
IPL	V6		Frozen spinaches	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	4	a
IPL	V10		Frozen cauliflower	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	4	a
IPL	V11		Frozen zucchini	Ø	-LE	-ME	-ME	/	-	-	-LE	/	/	-	**NA**	G	4	a
IPL	F6		Green peas	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	4	a
IPL	F7		Spinaches	+MA	+LA	+MA	+MB	*L.monocytogenes*	+	+	+MA	+MB	*L.monocytogenes*	+	**PA**	G	4	a
IPL	J15		Green peas	+LB	+LB	+MB	+MB	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	4	a
IPL	**L9**		**Broccoli**	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+HA	+HA	*L.monocytogenes*	+	**PA**	G	4	a
IPL	P3		Red cabbage	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	4	a
IPL	P4		White cabbage	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	4	a
IPL	P18		Radish	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	4	a
IPL	**Y3**		**Broccoli**	Ø	-LE	+MB	+MB	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	4	a
IPL	Y10		Cauliflower	Ø	Ø	Ø	-LE	/	-	-	-LE	-LE (5boites) Fraser : Ø	/	-	**NA**	G	4	a
ADRIA	**6273**	**Aubergine**	**Eggplant**	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	4	a
ADRIA	**6274**	**Courgette**	**Zucchini**	H+	-	H+	+	*L. monocytogenes*	+	**-/-/-**	H+ni	H+	*L. monocytogenes*	-	**ND**	G	4	a
ADRIA	**6276**	**Tomate**	**Tomato**	st	st	st	st	/	-	-	-	-	/	-	**NA**	G	4	a
IPL	B10		Frozen French fries	+MA	+MA	+MB	+MB	*L.monocytogenes*	+	+	+MB	+HB	*L.monocytogenes* *L.grayi*	+	**PA**	G	4	b
IPL	C2		Frozen French fries	+MA	+MA	+MB	+MB	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	4	b
IPL	C9		Frozen French fries	+MB	+MB	+MB	+MB	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	4	b
IPL	C10		Frozen fried potatoes	+LA	+LA	+MB	+MB	*L.monocytogenes*	+	+	+MD	+MB	*L.monocytogenes*	+	**PA**	G	4	b
IPL	C13		Frozen French fries	+MA	+MA	+MB	+MB	*L.monocytogenes* *L.innocua*	+	+	+MB	+MB	*L.monocytogenes* *L.innocua*	+	**PA**	G	4	b
IPL	C15		Frozen French fries	-LE	-LE	-ME	-ME	/	-	+	+MA	+MB	*L.monocytogenes*	+	**PD**	G	4	b
IPL	E11		Frozen French fries	+MA	+LA	+MB	+LB	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	4	b
IPL	F4		Frozen French fries	+MB	+MB	+MB	+HB	*L.monocytogenes*	+	+	+MA	+MB	*L.monocytogenes*	+	**PA**	G	4	b
IPL	F9		Frozen French fries	+MA	+HB	+MB	+HB	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	4	b
IPL	J13		Frozen French fries	+MB	+MB	+MB	+MB	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	4	b
IPL	Q1		Frozen green peas	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	4	b
IPL	Q6		Frozen French fries	+MA	+MA	+MB	+MB	*L.monocytogenes*	+	+	+MA	+MB	*L.monocytogenes*	+	**PA**	G	4	b
IPL	R1		Frozen spinaches	-MA	+MA	-MA	+MA	*L.innocua*	-	-	-MB	-MB	*L.innocua*	-	**NA**	G	4	b
IPL	**L11**		**Grated carrots**	+LA	+LA	+MA	+HA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	4	b
IPL	P21		Salad	Ø	Ø	Ø	-LE	/	-	-	Ø	/	/	-	**NA**	G	4	b
IPL	T5		Grated carrots	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	4	b
IPL	W5		Salad	+LA	+LA	+MB	+MB	*L.ivanovii*	-	-	+LB	+LD	*L.ivanovii*	-	**NA**	G	4	b
IPL	W6		Salad	+LA	+LA	+MB	+MB	*L.ivanovii*	-	-	+MB	+HB	*L.ivanovii*	-	**NA**	G	4	b
IPL	W7		Salad	-MA	+MA	-MA	+MA	*L.innocua*	-	-	-MA	-MA	*L.innocua*	-	**NA**	G	4	b
IPL	W8		Salad	-MA	+MA	-MA	+MA	*L.innocua*	-	-	-MA	-MA	*L.innocua*	-	**NA**	G	4	b
IPL	W9		Salad	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	4	b
IPL	**Z11**		**Mixed vegetables**	Ø	Ø	+MA	+MA	*L.monocytogenes*	+	+	+HB	+MB	*L.monocytogenes*	+	**PA**	G	4	b
IPL	T0-1		Mixed vegetables	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	4	b
IPL	T16		Frozen marinated peppers	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	4	c
IPL	C3		Fried mixed vegetables	+LA	+LA	+MA	+MB	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	4	c
IPL	C4		Cakes cauliflower - broccoli	-LA	+LA	+MB	+MB	*L.innocua* *L.monocytogenes*	+	+	+MB	-MA	*L.monocytogenes* *L.innocua*	+	**PA**	G	4	c
IPL	D5		Potatoes	+MA	+MA	+MB	+MB	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	4	c

FRUIT AND VEGETABLES																			
Laboratory	Sample N°	Products (French name)	Products	Reference method: ISO 11290-1/A1						Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPA-RISON	Protocol	Category	Type
				FRASER 1/2		FRASER		CONFIRMATION	RESULT L.mono	BAX® *L.mono* test	CONFIRMATION 24 LEB			FINAL RESULT				
											Brilliance D1 (IPL)	*Brilliance* D2 (IPL)	*IDENTIFICATION*					
				O&A1	P1	O&A2	P2	*IDENTIFICATION*			O&A D1 (Adria)	O&A D2 (Adria)						
IPL	F8		Tabbouleh	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	4	c
IPL	I12		Fried mixed vegetables	+MA	+MB	+MB	+MB	*L.monocytogenes*	+	-	-ME	-ME	/	-	**ND**	G	4	c
IPL	**L10**		**Rice salad**	+MA	+MA	+MA	+HA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	4	c
IPL	P17		Mashed potatoes	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	4	c
IPL	**P19**		**Cucumber salad**	-LE	-LE	-ME	-ME	/	-	-	-LE	/	/	-	**NA**	G	4	c
IPL	**P20**		**Grated carrots salad**	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	4	c
IPL	**P22**		**Rice salad**	Ø	Ø	-LE	-ME	/	-	-	+LA	+MB	*L.monocytogenes*	-	**NA**	G	4	c
IPL	P24		Fried mixed vegetables	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	4	c
IPL	**P25**		**Celery with mayonnaise**	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	4	c
IPL	Q3		Fried mixed vegetables	-LE	-LE	-ME	-ME	/	-	-	-ME	/	/	-	**NA**	G	4	c
IPL	Q4		Fried mixed vegetables	-LE	-LE	Ø	Ø	/	-	-	-MD	-MD	*L.innocua*	-	**NA**	G	4	c
IPL	Q5		Fried mixed vegetables	Ø	Ø	-ME	-ME	/	-	-	-ME	/	/	-	**NA**	G	4	c
IPL	T6		Guacamole	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	4	c
IPL	T9		Beetroot salad	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	4	c
IPL	T10		Houmous	-LE	-LE	Ø	-LE	/	-	-	-LE	/	/	-	**NA**	G	4	c
IPL	U10		Salad with cabbage and carrots	-LB	+LB	-MB	+MB	*L.welshimeri*	-	-	-ME	Fraser : -MA	*L.welshimeri*	-	**NA**	G	4	c
IPL	U11		Fruit salad	-LB	+LB	-MB	+MB	*L.welshimeri*	-	+	-LB	-LB	*L.welshimeri*	-	**PPNA**	G	4	c
IPL	U12		Zucchini salad	-LB	+LB	-LB	+LB	*L.welshimeri*	-	-	-ME	Fraser : -MD	*L.welshimeri*	-	**NA**	G	4	c
IPL	U13		Salad with potatoes	-LB	+MB	-MB	+LB	*L.welshimeri*	-	-	-ME	Fraser : -MA	*L.welshimeri*	-	**NA**	G	4	c
IPL	W14		Mashed carrots	+LB	+LB	+MB	+MB	*L.ivanovii*	-	-	+MB	+LB	*L.ivanovii*	-	**NA**	G	4	c
IPL	**Y1**		**Zucchinis flan**	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	4	c
IPL	**Y2**		**Spinaches with cream**	Ø	Ø	-LE	-LE	/	-	-	-LE	/	/	-	**NA**	G	4	c
IPL	Y6		Cauliflower flan	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	4	c
IPL	Y8		Tomatoes salad	Ø	+LD	-MA	+MB	*L.welshimeri*	-	-	-MB	-LB	*L.welshimeri*	-	**NA**	G	4	c
IPL	Z8		Mashed potatoes	+LB	+LB	+MA	+MB	*L.monocytogenes*	+	+	+MB	+HB	*L.monocytogenes*	+	**PA**	G	4	c
IPL	**Z9**		**Mashed celery**	+MA	+LD	+MB	+MB	*L.monocytogenes*	+	+	+HA	+MA	*L.monocytogenes*	+	**PA**	G	4	c
IPL	**Z10**		**Lenses salad**	+MA	+MA	+MB	+MB	*L.monocytogenes*	+	+	+HA	+MB	*L.monocytogenes*	+	**PA**	G	4	c
ADRIA	5754	Epinards cuisinés	Cooked spinach	H+	+	H+/H-d	+	*L. monocytogenes / L. innocua*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	4	c

