Inovalys Tours

bioMérieux

NF VALIDATION - Validation of alternative method of analysis
Application to food microbiology

Summary Report

Study conducted according to EN ISO 16140-2 : 2016

« GENE-UP® Listeria spp. »
BIO 12/39-09/16
(Ref. 423106)
for the detection of *Listeria spp.*
in a broad range of food products and environmental samples (excluding primary production samples)

Qualitative method

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SUMMARY

Preamble

Validation protocol :

ISO 16140-2 (September 2016): Microbiology of the food chain – Method validation - Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method.

AFNOR Technical Rules (PR Revision 7).

Reference method :

ISO 11290-1/A1 (February 2005)
ISO 11290-1 (May 2017)

Scope :

All human food products (by validation tests on a wide range of foods) and environmental samples (excluding primary production samples).

Certification organism:

AFNOR Certification (http://nf-validation.afnor.org/)

1. Introduction

The GENE UP® *Listeria* spp. (GENE-UP LIS) method was certified by AFNOR Certification according to the ISO 16140-2 standard under the certification number BIO 12/39-09/16.
The validation stages, the expert laboratory and the standards used during the studies are presented in the table below.

Date	Purpose	Mix PCR and software	Expert Laboratory	Standards
September 2016	Initial validation in Meat products and dairy products (general protocol)	Multi doses and software 1.1	ISHA	- ISO 16140-2:2016 (preliminary study) - AFNOR requirements : v5.1 (November 2015) - ISO 11290-1/A1 (2005)
November 2016	Extension in seafood products, vegetal products, composite food (general protocol) and environmental samples with general and specific protocol	Multi doses and software 1.1		- ISO 16140-2:2016 (preliminary study) - AFNOR requirements : v5.1 (November 2015) - ISO 11290-1/A1 (2005)
July 2017	Modification for use of software version 2.0	Multi doses and software 2.0		- AFNOR requirements : v6 (mai 2017)
December 2018	Extension for the new kit PCR	Unit dose and software 3.0		- AFNOR requirements : v6 (mai 2017)
July 2020	Renewal study	Unit dose and software 3.0	INOVALYS	- ISO 16140-2:2016 - AFNOR requirements : v6 - ISO 11290-1 (2017)
October 2021	Extension for new protocol for dairy products (LX broth)	Unit dose and software 3.1	INOVALYS	- ISO 16140-2:2016 - AFNOR requirements : PR7 - ISO 11290-1 (2017)

2. Method protocols

2.1. Alternative method

Principle of the method :

The GENE-UP® *Listeria spp.* kit is to be used with compatible PCR strip tubes in the GENE-UP Thermocycler. Each reaction vial in the GENE-UP *Listeria spp.* kit contains all of the necessary components for PCR, including sample-specific primers and probes and an internal amplification control.
The GENE-UP Thermocycler detects fluorescence at several wavelengths (channels) to allow for multi-target detection in the same reaction vessel. The fluorescent signal from a sample is recorded in channel 640, while the fluorescent signal for an internal amplification control is recorded in channel 705. The software automatically interprets the results for the internal amplification control and determines the sample result based on the outcome of the control.

Both the assay for the sample and the internal amplification control utilize dual Fluorescence Resonance Energy Transfer (FRET) hybridization probes. These probes consist of two different short oligonucleotides that hybridize to an internal sequence of the amplified fragment during the annealing phase of the reaction cycle. The first probe for the sample assay is labeled at the 3' end with fluorescein; the second probe is labeled at the 5' end with LC Red 640. FRET occurs only after the two probes come in close proximity from hybridizing to the template DNA.

The resulting fluorescent signal from the FRET interaction, which forms a real-time amplification curve, is how the amplified target is detected by the GENE-UP Thermocycler. After the PCR cycling program finishes, the PCR product(s) are melted to determine the presence of the target DNA. The software interprets data for each sample and gives a positive, negative, or inhibited result.

The internal amplification control, contained in the reconstitution buffer, validates that the reaction conditions are sustainable for PCR to take place, thus validating a negative outcome for the sample. The internal amplification control is amplified by the same primer set but uses a different set of hybridization FRET probes to allow detection in the 705 channel.

PCR results interpretation :

A sample is declared negative if no melt peak is detected or if the peak is outside of a defined range of TM values, or if the height of the peak is lower than a negative threshold value.
A sample is declared positive if the melt peak is inside the TM range of values and if the peak is higher than the previous threshold, or if the curve crosses a new positive threshold.

Alternative method protocol :

Available protocols and associated categories are described in table 1.