SEAFOOD AND FISHERY PRODUCTS																		
Laboratory	Sample N°	Products (French name)	Products	Reference method: ISO 11290-1/A1						Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPA-RISON	Protocol	Category	Type
				FRASER 1/2		FRASER		CONFIRMATION	RESULT L.mono	BAX® *L.mono* test	CONFIRMATION 24 LEB			FINAL RESULT				
											Brilliance D1 (IPL)	*Brilliance* D2 (IPL)	*IDENTIFICATION*					
				O&A1	P1	O&A2	P2	*IDENTIFICATION*			O&A D1 (Adria)	O&A D2 (Adria)						
IPL	B7		Whiting fillet	-MB	+MB	-MA	+MA	*L.innocua*	-	-	-MA	-MA	*L.innocua*	-	**NA**	G	5	a
IPL	C6		Herring fillet	-MB	+MB	-MA	+MA	*L.innocua*	-	-	-MA	-MA	*L.innocua*	-	**NA**	G	5	a
IPL	C7		Cod fillet	Ø	Ø	Ø	Ø	/	-	+	+HD	+MB	*L.monocytogenes*	+	**PD**	G	5	a
IPL	C8		Haddock fillet	Ø	-LE	Ø	-LE	/	-	-	-ME	-ME	/	-	**NA**	G	5	a
IPL	C18		Salmon filet	Ø	-LE	Ø	Ø	/	-	-	-HE	/	/	-	**NA**	G	5	a
IPL	D15		Herring fillet	Ø	Ø	Ø	Ø	/	-	-	Ø	Ø	/	-	**NA**	G	5	a
IPL	D17		Herring fillet	Ø	Ø	Ø	Ø	/	-	+	Ø	Ø	/	-	**PPNA**	G	5	a
IPL	E7		Herring fillet	-LA	+LA	-LD	+LA(1)	*L.innocua*	-	-	-MA	-MA	*L.innocua*	-	**NA**	G	5	a
IPL	E10		Cod fillet	Ø	Ø	Ø	Ø	/	-	-	-LE	-LE	/	-	**NA**	G	5	a
IPL	F5		Fish cubes	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	5	a
IPL	I8		Herring fillet	+LA(4)	+LB(4)	+MA	+MA	*L.monocytogenes*	+	+	+LB	+LD	*L.monocytogenes*	+	**PA**	G	5	a
IPL	J3		Herring fillet	Ø	-LE	Ø	Ø	/	-	+	-LE	-LE	/	-	**PPNA**	G	5	a
IPL	**L12**		**Pollock fillet**	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+LB	+MB	*L.monocytogenes*	+	**PA**	G	5	a
IPL	V7		Whiting fillet	Ø	Ø	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	5	a
IPL	AB3		Halibut fillet	Ø	Ø	Ø	Ø	/	-	-	+LD?	-LE	*Bacillus*	-	**NA**	G	5	a
IPL	AB11		Tilapia fillet	-MA	+MA	-MA	+MA	*L.innocua*	-	-	-MA	-MB	*L.innocua*	-	**NA**	G	5	a
IPL	AC1		Cod fillet	Ø	Ø	-ME	-ME	/	-	-	-ME	/	/	-	**NA**	G	5	a
IPL	AC2		Salmon filet	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	5	a
IPL	AC4		Fish fillet	-LE	-LE	-LE	-LE	/	-	-	-ME	/	/	-	**NA**	G	5	a
IPL	AC5		Hake fillet	-LE	-LE	-LE	-LE	/	-	-	-ME	/	/	-	**NA**	G	5	a
IPL	AD10		Saithe fillet	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	5	a
IPL	AD14		Haddock fillet	Ø	Ø	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	5	a
IPL	AD16		Whiting fillet	Ø	Ø	Ø	-ME	/	-	-	-ME	/	/	-	**NA**	G	5	a
IPL	AD17		Perch fillet	Ø	Ø	-LE	-LE	/	-	-	-ME	/	/	-	**NA**	G	5	a
IPL	AD18		Fish fillet	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	5	a
IPL	AD19		Salmon filet	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	5	a
IPL	**AG6**		**Trout fillet**	+LA(3)	Ø	+MA	+MA	*L.monocytogenes*	+	+	+LA	+MA	*L.monocytogenes*	+	**PA**	G	5	a
IPL	**AG7**		**Whiting fillet**	+LA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	5	a
IPL	**AG8**		**Saithe fillet**	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	5	a
IPL	E8		Shrimps	Ø	Ø	+LD	+LB	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	5	a
IPL	I1		Mixed shellfish	+LD	+MD	+MA	+MA	*L. monocytogenes / L. innocua*	+	+	+LB	+MD	*L. monocytogenes / L. innocua*	+	**PA**	G	5	a
IPL	I9		Shrimps	+MA	+MA	+MB	+MB	*L.monocytogenes*	+	+	+HB	+MA	*L.monocytogenes*	+	**PA**	G	5	a
IPL	J9		Shrimps	+LA	+LB	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	5	a
IPL	J16		Cocktail seafood	+LA	+LD	+LB	+LB	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	5	a
IPL	O9		Cocktail seafood	+LB	+LD	+MB	+MB	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	5	a
IPL	AA5		Cocktail seafood	+LB	+LD(1)	+MA	+MA	*L.monocytogenes*	+	+	-ME	+MD(5boites)	*L.monocytogenes*	+	**PA**	G	5	a
IPL	AB4		Shrimps	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	5	a
IPL	AB5		Shrimps	Ø	Ø	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	5	a
IPL	AB8		Shrimps	Ø	Ø	+MD	+LD	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	5	a
IPL	AB9		Shrimps	Ø	Ø	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	5	a
IPL	AB12		Gambas	+LA	-ME	+MB	+MB	*L. monocytogenes / L. innocua*	+	+	+MB	+LB	*L. monocytogenes / L. innocua*	+	**PA**	G	5	a
IPL	A8		Smoked salmon	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	S	5	b
IPL	A12		Smoked salmon	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	S	5	b
IPL	A13		Smoked salmon Scotland	Ø	Ø	Ø	Ø	/	-	+	Ø	Ø Fr: Ø	/	-	**PPNA**	S	5	b
IPL	A14		Smoked salmon Scotland	+MA	+LA	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	S	5	b
IPL	A16		Smoked herring	Ø	Ø	Ø	Ø	/	-	+	Ø	Ø Fr: Ø	/	-	**PPNA**	S	5	b

SEAFOOD AND FISHERY PRODUCTS																		
Laboratory	Sample N°	Products (French name)	Products	Reference method: ISO 11290-1/A1						Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPA-RISON	Protocol	Category	Type
				FRASER 1/2		FRASER		CONFIRMATION	RESULT L.mono	BAX® *L.mono* test	CONFIRMATION 24 LEB			FINAL RESULT				
											Brilliance D1 (IPL)	*Brilliance* D2 (IPL)	*IDENTIFICATION*					
				O&A1	P1	O&A2	P2	*IDENTIFICATION*			O&A D1 (Adria)	O&A D2 (Adria)						
IPL	A17		Salmon tartar	-MA	+LA	-HA	+HA	*L.innocua*	-	-	-ME	Ø Fr: +MB	*L.monocytogenes* *L.innocua*	-	**NA**	S	5	b
IPL	A18		Smoked salmon	+MA	+LB	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MA	*L.monocytogenes*	+	**PA**	S	5	b
IPL	B1		Smoked salmon	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	S	5	b
IPL	B2		Smoked salmon	Ø	Ø	Ø	Ø	/	-	+	Ø	/	/	-	**PPNA**	S	5	b
IPL	B3		Smoked salmon	Ø	Ø	Ø	Ø	/	-	+	+LD	+LD	*L.monocytogenes*	+	**PD**	S	5	b
IPL	B4		Smoked salmon	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	S	5	b
IPL	B5		Smoked herring	Ø	-LE	Ø	-LE	/	-	-	-ME	/	/	-	**NA**	S	5	b
IPL	B6		Salmon roulade	Ø	Ø	Ø	-LE	/	-	+	+MB	+MB	*L.monocytogenes*	+	**PD**	S	5	b
IPL	B7		Smoked salmon	Ø	Ø	Ø	Ø	/	-	+	+MB	+MB	*L.monocytogenes*	+	**PD**	S	5	b
IPL	C16		Smoked sprats	+MD	+MD	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	S	5	b
IPL	C17		Smoked sprats	+MD	+MD	+MB	+MB	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	S	5	b
IPL	D6		Smoked haddock	+LB	+LB	°LB	+LB(2)	*L.monocytogenes* *L.innocua*	+	+	+MB	+MB	*L.monocytogenes* *L.innocua*	+	**PA**	S	5	b
IPL	D12		Smoked herring	Ø	-LE	Ø	-LE	/	-	-	-ME	/	/	-	**NA**	S	5	b
IPL	D17		Smoked salmon	Ø	Ø	Ø	-LE	/	-	+	-LE	-LE F : +LB	*L.monocytogenes*	+	**PD**	S	5	b
IPL	D18		Smoked trout	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	S	5	b
IPL	E1		Smoked salmon	Ø	+LA(2)	+MA	+MB	*L.monocytogenes*	+	+	Ø	Ø F : +MA	*L.monocytogenes*	+	**PA**	S	5	b
IPL	E2		Smoked salmon	Ø	Ø	Ø	Ø	/	-	+	Ø	Ø Fr: Ø	/	-	**PPNA**	S	5	b
IPL	E3		Smoked salmon	+LA	+LA	+MA	+MB	*L.monocytogenes*	+	+	+LB	+LB	*L.monocytogenes*	+	**PA**	S	5	b
IPL	E4		Smoked trout	+LA	+MB	+MB	+MB	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	S	5	b
IPL	E5		Smoked trout	+LA	+MA	+MB	+MB	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	S	5	b
IPL	E6		Smoked salmon Scotland	+LA(1)	+LB	+MA	+MB	*L.monocytogenes*	+	+	+MB	+MA	*L.monocytogenes*	+	**PA**	S	5	b
IPL	E7		Smoked trout	+LA	+LA	+MB	+MB	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	S	5	b
IPL	E8		Smoked halibut	+MA	+MA	+MB	+MB	*L.monocytogenes*	+	+	+MB	+MA	*L.monocytogenes*	+	**PA**	S	5	b
IPL	E9		Smoked salmon Scotland	Ø	Ø	Ø	Ø	/	-	+	+MA	+MA	*L.monocytogenes*	+	**PD**	S	5	b
IPL	E10		Smoked salmon Ireland	Ø	Ø	Ø	Ø	/	-	+	+LB	+LB	*L.monocytogenes*	+	**PD**	S	5	b
ADRIA	4953	Truite fumée	Smoked trout	st	st	st	st	/	-	-	st	st	/	-	**NA**	S	5	b
ADRIA	4954	Hareng fumés	Smoked herring	st	-	st	-	/	-	-	st	-	/	-	**NA**	S	5	b
ADRIA	4955	Lardons saumon fumé	Smoked salmon	H+ (2)	+	H+	+	*L. monocytogenes*	+	-	st	-	/	-	**ND**	S	5	b
ADRIA	4956	Truite fumée	Smoked trout	st	st	st	st	/	-	-	st	st	/	-	**NA**	S	5	b
ADRIA	4957	Filet de maquereau fumé	Smoked mackerel	st	st	st	st	/	-	-	-	-	/	-	**NA**	S	5	b
ADRIA	5940	Filets de maquereaux fumés	Smoked fish	st	-	st	st	/	-	-	-	-	/	-	**NA**	S	5	b
ADRIA	5941	Hareng fumés	Smoked fish	st	st	st	st	/	-	-	-	-	/	-	**NA**	S	5	b
ADRIA	5942	Truite fumée	Smoked trout	st	st	st	st	/	-	-	-	-	/	-	**NA**	S	5	b
IPL	AA4		Breaded fish fillet	+MA	+MB	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	5	c
IPL	AB6		Plateau of shellfish	-ME	-ME	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	5	c
IPL	AB10		Plateau of shellfish	+MA	+MA	+MB	+MB	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	5	c
IPL	D13		Fish with bordelaise sauce	+MA	+MA	+MB	+MB	*L.monocytogenes*	+	-	-LE	-LE	Ø	-	**ND**	G	5	c
IPL	D20		Raw marinated cod	Ø	-LE	-MB	+MB	*L.innocua*	-	-	-MD	/	*L.innocua*	-	**NA**	G	5	c
IPL	F1		Frozen calamari precooked	+MA	+MB	+MB	+HB	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	5	c
IPL	F3		Ready-to-eat fish	-LE	-LE	-HE	-LE	/	-	-	-LE	/	/	-	**NA**	G	5	c
IPL	I2		Cooked mussels	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	5	c
IPL	J4		Marinated herring fillet	Ø	-LE	Ø	-ME	/	-	-	-ME	/	/	-	**NA**	G	5	c

SEAFOOD AND FISHERY PRODUCTS																		
Laboratory	Sample N°	Products (French name)	Products	Reference method: ISO 11290-1/A1						Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPA-RISON	Protocol	Category	Type
				FRASER 1/2		FRASER		CONFIRMATION	RESULT L.mono	BAX® *L.mono* test	CONFIRMATION 24 LEB			FINAL RESULT				
											Brilliance D1 (IPL)	*Brilliance* D2 (IPL)	*IDENTIFICATION*					
				O&A1	P1	O&A2	P2	*IDENTIFICATION*			O&A D1 (Adria)	O&A D2 (Adria)						
IPL	J6		Salmon Carpaccio	Ø	-LE	Ø	-LE	/	-	-	-MA	-MA	*L.innocua*	-	**NA**	G	5	c
IPL	J14		Salmon paupiettes with Saint Jacques	+LA	+LB	+MA	+MA	*L.monocytogenes* *L.welshimeri*	+	-	-LD	-LD	*L.welshimeri*	-	**ND**	G	5	c
IPL	**L7**		**Saint Jacques with vegetables**	-ME	Ø	+LB	+LB	*L.monocytogenes*	+	-	+LB(1)	+LB	*L.monocytogenes*	-	**ND**	G	5	c
IPL	**L13**		**Fish with bordelaise sauce**	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+MA	+MB	*L.monocytogenes*	+	**PA**	G	5	c
IPL	**L14**		**Frozen breaded fish**	+MB	+MB	+MB	+MB	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	5	c
IPL	**L15**		**Frozen breaded fish**	+MB	+MB	+MA	+MB	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	5	c
IPL	**L17**		**Salmon with hollandaise sauce**	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	5	c
IPL	**L20**		**Salmon meal**	+LA	+LA	+MA	+MB	*L.monocytogenes* *L.innocua*	+	+	+MB	+MB	*L.monocytogenes* *L.innocua*	+	**PA**	G	5	c
IPL	O7		Raw marinated cod	-LE	-LE	Ø	Ø	/	-	-	-MB	-MB	*L.innocua*	-	**NA**	G	5	c
IPL	P6		Shrimps accras	-ME	-LE	-LE	-ME	/	-	-	-LE	/	/	-	**NA**	G	5	c
IPL	AB1		Ready-to-eat fish	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	5	c
IPL	AB2		Cooked calamari	+MB	+MB	+MB	+MB	*L.monocytogenes* *L.innocua*	+	+	+MB	+MB	*L.monocytogenes* *L.innocua*	+	**PA**	G	5	c
IPL	AB7		Sushis	-LE	Ø	-LE	Ø	/	-	+	+MA	+MA	*L.monocytogenes*	+	**PD**	G	5	c
IPL	AB13		Brochette fish	+LA	+LA	+MB	+MA	*L. monocytogenes* / *L. innocua*	+	+	+LA	+MA	*L. monocytogenes* / *L. innocua*	+	**PA**	G	5	c
IPL	AC3		Salmon with vegetables	Ø	-LE	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	5	c
IPL	AC6		Salmon fillet sauce Bellevue	+MB	+MA	+MA	+MB	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	5	c
IPL	AD11		Ready-to-eat fish	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	5	c
IPL	AD12		Salmon fillet with sorrel sauce	Ø	-LE	-LE	-LE	/	-	-	Ø	/	/	-	**NA**	G	5	c
IPL	AD13		Cod fillet with florentine sauce	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	5	c
IPL	**K9**		**Water of wash lines pea**	+MA	+MA	+MA	+MA	*L.monocytogenes*	+	+	+HA	+HA	*L.monocytogenes*	+	**PA**	G	6	a

ENVIRONMENTAL SAMPLES																		
Laboratory	Sample N°	Products (French name)	Products	Reference method: ISO 11290-1/A1						Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPA-RISON	Protocol	Category	Type
				FRASER 1/2		FRASER		CONFIRMATION	RESULT L.mono	BAX® *L.mono* test	CONFIRMATION 24 LEB			FINAL RESULT				
				O&A1	P1	O&A2	P2	*IDENTIFICATION*			*Brilliance* D1 (IPL) O&A D1 (Adria)	*Brilliance* D2 (IPL) O&A D2 (Adria)	*IDENTIFICATION*					
IPL	R4		Arrival new water	Ø	Ø	Ø	Ø	/	-	-	Ø	Ø	/	-	**NA**	G	6	a
IPL	R5		Water washbasin reception	Ø	Ø	Ø	Ø	/	-	-	Ø	Ø	/	-	**NA**	G	6	a
IPL	R6		Washing 1	Ø	Ø	Ø	Ø	/	-	-	Ø	Ø	/	-	**NA**	G	6	a
IPL	R7		Washing 2	Ø	Ø	Ø	Ø	/	-	-	Ø	Ø	/	-	**NA**	G	6	a
IPL	R8		Preparation tank 1	Ø	Ø	Ø	Ø	/	-	-	Ø	Ø	/	-	**NA**	G	6	a
IPL	R9		Preparation tank 2	Ø	Ø	Ø	Ø	/	-	-	Ø	Ø	/	-	**NA**	G	6	a
IPL	R10		Water pipe 1	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	6	a
IPL	R11		Water pipe 2	Ø	Ø	+MA	+MA	*L.ivanovii*	-	-	Ø	Ø	/	-	**NA**	G	6	a
IPL	R19		Water of wash lines spinach	Ø	Ø	Ø	Ø	/	-	-	Ø	Ø	/	-	**NA**	G	6	a
IPL	S10		Process water delicatessen retail	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	6	a
IPL	S13		Process water	Ø	Ø	Ø	Ø	/	-	-	Ø	Ø	/	-	**NA**	G	6	a
IPL	S14		Process water	Ø	Ø	Ø	Ø	/	-	-	Ø	Ø	/	-	**NA**	G	6	a
IPL	U5		Process water delicatessen retail	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	6	a
IPL	U6		Rinsing water	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	6	a
IPL	V1		Water cheese dairy	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	6	a
IPL	V2		Process water	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	6	a
IPL	V3		Salted water	Ø	Ø	Ø	Ø	/	-	-	+MA	+MA	*L.ivanovii*	-	**NA**	G	6	a
IPL	W1		Rinsing water	-LA	+MA	-MA	+MA	*L.innocua*	-	-	-MA	-MA	*L.innocua*	-	**NA**	G	6	a
IPL	W2		Rinsing water	-MA	+MA	-MA	+MA	*L.innocua*	-	-	-MA	-MA	*L.innocua*	-	**NA**	G	6	a
IPL	W3		Rinsing water	-MA	+MA	-MA	+MA	*L.innocua*	-	-	-MA	-MA	*L.innocua*	-	**NA**	G	6	a
IPL	W4		Clean	-MA	+MA	-MA	+MA	*L.innocua*	-	-	-MA	-MA	*L.innocua*	-	**NA**	G	6	a
IPL	W19		Rinsing water	Ø	-LE	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	6	a
IPL	W20		Process water pastry retail	Ø	Ø	-ME	-LE	/	-	-	-MB	-HB	*L.innocua*	-	**NA**	G	6	a
IPL	**X1**		**Process water fish retail**	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	6	a
IPL	**X2**		**Water process**	+MA	+MA	+MA	+MB	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	6	a
IPL	**X5**		**Water process**	+MA	+MA	+MB	+MB	*L.monocytogenes*	+	+	+LB	+MA	*L.monocytogenes*	+	**PA**	G	6	a
ADRIA	4879	Eau de process (Industrie de poissons)	Process water (Fish industry)	st	st	st	st	/	-	-	st	st	/	-	**NA**	G	6	a
ADRIA	4880	Eau de process (Industrie de poissons)	Process water (Fish industry)	st	st	st	st	/	-	-	st	st	/	-	**NA**	G	6	a
ADRIA	4881	Eau de process (Industrie de poissons)	Process water (Fish industry)	st	st	st	st	/	-	-	st	st	/	-	**NA**	G	6	a
ADRIA	4882	Eau de process (Industrie de poissons)	Process water (Fish industry)	st	st	st	st	/	-	-	st	st	/	-	**NA**	G	6	a
ADRIA	4883	Eau mélange poissons (Industrie de poissons)	Rinse water (Fish industry)	st	st	-	-	/	-	-	-	-	/	-	**NA**	G	6	a
ADRIA	**5943**	**Eau lavage sciage**	**Rinse water**	H+ (4)	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	6	a
ADRIA	**5944**	**Eau lavage sciage**	**Rinse water**	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	6	a
ADRIA	**5945**	**Eau de process fabrication thon tomates**	**Rinse water**	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	6	a
ADRIA	**5946**	**Eau process fabrication madeleine**	**Rinse water**	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	6	a
ADRIA	**5947**	**Eau rinçage cutter**	**Rinse water**	H+	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	6	a
IPL	K16		Sponge cheese dairy	-LE	-ME	-LE	-ME	/	-	-	-ME	/	/	-	**NA**	G	6	b
IPL	K21		Sponge floor cheese dairy	+MB	+MB	+MB	+MB	*L.innocua* *L.monocytogenes*	+	+	+HB	+HB	*L.innocua* *L.monocytogenes*	+	**PA**	G	6	b
IPL	Q2		Surface	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	+	+MA	+MA	*L.monocytogenes*	+	**PA**	G	6	b
IPL	T20		Meat tray	Ø	Ø	-LE	-LE	/	-	-	-ME	/	/	-	**NA**	G	6	b
IPL	U17		Stainless steel preparation room	+LB	+LB	+MA	+MB	*L.monocytogenes*	+	+	+MD	+LB	*L.monocytogenes*	+	**PA**	G	6	b
IPL	U18		Cutting table for fish	-LE	-LE	-LE	-LE	/	-	-	-ME	/	/	-	**NA**	G	6	b
IPL	U19		Stainless steel preparation room for vegetables	Ø	Ø	-ME	-ME	/	-	-	-ME	/	/	-	**NA**	G	6	b
IPL	W18		Surface pastry retail	-LE	-LE	-LE	-LE	/	-	-	-ME	/	/	-	**NA**	G	6	b
IPL	**X3**		**Sponge**	+LA	+MB	+MB	+MB	*L.monocytogenes*	+	+	+LB	+MB	*L.monocytogenes*	+	**PA**	G	6	b
IPL	Y4		Surface pastry retail	-MA	+MA	-MA	+MD	*L.welshimeri*	-	-	-ME	-LE Fraser : -LE	/	-	**NA**	G	6	b
IPL	Y12		Surface of delicatessen knife	-LA	-LA	-MA	+MB	*L.welshimeri*	-	-	-MA	-MB	*L.welshimeri*	-	**NA**	G	6	b
IPL	Z3		Cutting table for fish	-LE	-LE	-LE	-ME	/	-	-	-LE	/	/	-	**NA**	G	6	b
IPL	Z13		Floor in packaging room	-ME	-ME	-ME	-ME	/	-	-	-ME	/	/	-	**NA**	G	6	b