Table 1 : Protocols

Category	Test portion	Dilution	Enrichment	Protocol
Meat products	25 g	1/10	LPT broth 22 - 28 h at 37 ± 1°C	①
Dairy products	25 g	1/10	LPT broth 22 - 28 h at 37 ± 1°C	①
	25 g	1/10	LX broth 22 - 28 h at 37 ± 1°C	③
Seafood products	25 g	1/10	LPT broth 22 - 28 h at 37 ± 1°C	①
Vegetal products	25 g	1/10	LPT broth 22 - 28 h at 37 ± 1°C	①
Composite foods	25 g	1/10	LPT broth 22 - 28 h at 37 ± 1°C	①
Environmental samples	25 g or sample device	1/10 or 10 mL or 100 mL	LPT broth 22 - 28 h at 37 ± 1°C	① **Except surface samples**
			LPT broth 18 - 24 h at 37 ± 1°C	② **Surface samples**

The enrichment is followed by a lysis step on 20 µL enrichment and a detection step in the GENE-UP thermocycler on 10 µL lysate.

Results are interpreted and shown in the GENE-UP Routine software.

Presumptive positive results are confirmed by streaking 10 µL of the enriched LPT or LX broth on PALCAM agar or a chromogenic agar forming part of an ISO 16140-2 certified method for detection of *Listeria* genus (starting from the same enrichment step). The presence of characteristic colonies is sufficient to confirm the presence of *Listeria spp*.
If confirmation of colonies is necessary, an API LIS strip can be used on isolated colonies (without a purification step).

Protocol of the alternative method, including the confirmation steps, is shown in appendix 1.

It is possible to store the enrichment broth and the lysates for 72h at 5°C ± 3°C.

Restriction :

Listeria grayi is excluded from the scope of the method.

2.2. Reference method

In the previous validations, the reference method used was the one described in the standard ISO 11290-1/A1 (2005), "Horizontal method for the detection and enumeration of *Listeria monocytogenes* - Part 1: Detection method".

For the last extension study, the reference method was 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 workflow of the method is set out in appendix 2.

2.3. Study design

The validation protocols follow 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

3.1.1. Sensitivity study

The relative sensitivity (SE) is the ability of the alternative method to detect the analyte when it is detected by the reference method.

3.1.1.1. Number and nature of samples

Combining the different studies, 616 samples were analysed, 274 negative samples and 342 positive samples (45.9 % of them were naturally contaminated).

AFNOR rules to apply during the last extension study require having a percentage of naturally contaminated 50%. To meet this requirement, it was agreed with the Technical Board to exclude from each category 4 samples artificially contaminated with *Listeria monocytogenes*, showing a result in positive agreement, while retaining the required number of positive per category. These samples are listed in appendix 4b.

Combining the different studies and after exlusion, 588 samples were analysed, 274 negative samples and 314 positive samples.

The repartition of samples per category and type is presented in table 2.

Table 2 : Number and nature of samples

Category		Type	Protocol	Positive samples	Negative samples	Total
Meat products	a	Raw products	①	25	14	39
	b	Ready-to-eat and processed meat products		18	7	25
	c	Fermented or dried meat products		9	9	18
		Total		52	30	82
Dairy products	a	Raw milk cheese	①	17	17	34
	b	Other raw milk products		10	9	19
	c	Heat-processed milk and dairy products		20	19	39
		Total		47	45	92
	a	Raw milk cheese	③	14	6	20
	b	Other raw milk products		14	7	21
	c	Heat-processed milk and dairy products		12	8	20
		Total		40	21	61
		Total dairy products		87	66	153
Seafood products	a	Raw products	①	20	12	32
	b	Smoked, marinated products		11	9	20
	c	Processed products		13	12	25
		Total		44	33	77
Vegetal products	a	Raw vegetal products	①	14	22	36
	b	Ready-to-eat and ready-to-cook raw vegetal products		10	18	28
	c	Processed vegetal products		19	8	27
		Total		43	48	91
Composite foods	a	Ready-to-eat foods	①	19	12	31
	b	Ready-to-reheat foods		12	9	21
	c	Pastries, egg products		10	14	24
		Total		41	35	76
Environmental samples	a	Process waters	①	12	11	23
	b	Dusts and residues		7	15	22
	c	Sponges and swabs	②	28	36	64
		Total		47	62	109
TOTAL ALL CATEGORIES				314	274	588
Total protocol ①				246	217	463
Total protocol ②				28	36	64
Total protocol ③				40	21	61

3.1.1.2. Artificial contamination of samples

Artificial contaminations were performed using the seeding protocol. No more than six positive results were obtained using the same strain.

Considering all the categories of the application scope, 314 samples gave a positive result by at least one of the method and 50.0 % of them were naturally contaminated.