ENVIRONMENTAL SAMPLES																		
Laboratory	Sample N°	Products (French name)	Products	Reference method: ISO 11290-1/A1						Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPA-RISON	Protocol	Category	Type
				FRASER 1/2		FRASER		CONFIRMATION	RESULT L.mono	BAX® *L.mono* test	CONFIRMATION 24 LEB			FINAL RESULT				
				O&A1	P1	O&A2	P2	*IDENTIFICATION*			*Brilliance* D1 (IPL) O&A D1 (Adria)	*Brilliance* D2 (IPL) O&A D2 (Adria)	*IDENTIFICATION*					
ADRIA	5763	Chiffonnette caniveau haut filetage (Industrie poissons)	Surface sample (Fish industry)	st	st	st	st	/	-	-	st	st	/	-	**NA**	G	6	b
ADRIA	5764	Chiffonnette tapis parage avant nettoyage (Industrie poissons)	Surface sample (Fish industry)	st	st	st	st	/	-	-	st	st	/	-	**NA**	G	6	b
ADRIA	5765	Chiffonnette tapis déchets peleuse (Industrie poissons)	Surface sample (Fish industry)	st	st	st	-	/	-	-	st	st	/	-	**NA**	G	6	b
ADRIA	5766	Chiffonnette sol haut filetage (Industrie poissons)	Surface sample (Fish industry)	H+/H-	+	H+/H-	+	*L. monocytogenes / L. welshimeri*	+	+	H+ / H-	H+ / H-	L. monocytogenes (RLM) / *L. welshimeri*	+	**PA**	G	6	b
ADRIA	**5949**	**Chiffonnette cutter**	**Surface sample**	st	st	st	st	/	-	+	H+	H+	*L. monocytogenes*	+	**PD**	G	6	b
ADRIA	**5950**	**Chiffonnette table**	**Surface sample**	H+ (7)	+	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	6	b
ADRIA	**5951**	**Chiffonnette cutter**	**Surface sample**	H+ (2)	+ (2)	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	6	b
ADRIA	**5952**	**Chiffonnette cutter**	**Surface sample**	H+ (6)	+ (3)	H+	+	*L. monocytogenes*	+	+	H+	H+	*L. monocytogenes*	+	**PA**	G	6	b
ADRIA	**5953**	**Chiffonnette poussoir**	**Surface sample**	st	-	st	st	/	-	+	H+	H+	*L. monocytogenes*	+	**PD**	G	6	b
IPL	N7		Scraps from filter machine	Ø	Ø	-LE	-LE	/	-	-	-ME	/	/	-	**NA**	G	6	c
IPL	S11		Scraps from cheese dairy	+LA(2)	+LA(8)	+MA	+MA	*L.monocytogenes*	+	-	-LE	-LE Fraser : -LE	/	-	**ND**	G	6	c
IPL	T1		Scraps from cheese dairy	Ø	Ø	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	6	c
IPL	T2		Vegetables scraps	Ø	-LE	Ø	-LE	/	-	-	Ø	/	/	-	**NA**	G	6	c
IPL	T11		Scraps from fish retail outlet	Ø	-LE	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	6	c
IPL	T13		Cheese scraps	Ø	Ø	Ø	Ø	/	-	-	Ø	/	/	-	**NA**	G	6	c
IPL	U4		Scraps from delicatessen retail outlet	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	6	c
IPL	U7		Scraps from delicatessen retail outlet	+LA	+LA	+MA	+MA	*L.monocytogenes*	+	+	+LA	+MA	*L.monocytogenes*	+	**PA**	G	6	c
IPL	U8		Scraps from packaging line	Ø	Ø	Ø	Ø	/	-	-	-ME	-ME	/	-	**NA**	G	6	c
IPL	U9		Scraps from meat cutting table	+LA(5)	+LB(8)	+MB	+MB	*L.monocytogenes L.welshimeri*	+	+	+MB	+MB	*L.monocytogenes L.welshimeri*	+	**PA**	G	6	c
IPL	U14		Scraps from fish retail outlet	-LE	-LE	-LE	-LE	/	-	-	-ME	-ME	/	-	**NA**	G	6	c
IPL	U15		Scraps	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	6	c
IPL	U16		Scraps production line	Ø	Ø	Ø	Ø	/	-	-	-ME	Fraser : Ø	/	-	**NA**	G	6	c
IPL	U20		Scraps from butchery cutting table	-MA	+MB	-MA	+MB	*L.welshimeri*	-	+	-HB	-MB Fraser : -MA	*L.welshimeri*	-	**PPNA**	G	6	c
IPL	V4		Scraps from cheese production "parmigiano"	Ø	Ø	-MA	+MB	*L.innocua*	-	-	-MA	-MA	*L.innocua*	-	**NA**	G	6	c
IPL	V5		Scraps from spices line	-LE	-LE	-LE	-LE	/	-	-	Ø	/	/	-	**NA**	G	6	c
IPL	W10		Scraps from packaging line	+LA	+LA	+MB	+MB	*L.ivanovii*	-	-	+MB	+LB		-	**NA**	G	6	c
IPL	W11		Scraps from storage tanks	-LA	+LA	-MA	+MA	*L.innocua*	-	-	-MA	-MA	*L.innocua*	-	**NA**	G	6	c
IPL	W12		Scraps from rinsing tanks	-LE	Ø	-LE	-LE	/	-	-	-LE	/	/	-	**NA**	G	6	c
IPL	W13		Scraps from delicatessen retail outlet	Ø	Ø	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	6	c
IPL	W15		Scraps from pastry fabrication line	Ø	Ø	Ø	Ø	/	-	-	-LE	/	/	-	**NA**	G	6	c
IPL	W16		Scraps from delicatessen retail outlet	-LE	+LD	-MB	+MB	*L.welshimeri*	-	-	-MB	-LB	*L.welshimeri*	-	**NA**	G	6	c
IPL	W17		Scraps from pastry retail outlet	-LE	-LE	-LE	-LE	/	-	-	-MA	-MA	*L.innocua*	-	**NA**	G	6	c
IPL	Y5		Vegetables scraps	-MA	+MA	-MA	+MB	*L.innocua*	-	-	-ME	-LE Fraser : -LE	/	-	**NA**	G	6	c
IPL	Y7		Fish scraps	-LE	-LE	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	6	c
IPL	Y9		Scraps from fish retail outlet	Ø	Ø	Ø	Ø	/	-	-	-ME	/	/	-	**NA**	G	6	c
IPL	Y11		Scraps from butchery retail outlet	-LA	+LA	-MA	+MA	*L.welshimeri*	-	-	-MB	-MB	*L.innocua*	-	**NA**	G	6	c
IPL	Y13		Scraps from delicatessen preparation line	+LA	+LB	+MA	+MA	*L.monocytogenes*	+	-	-LE	-LE Fraser : -LE	/	-	**ND**	G	6	c
IPL	Y14		Scraps from mincer	Ø	Ø	Ø	Ø	/	-	+	+MB	+MB	*L.monocytogenes*	+	**PD**	G	6	c
IPL	Y15		Scraps from cream production line	+LB	+LB	+MB	+MB	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	6	c

ENVIRONMENTAL SAMPLES																		
Laboratory	Sample N°	Products (French name)	Products	Reference method: ISO 11290-1/A1						Alternative method: BAX® System PCR Assay for *L. monocytogenes* 24E					COMPA-RISON	Protocol	Category	Type
				FRASER 1/2		FRASER		CONFIRMATION	RESULT L.mono	BAX® *L.mono* test	CONFIRMATION 24 LEB			FINAL RESULT				
				O&A1	P1	O&A2	P2	*IDENTIFICATION*			*Brilliance* D1 (IPL) O&A D1 (Adria)	*Brilliance* D2 (IPL) O&A D2 (Adria)	*IDENTIFICATION*					
IPL	Z1		Scraps from delicatessen retail outlet	-MA	+MA	-MA	+MB	*L.monocytogenes / L.welshimeri*	+	+	+MB	-MA	*L.monocytogenes L.welshimeri*	+	**PA**	G	6	c
IPL	Z2		Scraps from mincer	Ø	-LE	-LE	-LE	/	-	+	+MB	+MD	*L.monocytogenes*	+	**PD**	G	6	c
IPL	Z4		Scraps production line	+MB	+MB	+MB	+MB	*L.monocytogenes L.innocua*	+	+	+MB	+MB	*L.monocytogenes L.innocua*	+	**PA**	G	6	c
IPL	Z5		Scraps from packaging line	+MB	+MA	+MA	+MD	*L.monocytogenes*	+	-	+LD	+LD	*L.monocytogenes*	-	**ND**	G	6	c
IPL	Z6		Scraps from transferring line	-LE	-LE	-ME	-ME	/	-	-	-LE	/	/	-	**NA**	G	6	c
IPL	Z7		Scraps from cutting line	+LA(4)	+LD(2)	+MA	+MA	*L.monocytogenes*	+	+	+MB	+MB	*L.monocytogenes*	+	**PA**	G	6	c

Appendix 5 - Relative level of detection: raw data

IPL Legend

Total bacteria growth

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

Distribution of flora

A = pure culture of suspicious colonies
B = mix with a majority of suspicious colonies
C = mix with a minority of suspicious colonies
D = mix with rare suspicious colonies
E = absence of suspicious colonies

ADRIA Legend

H-: characteristic *Listeria* colonies without halo
H+: characteristic *Listeria* colonies with halo
-: no typical colonies but presence of background microflora
st: plate without any colony

Study performed by IPL in 2008

Matrix: Ground beef
Strain: *Listeria monocytogenes* L49
Aerobic mesophilic flora: 4 000 000 UFC/g

Sample	Inoculation level (c/25g)	Reference method ISO11290-1/A1						Alternative method: BAX "Automate" *L. monocytogenes*			
		Fraser 1/2 (10µl)		Fraser		Result	Conclusion	BAX Lmono Test	Streaking BAX 24LEB onto OCLA	Final result	Conclusion
		O&A1	P1	O&A2	P2						
1	0	-MA	+LB	-MB	+MB	-	0/6	-	/	-	0/6
		-MB	+LB	-MB	+MB	-		-	/	-	
		-MA	+LB	-MB	+MB	-		-	/	-	
		-MA	+MB	-MB	+MB	-		-	/	-	
		-MA	+MB	-MA	+MB	-		-	/	-	
		-MA	+MB	-MA	+MB	-		-	/	-	
2	0,20	-MA	+LB	-MA	+MB	-	1/6	-	/	-	2/6
		-MA	+MB	-MA	+MB	-		-	/	-	
		-MA	+MB	-MB	+MB	-		-	/	-	
		+MB	+LB	+MB	+MB	+		-	/	-	
		-MA	+MB	-MB	+MB	-		+	-MB / +MB (RLM)	+	
		-MB	+LB	-MB	+MB	-		+	-MB / +MB (RLM)	+	
3	0,33	-MA	+MA	-MB	+MB	-	2/6	+	-MB / +MB (RLM)	+	4/6
		+LB	+LB	+MB	+MB	+		+	-MB / +MB (RLM)	+	
		-LB	+MB	-MB	+MB	-		+	-MB / +MB (RLM)	+	
		-MA	+MB	-MA	+MB	-		+	-MB / +MB (RLM)	+	
		+MB	+MB	+MB	+MB	+		-	/	-	
		-MA	+MB	-MA	+MB	-		-	/	-	
4	0,61	+MB	+MB	+MB	+MB	+	5/6	+	-MB / +MB (RLM)	+	5/6
		-MA	+MB	-MB	+MB	-		+	-MB / +MB (RLM)	+	
		+LB	+LB	+MB	+MB	+		-	/	-	
		+LB	+LB	+MB	+MB	+		+	-MB / +MB (RLM)	+	
		+MB	+MB	+MB	+MB	+		+	-MB / +MB (RLM)	+	
		+MB	+MB	+MB	+MB	+		+	-MB / +MB (RLM)	+	
5	1,02	+LB	+LB	+MB	+MB	+	6/6	+	-MB / +MB (RLM)	+	6/6
		+LB	+MB	+MB	+MB	+		+	-MB / +MB (RLM)	+	
		+MB	+MB	+MB	+MB	+		+	-MB / +MB (RLM)	+	
		+MB	+MB	+MB	+MB	+		+	-MB / +MB (RLM)	+	
		+MB	+MB	+MB	+MB	+		+	-MB / +MB (RLM)	+	
		+LB	+MB	+MB	+MB	+		+	-MB / +MB (RLM)	+	

Matrix: raw milk
Strain: *Listeria monocytogenes* L51
Aerobic mesophilic flora: 400 CFU/ml

Sample	Inoculation level (b/25 g)	Reference method: ISO 11290-1/A1						Alternative method: BAX « Automate » *L. monocytogenes*			
		Fraser 1/2 (10 µl)		Fraser		Result	Conclusion	BAX L.mono test	Streaking BAX LEB24 onto OCLA	Final result	Conclusion
		O&A 1	P1	O&A2	P2						
1	0	∅	∅	-LE	-LE	-	0/6	-	/	-	0/6
		∅	∅	-LE	-LE	-		-	/	-	
		∅	∅	-LE	-LE	-		-	/	-	
		∅	∅	-LE	-LE	-		-	/	-	
		∅	∅	-LE	-LE	-		-	/	-	
		∅	∅	-LE	-LE	-		-	/	-	
2	0.28	∅	∅	-LE	-LE	-	1/6	-	/	-	2/6
		+LA	+LA	+MA	+MA	+		-	/	-	
		∅	∅	-LE	-LE	-		-	/	-	
		∅	∅	-LE	-LE	-		+	+MB	+	
		∅	∅	-LE	-LE	-		-	/	-	
		∅	∅	-LE	-LE	-		+	+MB	+	
3	0.56	+MA	+MA	+MA	+MA	+	2/6	+	+MB	+	3/6
		+LA	+LA	+MA	+MA	+		-	/	-	
		∅	∅	-LE	-LE	-		+	+MB	+	
		∅	∅	-LE	-LE	-		-	/	-	
		∅	∅	-LE	-LE	-		+	+MB	+	
		∅	∅	-LE	-LE	-		-	/	-	
4	0.84	∅	∅	-LE	-LE	-	5/6	+	+MB	+	6/6
		+LA	+MA	+MA	+MA	+		+	+MB	+	
		+MA	+MA	+MA	+MA	+		+	+MB	+	
		+LA	+LA	+MA	+MA	+		+	+MB	+	
		+MA	+MA	+MA	+MA	+		+	+MB	+	
		+LA	+MA	+MA	+MA	+		+	+MB	+	
5	2.00	+LA	+LA	+MA	+MA	+	6/6	+	+MA	+	6/6
		+LA	+LA	+MA	+MA	+		+	+MB	+	
		+LA	+LA	+MA	+MA	+		+	+MA	+	
		+LA	+LA	+MB	+MB	+		+	+MB	+	
		+LA	+LA	+MA	+MA	+		+	+HB	+	
		+LA	+LA	+MA	+MA	+		+	+MB	+	

Matrix: Halibut fillet
Strain: *Listeria monocytogenes* 1/2a L5
Aerobic mesophilic flora: 4 000 000 CFU/g

Level	Inoculation level (b/25 g))	Reference method: ISO 11290-1/A1						Alternative method: BAX "Automate" L. monocytogenes			
		Fraser 1/2 (10µl)		Fraser		Resultt	Conclusion	BAX L.mono test	Streaking BAX LEB24 onto OCLA	Final result	Conclusion
		O&A1	P1	O&A2	P2						
1	0	-LE	-LE	-LE	-ME	-	0/6	-	/	-	0/6
		-LE	-LE	-LE	-LE	-		-	/	-	
		Ø	Ø	-LE	-LE	-		-	/	-	
		Ø	Ø	-LE	-ME	-		-	/	-	
		Ø	Ø	-LE	-ME	-		-	/	-	
		-LE	Ø	-LE	-LE	-		-	/	-	
2	0,17	+MA	+MA	+MA	+MA	+	2/6	-	/	-	1/6
		Ø	Ø	Ø	Ø	-		-	/	-	
		Ø	Ø	Ø	Ø	-		+	+MA	+	
		Ø	Ø	Ø	Ø	-		-	/	-	
		Ø	Ø	Ø	Ø	-		-	/	-	
		+MA	+MA	+MA	+MA	+		-	/	-	
3	0,94	+LA	+LA	+MA	+MA	+	4/6	+	+MA	-	3/6
		Ø	Ø	-LE	-LE	-		+	+MA	+	
		+LA	+LB	+MA	+MA	+		-	/	-	
		-LE	Ø	-ME	-ME	-		+	+MA	+	
		+LA	+LA	+MA	+MA	+		-	/	-	
		+LA	+LA	+MA	+MA	+		-	/	-	
4	2,21	+MA	+LA	+MA	+MA	+	6/6	+	+MA	+	6/6
		+MA	+MA	+MA	+MA	+		+	+MA	+	
		+MA	+MA	+MA	+MA	+		+	+MA	+	
		+MA	+MA	+MA	+MA	+		+	+MA	+	
		+MA	+MA	+MA	+MA	+		+	+MA	+	
		+MA	+MA	+MA	+MA	+		+	+MA	+	

Matrix: Raw vegetable mix
Strain: *Listeria monocytogenes* 4b L58
Aerobic mesophilic flora: 420 000 CFU/g

Level	Inoculation level (b/25 g))	Reference method: ISO 11290-1/A1						Alternative method: BAX "Automate" L. monocytogenes			
		Fraser 1/2 (10µl)		Fraser		Result	Conclusion	BAX L.mono test	Streaking BAX LEB24 onto OCLA	Final result	Conclusion
		O&A1	P1	O&A2	P2						
1	0	Ø	Ø	Ø	Ø	-	0/6	-	/	-	0/6
		Ø	Ø	Ø	Ø	-		-	/	-	
		Ø	Ø	Ø	Ø	-		-	/	-	
		Ø	Ø	Ø	Ø	-		-	/	-	
		Ø	Ø	Ø	Ø	-		-	/	-	
		Ø	Ø	Ø	Ø	-		-	/	-	
2	0,38	Ø	Ø	Ø	Ø	-	0/6	-	/	-	1/6
		Ø	Ø	Ø	Ø	-		-	/	-	
		Ø	Ø	Ø	Ø	-		-	/	-	
		Ø	Ø	Ø	Ø	-		-	/	-	
		Ø	Ø	Ø	Ø	-		-	/	-	
		Ø	Ø	Ø	Ø	-		+	+MA	+	
3	0,60	Ø	Ø	Ø	Ø	-	2/6	+	+MB	+	3/6
		Ø	Ø	Ø	Ø	-		-	/	-	
		Ø	-LE	-LE	-LE	-		+	+MB	+	
		Ø	Ø	Ø	Ø	-		-	/	-	
		+LA	+LA	+MA	+MA	+		-	/	-	
		+LA	+LA	+MA	+MA	+		+	+MB	+	
4	1,34	Ø	Ø	+MA	+MA	+	5/6	+	+MA	+	4/6
		+LA	+LA	+MA	+MA	+		+	+MA	+	
		+LA	+LA	+MA	+MA	+		-	/	-	
		Ø	Ø	Ø	Ø	-		+	+MA	+	
		+LA	+LA	+MA	+MA	+		+	+MA	+	
		+LA	+LA	+MA	+MA	+		-	/	-	
5*	2,68	+LA	+LA	+MA	+MA	+	6/6	+	+MA	+	6/6
		+LA	+LA	+MA	+MA	+		+	+MA	+	
		+LA	+LA	+MA	+MA	+		+	+MA	+	
		+LA	+LA	+MA	+MA	+		+	+MA	+	
		+LA	+LA	+MA	+MA	+		+	+MA	+	
		+LA	+LA	+MA	+MA	+		+	+MA	+	

Matrix: Process water
Strain: *Listeria monocytogenes* 1/2c L28
Aerobic mesophilic flora: 300 000 CFU/ml and *100 CFU/Ml

Level	Inoculation level (b/25 g))	Reference method: ISO 11290-1/A1						Alternative method: BAX "Automate" L. monocytogenes			
		Fraser 1/2 (10µl)		Fraser		Result	Conclusion	BAX L.mono test	Streaking BAX LEB24 onto OCLA	Final result	Conclusion
		O&A1	P1	O&A2	P2						
1	0,00	Ø	Ø	Ø	Ø	-	0/6	-	/	-	0/6
		Ø	Ø	Ø	Ø	-		-	/	-	
		Ø	Ø	Ø	Ø	-		-	/	-	
		Ø	Ø	Ø	Ø	-		-	/	-	
		Ø	Ø	Ø	Ø	-		-	/	-	
		Ø	Ø	Ø	Ø	-		-	/	-	
2	0,25	+LA	+LA	+MA	+MA	+	3/6	+	+MB	+	3/6
		Ø	Ø	Ø	Ø	-		-	/	-	
		Ø	Ø	Ø	Ø	-		+	+MB	+	
		Ø	Ø	Ø	Ø	-		-	/	-	
		+MA	+MA	+MA	+MA	+		+	-ME Fraser : +MB	+	
		+LA	+MA	+MA	+MA	+		+	+MB	+	
3*	0,39	+MA	+MA	+MA	+MA	+	5/6	-	Ø	-	3/6
		+MA	+MA	+MA	+MA	+		+	+MA	+	
		+MA	+MA	+MA	+MA	+		+	+MA	+	
		+MA	+MA	+MA	+MA	+		-	Ø	-	
		+MA	+MA	+MA	+MA	+		-	Ø	-	
		Ø	Ø	Ø	Ø	-		+	+MA	+	
4*	1,54	+MA	+MA	+MA	+MA	+	6/6	+	+MA	+	6/6
		+LA	+MA	+MA	+MA	+		+	+MA	+	
		+LA	+MA	+MA	+MA	+		+	+MA	+	
		+LA	+MA	+MA	+MA	+		+	+MA	+	
		+MA	+MA	+MA	+MA	+		+	+MA	+	
		+MA	+MA	+MA	+MA	+		+	+MA	+	

Study performed by IPL in 2009

Matrix: Rillettes
Strain: *Listeria monocytogenes* L48
Aerobic mesophilic flora: 4 000 000 CFU/g

Sample	Inoculation level (b/25 g)	Reference method: ISO 11290-1/A1						Alternative method: BAX "Automate" L. monocytogenes			
		Fraser 1/2 (10 µl)		Fraser		Result	Conclusion	BAX L.mono test	Streaking BAX LEB24 onto *Brilliance* Listeria	Final result	Conclusion
		O&A 1	P1	O&A2	P2						
1	0	∅	∅	∅	∅	-	0/6	-	/	-	0/6
		∅	∅	∅	∅	-		-	/	-	
		∅	∅	-LE	-LE	-		-	/	-	
		∅	∅	∅	∅	-		-	/	-	
		∅	∅	∅	∅	-		-	/	-	
		∅	∅	∅	∅	-		-	/	-	
2	0.35	-LE	-LE	-LE	-ME	-	1/6	-	-ME	-	1/6
		+MA	+MA	+MA	+HA	+		-	-ME	-	
		-LE	-LE	-ME	-ME	-		-	-ME	-	
		-LE	-LE	-ME	-ME	-		+	+MA	+	
		-LE	-LE	-ME	-ME	-		-	-ME	-	
		-LE	-ME	-ME	-ME	-		-	-ME	-	
3	0.62	∅	∅	∅	∅	-	4/6	-	/	-	3/6
		∅	∅	∅	∅	-		+	+MA	+	
		+LA	+LA	+MA	+MA	+		-	/	-	
		+MA	+MA	+MA	+MA	+		+	+MA	+	
		+MA	+MA	+MA	+MA	+		+	+MA	+	
		+MA	+MA	+MA	+MA	+		-	/	-	
4	1.06	∅	∅	∅	∅	-	3/6	+	+MA	+	4/6
		+LA	+LA	+MA	+MA	+		-	/	-	
		∅	∅	∅	∅	-		+	+MA	+	
		+LA	+LA	+MA	+MA	+		+	+MA	+	
		+LA	+LA	+MA	+MA	+		+	+MA	+	
		∅	∅	∅	∅	-		-	/	-	
5	1.58	+LA	+LA	+MA	+MA	+	6/6	+	+MA	+	6/6
		+LA	+LA	+MA	+MA	+		+	+MA	+	
		+LA	+LA	+MA	+MA	+		+	+MA	+	
		+LA	+LA	+MB	+MB	+		+	+MA	+	
		+LA	+LA	+MA	+MA	+		+	+MA	+	
		+LA	+LA	+MA	+MA	+		+	+MA	+	

Matrix: Smoked salmon
Strain: *Listeria monocytogenes* 1/2a L5/
Aerobic mesophilic flora: 4 000 000 CFU/g

Sample	Inoculation level (b/25 g)	Reference method: ISO 11290-1/A1						Alternative method: BAX "Automate" L. monocytogenes			
		Fraser 1/2 (10 µl)		Fraser		Result	Conclusion	BAX L.mono test	Streaking BAX LEB24 onto *Brilliance* Listeria	Final result	Conclusion
		O&A 1	P1	O&A2	P2						
1	0	∅	∅	∅	∅	-	0/6	-	-LE	-	0/6
		∅	∅	∅	∅	-		-	-LE	-	
		∅	∅	∅	∅	-		-	-ME	-	
		∅	∅	∅	∅	-		-	-LE	-	
		∅	∅	∅	∅	-		-	∅	-	
		∅	∅	∅	∅	-		-	-LE	-	
2	0.28	∅	∅	∅	∅	-	3/6	+	+MA	+	1/6
		∅	∅	∅	∅	-		-	-ME	-	
		∅	∅	∅	∅	-		-	-ME	-	
		+MA	+MA	+MA	+MA	+		-	∅	-	
		+MA	+MA	+MA	+MA	+		-	∅	-	
		+MA	+MA	+MA	+MA	+		-	-ME	-	
3	0.55	∅	∅	∅	∅	-	2/6	+	+MA	+	5/6
		+MA	+MA	+MA	+MA	+		+	+MA	+	
		+LA	+LA	+MA	+MA	+		+	+MA	+	
		∅	∅	∅	∅	-		+	+MA	+	
		∅	∅	∅	∅	-		+	+MA	+	
		∅	∅	∅	∅	-		-	-ME	-	
4	1.1	+MA	+MA	+MA	+MA	+	5/6	+	+MA	+	6/6
		+LA	+LA	+MA	+MA	+		+	+MA	+	
		+LA	+LA	+MA	+MA	-		+	+MA	+	
		∅	∅	∅	∅	+		+	+MA	+	
		+MA	+MA	+MA	+MA	+		+	+MA	+	
		+LA	+LA	+MA	+MA	+		+	+MA	+	
5	2.21	+LA	+LA	+MA	+MA	+	6/6	+	+MA	+	6/6
		+LA	+LA	+MA	+MA	+		+	+MA	+	
		+MA	+MA	+MA	+MA	+		+	+MA	+	
		+MA	+MA	+MA	+MA	+		+	+MA	+	
		+LA	+MA	+MA	+MA	+		+	+MA	+	
		+MA	+MA	+MA	+MA	+		+	+MA	+	

Study performed by ADRIA in 2017

Matrix: Deli-salad
Strain: *Listeria monocytogenes* Ad494
Aerobic mesophilic flora: 4.10^5 CFU/g

N° sample	Level	Inoculation level (cfu/ sample)	Reference method: ISO 11290-1/A1♦						BAX® System PCR Assay for *Listeria monocytogenes* 24 E					
									General protocol: 24 LEB 24h at 37°C					
			Half Fraser		Fraser		Final Result	Number positive samples/Total	PCR result	Confirmation			Final result	Number positive samples/Total
			O&A	Palcam	O&A	Palcam				O&A	Palcam	Identification		
5839	0	0	st	st	st	st	-	0/5	-	-	-	/	-	0/5
5840			st	st	st	st	-		-	-	-	/	-	
5841			st	st	st	st	-		-	-	-	/	-	
5842			st	st	-	-	-		-	-	-	/	-	
5843			st	-	-	-	-		-	-	-	/	-	
5844	Low	1.0	st	st	st	st	-	10/20	-	-	-	/	-	8/20
5845			st	-	st	-	-		-	-	st	/	-	
5846			st	-	st	-	-		-	-	-	/	-	
5847			st	st	-	-	-		-	-	-	/	-	
5848			st	-	-	-	-		+	H+	+	+	+	
5849			H+	+	H+	+	+		-	-	st	/	-	
5850			H+	+	H+	+	+		-	-	st	/	-	
5851			st	st	st	st	-		-	-	st	/	-	
5852			st	st	-	-	-		-	-	st	/	-	
5853			H+	+	H+	+	+		-	-	st	/	-	
5854			st	-	st	st	-		+	H+	+	+	+	
5855			H+	+	H+	+	+		+	H+	+	+	+	
5856			st	st	st	st	-		+	H+	+	+	+	
5857			H+	+	H+	+	+		-	-	-	/	-	
5858			H+	+	H+	+	+		+	H+	+	+	+	
5859			H+	+	H+	+	+		-	st	st	/	-	
5860			H+	+	H+	+	+		+	H+	+	+	+	
5861			H+	+	H+	+	+		+	H+	+	+	+	
5862			H+	+	H+	+	+		+	H+	+	+	+	
5863			st	st	st	st	-		-	-	st	/	-	
5864	High	2.9	H+	+	H+	+	+	4/5	+	H+	+	+	+	4/5
5865			H+	+	H+	+	+		+	H+	+	+	+	
5866			H+	+	H+	+	+		-	-	-	/	-	
5867			st	st	st	st	-		+	H+	+	+	+	
5868			H+	+	H+	+	+		+	H+	+	+	+	

♦ Analyses performed according to the COFRAC accreditation

Appendix 6 – Inclusivity and exclusivity study: raw data

INCLUSIVITY (Study realized by IPL, 2008)					
Reference	Strain	Origin	Inoculation level in 225 mL 24 LEB broth	BAX® System PCR Assay for *L. monocytogenes 24E*	*Brilliance* Listeria
				Result	
L4	*Listeria monocytogenes* 1/2a	ATCC 35152	5.0	+	+MA
L5	*Listeria monocytogenes* 1/2a	Pieces of smoked salmon	8.0	+	+MA
L6	*Listeria monocytogenes* 1/2a	Pizza	6.0	+	+MA
L7	*Listeria monocytogenes* 1/2a	Munster cheese (rind)	5.0	+	+MA
L9	*Listeria monocytogenes* 1/2a	Munster cheese (rind)	8.0	+	+MA
L10	*Listeria monocytogenes* 1/2a	Rillettes	5.0	+	+MA
L11	*Listeria monocytogenes* 1/2a	Munster cheese (rind)	7.0	+	+MA
L12	*Listeria monocytogenes* 1/2a	Smoked salmon	8.0	+	+HA
L13	*Listeria monocytogenes* 1/2b	Pork ear	6.0	+	+MA
L14	*Listeria monocytogenes* 1/2c	Ground meat	8.0	+	+MA
L15	*Listeria monocytogenes* 1/2c	Beef meat	10.0	+	+MA
L16	*Listeria monocytogenes* 1/2c	Ground meat	6.0	+	+MA
L17	*Listeria monocytogenes* 1/2c	Bacon	3.0	+	+MA
L18	*Listeria monocytogenes* 1/2c	Munster cheese (rind)	8.0	+	+MA
L20	*Listeria monocytogenes* 1/2	Smoked salmon	7.0	+	+LA
L25	*Listeria monocytogenes* 1/2	Chicken	10.0	+	+MA
L28	*Listeria monocytogenes* 1/2c	Environment sample	5.0	+	+MA
L32	*Listeria monocytogenes* 4b	Munster cheese (rind)	5.0	+	+MA
L 33	*Listeria monocytogenes* 4b	ATCC 19115	4.0	+	+MA
L37	*Listeria monocytogenes* 1/2b	Maroille cheese	4.0	+	+HA
L39	*Listeria monocytogenes*	Sausage	5.0	+	+MA
L40	*Listeria monocytogenes* 1/2a	Munster cheese (rind)	1.0	+	+MA
L42	*Listeria monocytogenes* 1/2a	Chicken meat	6.0	+	+MA
L43	*Listeria monocytogenes* 1/2a	Ground meat	9.0	+	+HA
L44	*Listeria monocytogenes* 1/2a	Sausage	5.0	+	+HA
L45	*Listeria monocytogenes* 1/2a	Wind terrine	7.0	+	+LA
L47	*Listeria monocytogenes* 1/2a	Browed potatoes	5.0	+	+MA
L48	*Listeria monocytogenes* 1/2b	Pork tongue	5.0	+	+MA
L49	*Listeria monocytogenes* 1/2b	Poultry pâté	6.0	+	+MA
L51	*Listeria monocytogenes* 1/2b	Germain cheese	10.0	+	+LA
L52	*Listeria monocytogenes ½ b*	SLCC 2755	5.0	+	+MA
L53	*Listeria monocytogenes* 1/2c	Ground meat	6.0	+	+MA
L54	*Listeria monocytogenes* 1/2c	Meat product	5.0	+	+MA
L55	*Listeria monocytogenes* 3b	SLCC 2540	8.0	+	+MA
L56	*Listeria monocytogenes* 3c	SLCC 2479	6.0	+	+MA
L57	*Listeria monocytogenes* 4a	ATCC 19114	2.0	+	+MA
L58	*Listeria monocytogenes* 4b	Salad	4.0	+	+LA

INCLUSIVITY (Study realized by IPL, 2008)					
Reference	Strain	Origin	Inoculation level in 225 mL 24 LEB broth	BAX® System PCR Assay for *L. monocytogenes 24E*	*Brilliance* Listeria
				Result	
L60	*Listeria monocytogenes 4 d*	ATCC 19117	8.0	+	+MA
L61	*Listeria monocytogenes* 4e	ATCC 19118	5.0	+	+MA
L62	*Listeria monocytogenes* 4e	Reblochon cheese	4.0	+	+HA
L63	*Listeria monocytogenes* 4e	Munster cheese (rind)	8.0	+	+MA
L67	*Listeria monocytogenes* 7	SLCC 2482	9.0	+	+MA
L69	*Listeria monocytogenes*	Sausage	5.0	+	+MA
L 70	*Listeria monocytogenes*	Salmon from Ireland	4.0	+	+MA
L116	*Listeria monocytogenes* 1/2a	Fish meal	5.0	+	+HA
L117	*Listeria monocytogenes* 1/2c	Montbeliard sausage	8.0	+	+MA
L119	*Listeria monocytogenes*	Spinaches	7.0	+	+MA
L121	*Listeria monocytogenes*	Neufchatel cheese	5.0	+	+MA
L123	*Listeria monocytogenes*	Mozzarella cheese	5.0	+	+MA
L124	*Listeria monocytogenes*	Perch fillet	6.0	+	+MA
L125	*Listeria monocytogenes*	Vegetables pan fry	6.0	+	+MA
L128	*Listeria monocytogenes* 1/2a	Soya cattle cake	4.0	+	+MA
L129	*Listeria monocytogenes* 1/2a	Browed potatoes	2.0	+	+MA
L130	*Listeria monocytogenes*	Ground meat	6.0	+	+MA
L137	*Listeria monocytogenes*	Ground meat	2.0	+	+MA
L141	*Listeria monocytogenes*	Environmental sample	4.0	+	+MA
L149	*Listeria monocytogenes*	Environmental sample	6.0	+	+MA
L152	*Listeria monocytogenes*	Environmental sample	5.0	+	+LA
L156	*Listeria monocytogenes*	French pies	2.0	+	+MA
L176	*Listeria monocytogenes*	Beef meat	9.0	+	+MA

EXCLUSIVITY (Study realized by IPL, 2008)				
Reference	Strain	Origin	Inoculation level in 10 mL non-selective nutrient broth	BAX® System PCR Assay for *L. monocytogenes* 24E
				Result
BA2	*Bacillus cereus*	Beet	1.0E+05	-
BA4	*Bacillus stearothermophilus*	Dairy product	1.5E+05	-
BA23	*Bacillus sphaericus*	Collection	1.0E+05	-
BA5	*Bacillus sphaericus*	Meat product	1.0E+05	-
BA5	*Bacillus sphaericus*	Meat product	2.0E+05	-
BA7	*Bacillus coagulans*	Collection	5.0E+05	-
BA19	*Bacillus cereus*	Environment	3.0E+05	-
BA9	*Bacillus cereus*	Potatoes flakes	2.0E+05	-
BA14	*Bacillus cereus*	Egg	3.0E+05	-
BA15	*Bacillus cereus*	Custard	6.0E+05	-
BA21	*Bacillus cereus*	Tabbouleh	2.0E+05	-
E1	*Enterococcus faecalis*	Eggproduct	4.0E+05	-
E2	*Enterococcus faecium*	Collection ATCC 3286	1.7E+05	-
E3	*Streptococcus bovis*	Collection	1.5E+05	-
E13	*Streptococcus bovis*	Collection CIP 5623	1.5E+05	-
E8	*Enterococcus durans*	Meat product	6.0E+05	-
E9	*Enterococcus faecium*	Tarama	7.0E+05	-
E17	*Streptococcus equinus*	Collection	1.0E+05	-
E6	*Enterococcus faecalis*	Collection ATCC 19433	3.0E+04	-
E7	*Enterococcus faecium*	Collection CIP 5433	3.0E+05	-
E14	*Streptococcus anginosus*	Collection	1.5E+05	-
32	*Rhodococcus equi*	Meat product	3.0E+05	-
33	*Lactobacillus casei*	Dairy product	2.0E+03	-
L139	*Jonesia denitrificans*	Collection	3.0E+05	-
Le1	*Rhodotorula rubra*	Pastry	2.0E+04	-
Le3	*Candida albicans*	Collection	1.0E+05	-
ST26	*Staphylococcus intermedius*	Collection	3.0E+05	-
ST17	*Staphylococcus aureus*	Iced yoghurt	5.0E+05	-
ST3	*Staphylococcus epidermidis*	Yoghurt	4.0E+05	-
M1	*Micrococcus*	Environment	2.0E+05	-
L 140	*Listeria seeligeri*	Frozen French pies	6.0E+05	-
L 142	*Listeria seeligeri*	Raw milk cheese	9.0E+05	-
L 147	*Listeria grayi*	ATCC 25 401	1.0E+06	-
L 148	*Listeria seeligeri*	Environment	8.0E+05	-
L 154	*Listeria ivanovii*	Sausage with herbs	9.0E+05	-
L 155	*Listeria welshimeri*	Salmon fillet	8.0E+05	-
L 157	*Listeria ivanovii spp. ivanovii*	Collection	9.0E+05	-
L 158	*Listeria ivanovii*	NSB 79332	6.0E+05	-
L 159	*Listeria ivanovii spp. ivanovii*	Collection	8.0E+05	-

EXCLUSIVITY (Study realized by IPL, 2008)				
Reference	Strain	Origin	Inoculation level in 10 mL non-selective nutrient broth	BAX® System PCR Assay for *L. monocytogenes* 24E
				Result
L 173	*Listeria ivanovii*	Collection	8.0E+05	-
L179	*Listeria ivanovii*	Environment	3.0E+05	-
L170	*Listeria ivanovii*	Collection	1.0E+05	-
L185	*Listeria ivanovii*	Net	4.0E+05	-
L153	*Listeria ivanovii*	Environmental sample	1.0E+05	-
L64	*Listeria innocua*	Epoisses cheese	2.0E+05	-
L72	*Listeria innocua*	Boulettes d'Avesnes cheese	3.0E+05	-
L76	*Listeria innocua* 6b	Ground meat	1.0E+05	-
L76	*Listeria innocua* 6b	Ground meat	1.0E+05	-
L77	*Listeria innocua* 6a	Toulouse sausage	1.0E+05	-
L80	*Listeria ivanovii*	Collection	6.0E+05	-
L83	*Listeria seeligeri* 1/2b	Beef tongue	9.0E+05	-
L84	*Listeria seeligeri* 1/2b	Ground meat	3.0E+05	-
L84	*Listeria seeligeri* 1/2b	Ground meat	3.0E+05	-
L91	*Listeria welshimeri*	Pure pork slicing sausage	2.0E+04	-
L99	*Listeria welshimeri*	Sausages	5.6E+05	-
L101	*Listeria welshimeri*	Ham	3.0E+05	-
L101	*Listeria welshimeri*	Ham	3.0E+05	-
L108	*Listeria innocua*	Gorgonzola cheese	1.0E+05	-
L142	*Listeria seeligeri*	Raw milk cheese	6.0E+05	-
L151	*Listeria ivanovii*	Ground meat	1.0E+05	-
L172	*Listeria ivanovii*	ATCC 19119	9.0E+04	-
L190	*Listeria grayi*	Frozen French pies	2.0E+05	-

Appendix 7 - Results obtained by the collaborators (study realized by IPL, 2008)

Laboratory A

Sample N°	Reference method					Comparison / expected results	Alternative method BAX® *L.mono*			Agree-ment
	Fraser 1/2		Fraser		Result		Test BAX® *L.mono*	Confirmation	Result	
	O&A	PALCAM	O&A	PALCAM						
3	-	-	-	-	-	=	-	-	-	NA
4	-	-	-	-	-	=	-	-	-	NA
9	-	-	-	-	-	=	-	-	-	NA
10	-	-	-	-	-	=	-	-	-	NA
11	-	-	-	-	-	=	-	-	-	NA
12	-	-	-	-	-	=	-	-	-	NA
19	-	-	-	-	-	=	-	-	-	NA
20	-	-	-	-	-	=	-	-	-	NA
1	+	+	+	+	+	=	+	+	+	PA
2	+	+	+	+	+	=	+	+	+	PA
5	+	+	+	+	+	=	+	+	+	PA
6	+	+	+	+	+	=	+	+	+	PA
13	+	+	+	+	+	=	+	+	+	PA
14	+	+	+	+	+	=	+	+	+	PA
21	+	+	+	+	+	=	+	+	+	PA
22	+	+	+	+	+	=	+	+	+	PA
7	+	+	+	+	+	=	+	+	+	PA
8	+	+	+	+	+	=	+	+	+	PA
15	+	+	+	+	+	=	+	+	+	PA
16	+	+	+	+	+	=	+	+	+	PA
17	+	+	+	+	+	=	+	+	+	PA
18	+	+	+	+	+	=	+	+	+	PA
23	+	+	+	+	+	=	+	+	+	PA
24	+	+	+	+	+	=	+	+	+	PA
Total flora of milk (UFC/ml):			<1							

Laboratory B

Sample N°	Reference method					Comparison / expected results	Alternative method BAX® *L.mono*			Agree-ment
	Fraser 1/2		Fraser		Result		Test BAX® *L.mono*	Confirmation	Result	
	O&A	PALCAM	O&A	PALCAM						
3	-	-	-	-	-	=	-	-	-	NA
4	-	-	-	-	-	=	-	-	-	NA
9	-	-	-	-	-	=	-	-	-	NA
10	-	-	-	-	-	=	-	-	-	NA
11	-	-	-	-	-	=	-	-	-	NA
12	-	-	-	-	-	=	-	-	-	NA
19	-	-	-	-	-	=	-	-	-	NA
20	-	-	-	-	-	=	-	-	-	NA
1	+	+	+	+	+	=	+	+	+	PA
2	+	+	+	+	+	=	+	+	+	PA
5	+	+	+	+	+	=	+	+	+	PA
6	+	+	+	+	+	=	+	+	+	PA
13	+	+	+	+	+	=	+	+	+	PA
14	+	+	+	+	+	=	+	+	+	PA
21	+	+	+	+	+	=	+	+	+	PA
22	+	+	+	+	+	=	+	+	+	PA
7	+	+	+	+	+	=	+	+	+	PA
8	+	+	+	+	+	=	+	+	+	PA
15	+	+	+	+	+	=	+	+	+	PA
16	+	+	+	+	+	=	+	+	+	PA
17	+	+	+	+	+	=	+	+	+	PA
18	+	+	+	+	+	=	+	+	+	PA
23	+	+	+	+	+	=	+	+	+	PA
24	+	+	+	+	+	=	+	+	+	PA
Total flora of milk (UFC/ml):			NC							

Laboratory C

Sample N°	Reference method					Comparison / expected results	Alternative method BAX® *L.mono*			Agree-ment
	Fraser 1/2		Fraser		Result		Test BAX® *L.mono*	Confirmation	Result	
	O&A	PALCAM	O&A	PALCAM						
3	-	-	-	-	-	=	-	-	-	NA
4	-	-	-	-	-	=	-	-	-	NA
9	-	-	-	-	-	=	-	-	-	NA
10	-	-	-	-	-	=	-	-	-	NA
11	-	-	-	-	-	=	-	-	-	NA
12	-	-	-	-	-	=	-	-	-	NA
19	-	-	-	-	-	=	-	-	-	NA
20	-	-	-	-	-	=	-	-	-	NA
1	+	+	+	+	+	=	+	+	+	PA
2	+	+	+	+	+	=	+	+	+	PA
5	+	+	+	+	+	=	+	+	+	PA
6	+	+	+	+	+	=	+	+	+	PA
13	+	+	+	+	+	=	+	+	+	PA
14	+	+	+	+	+	=	+	+	+	PA
21	+	+	+	+	+	=	+	+	+	PA
22	+	+	+	+	+	=	+	+	+	PA
7	+	+	+	+	+	=	+	+	+	PA
8	+	+	+	+	+	=	+	+	+	PA
15	+	+	+	+	+	=	+	+	+	PA
16	+	+	+	+	+	=	+	+	+	PA
17	+	+	+	+	+	=	+	+	+	PA
18	+	+	+	+	+	=	+	+	+	PA
23	+	+	+	+	+	=	+	+	+	PA
24	+	+	+	+	+	=	+	+	+	PA
Total flora of milk (UFC/ml):			1700							

Laboratory D

Sample N°	Reference method					Comparison / expected results	Alternative method BAX® *L.mono*			Agree-ment
	Fraser 1/2		Fraser		Result		Test BAX® *L.mono*	Confirmation	Result	
	O&A	PALCAM	O&A	PALCAM						
3	-	-	-	-	-	=	-	-	-	NA
4	-	-	-	-	-	=	-	-	-	NA
9	-	-	-	-	-	=	-	-	-	NA
10	-	-	-	-	-	=	-	-	-	NA
11	-	-	-	-	-	=	-	-	-	NA
12	-	-	-	-	-	=	-	-	-	NA
19	-	-	-	-	-	=	-	-	-	NA
20	-	-	-	-	-	=	-	-	-	NA
1	+	+	+	+	+	=	+	+	+	PA
2	+	+	+	+	+	=	+	+	+	PA
5	+	+	+	+	+	=	+	+	+	PA
6	+	+	+	+	+	=	+	+	+	PA
13	+	+	+	+	+	=	+	+	+	PA
14	+	+	+	+	+	=	+	+	+	PA
21	+	+	+	+	+	=	+	+	+	PA
22	+	+	+	+	+	=	+	+	+	PA
7	+	+	+	+	+	=	+	+	+	PA
8	+	+	+	+	+	=	+	+	+	PA
15	+	+	+	+	+	=	+	+	+	PA
16	+	+	+	+	+	=	+	+	+	PA
17	+	+	+	+	+	=	+	+	+	PA
18	+	+	+	+	+	=	+	+	+	PA
23	+	+	+	+	+	=	+	+	+	PA
24	+	+	+	+	+	=	+	+	+	PA
Total flora of milk (UFC/ml):			1200							

Laboratory E

Sample N°	Reference method					Comparison / expected results	Alternative method BAX® *L.mono*			Agree-ment
	Fraser 1/2		Fraser		Result		Test BAX® *L.mono*	Confirmation	Result	
	O&A	PALCAM	O&A	PALCAM						
3	-	-	-	-	-	=	-	-	-	NA
4	-	-	-	-	-	=	-	-	-	NA
9	-	-	-	-	-	=	-	-	-	NA
10	-	-	-	-	-	=	-	-	-	NA
11	-	-	-	-	-	=	-	-	-	NA
12	-	-	-	-	-	=	-	-	-	NA
19	-	-	-	-	-	=	-	-	-	NA
20	-	-	-	-	-	=	-	-	-	NA
1	+	+	+	+	+	=	+	+	+	PA
2	+	+	+	+	+	=	+	+	+	PA
5	+	+	+	+	+	=	+	+	+	PA
6	+	+	+	+	+	=	+	+	+	PA
13	+	+	+	+	+	=	+	+	+	PA
14	+	+	+	+	+	=	+	+	+	PA
21	+	+	+	+	+	=	+	+	+	PA
22	+	+	+	+	+	=	+	+	+	PA
7	+	+	+	+	+	=	+	+	+	PA
8	+	+	+	+	+	=	+	+	+	PA
15	+	+	+	+	+	=	+	+	+	PA
16	+	+	+	+	+	=	+	+	+	PA
17	+	+	+	+	+	=	+	+	+	PA
18	+	+	+	+	+	=	+	+	+	PA
23	+	+	+	+	+	=	+	+	+	PA
24	+	+	+	+	+	=	+	+	+	PA
Total flora of milk (UFC/ml):			<4							

Laboratory F

Sample N°	Reference method					Comparison / expected results	Alternative method BAX® *L.mono*			Agree-ment
	Fraser 1/2		Fraser		Result		Test BAX® *L.mono*	Confirmation	Result	
	O&A	PALCAM	O&A	PALCAM						
3	-	-	-	-	-	=	-	-	-	NA
4	-	-	-	-	-	=	-	-	-	NA
9	-	-	-	-	-	=	-	-	-	NA
10	-	-	-	-	-	=	-	-	-	NA
11	-	-	-	-	-	=	-	-	-	NA
12	-	-	-	-	-	=	-	-	-	NA
19	-	-	-	-	-	=	-	-	-	NA
20	-	-	-	-	-	=	-	-	-	NA
1	+	+	+	+	+	=	+	+	+	PA
2	+	+	+	+	+	=	+	+	+	PA
5	+	+	+	+	+	=	+	+	+	PA
6	+	+	+	+	+	=	+	+	+	PA
13	+	+	+	+	+	=	+	+	+	PA
14	+	+	+	+	+	=	+	+	+	PA
21	+	+	+	+	+	=	+	+	+	PA
22	+	+	+	+	+	=	+	+	+	PA
7	+	+	+	+	+	=	+	+	+	PA
8	+	+	+	+	+	=	+	+	+	PA
15	+	+	+	+	+	=	+	+	+	PA
16	+	+	+	+	+	=	+	+	+	PA
17	+	+	+	+	+	=	+	+	+	PA
18	+	+	+	+	+	=	+	+	+	PA
23	+	+	+	+	+	=	+	+	+	PA
24	+	+	+	+	+	=	+	+	+	PA
Total flora of milk (UFC/ml):			3600							

Laboratory G

Sample N°	Reference method					Comparison / expected results	Alternative method BAX® *L.mono*			Agree-ment
	Fraser 1/2		Fraser		Result		Test BAX® *L.mono*	Confirmation	Result	
	O&A	PALCAM	O&A	PALCAM						
3	-	-	-	-	-	=	-	-	-	NA
4	-	-	-	-	-	=	-	-	-	NA
9	-	-	-	-	-	=	-	-	-	NA
10	-	-	-	-	-	=	-	-	-	NA
11	-	-	-	-	-	=	-	-	-	NA
12	-	-	-	-	-	=	-	-	-	NA
19	-	-	-	-	-	=	-	-	-	NA
20	-	-	-	-	-	=	-	-	-	NA
5	+	+	+	+	+	=	+	+	+	PA
6	+	+	+	+	+	=	+	+	+	PA
1	+	+	+	+	+	=	+	+	+	PA
2	+	+	+	+	+	=	+	+	+	PA
13	+	+	+	+	+	=	+	+	+	PA
14	+	+	+	+	+	=	+	+	+	PA
21	+	+	+	+	+	=	+	+	+	PA
22	+	+	+	+	+	=	+	+	+	PA
7	+	+	+	+	+	=	+	+	+	PA
8	+	+	+	+	+	=	+	+	+	PA
15	+	+	+	+	+	=	+	+	+	PA
16	+	+	+	+	+	=	+	+	+	PA
17	+	+	+	+	+	=	+	+	+	PA
18	+	+	+	+	+	=	+	+	+	PA
23	+	+	+	+	+	=	+	+	+	PA
24	+	+	+	+	+	=	+	+	+	PA
Total flora of milk (UFC/ml):			1300							

Laboratory H

Sample N°	Reference method					Comparison / expected results	Alternative method BAX® *L.mono*			Agree-ment
	Fraser 1/2		Fraser		Result		Test BAX® *L.mono*	Confirmation	Result	
	O&A	PALCAM	O&A	PALCAM						
3	-	-	-	-	-	=	-	-	-	NA
4	-	-	-	-	-	=	-	-	-	NA
9	-	-	-	-	-	=	-	-	-	NA
10	-	-	-	-	-	=	-	-	-	NA
11	-	-	-	-	-	=	-	-	-	NA
12	-	-	-	-	-	=	-	-	-	NA
19	-	-	-	-	-	=	-	-	-	NA
20	-	-	-	-	-	=	-	-	-	NA
1	+	+	+	+	+	=	+	+	+	PA
2	+	+	+	+	+	=	+	+	+	PA
5	+	+	+	+	+	=	+	+	+	PA
6	+	+	+	+	+	=	+	+	+	PA
14	+	+	+	+	+	=	+	+	+	PA
21	+	+	+	+	+	=	+	+	+	PA
22	+	+	+	+	+	=	+	+	+	PA
7	+	+	+	+	+	=	+	+	+	PA
8	+	+	+	+	+	=	+	+	+	PA
15	+	+	+	+	+	=	+	+	+	PA
16	+	+	+	+	+	=	+	+	+	PA
17	+	+	+	+	+	=	+	+	+	PA
18	+	+	+	+	+	=	+	+	+	PA
23	+	+	+	+	+	=	+	+	+	PA
24	+	+	+	+	+	=	+	+	+	PA
Total flora of milk (UFC/ml):			$5,8.10^6$							

Laboratory K

Sample N°	Reference method					Comparison / expected results	Alternative method BAX® *L.mono*			Agree-ment
	Fraser 1/2		Fraser		Result		Test BAX® *L.mono*	Confirmation	Result	
	O&A	PALCAM	O&A	PALCAM						
3	-	-	-	-	-	=	-	-	-	NA
4	-	-	-	-	-	=	-	-	-	NA
9	-	-	-	-	-	=	-	-	-	NA
10	-	-	-	-	-	=	-	-	-	NA
11	-	-	-	-	-	=	-	-	-	NA
12	-	-	-	-	-	=	-	-	-	NA
19	-	-	-	-	-	=	-	-	-	NA
20	-	-	-	-	-	=	-	-	-	NA
1	+	+	+	+	+	=	+	+	+	PA
2	+	+	+	+	+	=	+	+	+	PA
5	+	+	+	+	+	=	+	+	+	PA
6	+	+	+	+	+	=	+	+	+	PA
13	+	+	+	+	+	=	+	+	+	PA
14	+	+	+	+	+	=	-	+	-	ND
21	+	+	+	+	+	=	+	+	+	PA
22	+	+	+	+	+	=	+	+	+	PA
7	+	+	+	+	+	=	+	+	+	PA
8	+	+	+	+	+	=	+	+	+	PA
15	+	+	+	+	+	=	+	+	+	PA
16	+	+	+	+	+	=	+	+	+	PA
17	+	+	+	+	+	=	+	+	+	PA
18	+	+	+	+	+	=	+	+	+	PA
23	+	+	+	+	+	=	+	+	+	PA
24	+	+	+	+	+	=	+	+	+	PA
Total flora of milk (UFC/ml):			54000							

Laboratory L

Sample N°	Reference method					Comparison / expected results	Alternative method BAX® *L.mono*			Agree-ment
	Fraser 1/2		Fraser		Result		Test BAX® *L.mono*	Confirmation	Result	
	O&A	PALCAM	O&A	PALCAM						
3	-	-	-	-	-	=	-	-	-	NA
4	-	-	-	-	-	=	-	-	-	NA
9	-	-	-	-	-	=	-	-	-	NA
10	-	-	-	-	-	=	-	-	-	NA
11	-	-	-	-	-	=	-	-	-	NA
12	-	-	-	-	-	=	-	-	-	NA
19	-	-	-	-	-	=	-	-	-	NA
20	-	-	-	-	-	=	-	-	-	NA
1	+	+	+	+	+	=	+	+	+	PA
2	+	+	+	+	+	=	+	+	+	PA
5	+	+	+	+	+	=	+	+	+	PA
6	+	+	+	+	+	=	+	+	+	PA
13	+	+	+	+	+	=	+	+	+	PA
14	+	+	+	+	+	=	+	+	+	PA
21	+	+	+	+	+	=	+	+	+	PA
22	+	+	+	+	+	=	+	+	+	PA
7	+	+	+	+	+	=	+	+	+	PA
8	+	+	+	+	+	=	+	+	+	PA
15	+	+	+	+	+	=	+	+	+	PA
16	+	+	+	+	+	=	+	+	+	PA
17	+	+	+	+	+	=	+	+	+	PA
18	+	+	+	+	+	=	+	+	+	PA
23	+	+	+	+	+	=	+	+	+	PA
24	+	+	+	+	+	=	+	+	+	PA
Total flora of milk (UFC/ml):			$3{,}8.10^4$							

Laboratory M

Sample N°	Reference method					Comparison / expected results	Alternative method BAX® *L.mono*			Agree-ment
	Fraser 1/2		Fraser		Result		Test BAX® *L.mono*	Confirmation	Result	
	O&A	PALCAM	O&A	PALCAM						
3	-	-	-	-	-	=	-	-	-	NA
4	-	-	-	-	-	=	-	-	-	NA
9	-	-	-	-	-	=	-	-	-	NA
10	-	-	-	-	-	=	-	-	-	NA
11	-	-	-	-	-	=	-	-	-	NA
12	-	-	-	-	-	=	-	-	-	NA
19	-	-	-	-	-	=	-	-	-	NA
20	-	-	-	-	-	=	-	-	-	NA
1	+	+	+	+	+	=	+	+	+	PA
2	+	+	+	+	+	=	+	+	+	PA
5	+	+	+	+	+	=	+	+	+	PA
6	+	+	+	+	+	=	+	+	+	PA
13	+	+	+	+	+	=	+	+	+	PA
14	+	+	+	+	+	=	+	+	+	PA
21	+	+	+	+	+	=	+	+	+	PA
22	+	+	+	+	+	=	+	+	+	PA
7	+	+	+	+	+	=	+	+	+	PA
8	+	+	+	+	+	=	+	+	+	PA
15	+	+	+	+	+	=	+	+	+	PA
16	+	+	+	+	+	=	+	+	+	PA
17	+	+	+	+	+	=	+	+	+	PA
18	+	+	+	+	+	=	+	+	+	PA
23	+	+	+	+	+	=	+	+	+	PA
24	+	+	+	+	+	=	+	+	+	PA

Total flora of milk (UFC/ml): 4400