The detail of the artificial contaminations is in appendix 3 and the repartition of the positive samples per contamination level is given in table 3.

Table 3 : Repartition of the positive samples

Naturally contaminated	Artificially contaminated			Total
	Seeding			
	≤3	3<x ≤10	>10	
157	141	16	0	314
50.0%	44.9%	5.1%	0%	100%

The proportions of *Listeria spp*. (only or mixed with *L. monocytogenes*) and of *L. monocytogenes* among the positive samples for all categories are presented in table 4.

Table 4 : Distribution of contamination

Category	*Listeria* spp only (A)		*Listeria* spp + *L. monocytogenes* (B)		Total A+B		*L. monocytogenes* only		Total positive samples
	Number	%	Number	%	Number	%	Number	%	
Meat products	24	46,2%	17	32,7%	41	78,8%	11	21,2%	52
Dairy products ①	18	38,3%	0	0,0%	18	38,3%	29	61,7%	47
Dairy products ③	16	40,0%	6	15,0%	22	55,0%	18	45,0%	40
Total dairy products	34	39,1%	6	6,9%	40	46,0%	47	54,0%	87
Seafood products	13	29,5%	5	11,4%	18	40,9%	26	59,1%	44
Vegetal products	18	41,9%	3	7,0%	21	48,8%	22	51,2%	43
Composite foods	12	29,3%	3	7,3%	15	36,6%	26	63,4%	41
Environmental samples	21	44,7%	0	0,0%	21	44,7%	26	55,3%	47
All categories	**122**	**38,9%**	**34**	**10,8%**	**156**	**49,7%**	**158**	**50,3%**	**314**

3.1.1.3. Protocols applied during the study

Incubation times

During the initial validation study, only the minimal incubation time of the broth of the alternative method was tested, namely : 22 hours for the protocol ① and 18 hours for the protocol ②.

During extension validation study, only the minimal incubation time of the broth of the alternative method was tested, namely : 22 hours for the protocol ③.

Confirmation protocols

All samples of the alternative method were confirmed by direct streaking of 10 µL of the enriched broth (LPT or LX broth) on an ALOA petri dish and on a PALCAM petri dish.
Typical colonies was confirmed by :

- the observation of the presence of typical colonies,
- the tests of the ISO 11290-1/A1 method including the purification step,
- an API Listeria gallery from an isolated colony.

In case of absence of typical colonies after a direct streaking from the enriched LX broth, a subculture in 10 mL of Fraser broth was performed from 0.1 mL of the enriched broth. This broth was incubated for 22 h at 37±1°C, then streaked on ALOA and PALCAM. Typical colonies were confirmed using the tests described above.
For samples found negative with the Gene-UP® LIS test, a subculture of 0.1 mL of the enriched broth was performed into 10 mL of Fraser broth incubated for 24 hours and then streaked onto an ALOA Petri dish to apply the extended confirmation protocol of the ISO 16140-2 standard for negative samples.

Enrichment broth and lysates storage for 72h at 5°C

A storage of the DNA extracts for 72 h at 5±3°C was performed for all samples.
A storage of the enriched broth for 72 h at 5±3°C was also performed for positive and discordant results. Results were confirmed by streaking on ALOA agar medium, followed by a rapid test. In case of discordance in the confirmation result with the results obtained in first analysis, all types of confirmation of the alternative method were applied.

3.1.1.4. Results

Raw data are shown in appendix 4.
The results are given in the following table 5.

Table 5 : Summary of results obtained with reference method and alternative method
(PA : positive agreement, NA : negative agreement, PD : positive deviation, ND : negative deviation, PP : positive presomptive non confirmed)

Category	PA	NA	PD	ND	PPNA*	PPND*	TOTAL
Meat products	40	30	8	4	0	0	82
Dairy products	54	66	17	16	0	0	153
Seafood products	28	33	7	9	1	0	77
Vegetal products	33	48	7	3	1	0	91
Composite foods	23	35	9	9	0	0	76
Environmental samples	34	62	5	8	0	0	109
TOTAL ALL CATEGORIES	212	274	53	49	2	0	588
Total protocol ①	163	217	43	40	2	0	463
Total protocol ②	23	36	2	3	0	0	64
Total protocol ③	26	21	8	6	0	0	61

* : PPNA are already included in NA and PPND in ND

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

The results are given in Table 6.

Table 6 : Calculation of the relative trueness (RT), sensitivity (SE) and false positive ratio (FPR)

Category	Type	PA	NA	PD	ND	PPNA*	PPND*	SE alt %	SE réf %	RT %	FPR %
Meat products	a	20	14	2	3	0	0	88,0%	92,0%	87,2%	0,0%
	b	14	7	3	1	0	0	94,4%	83,3%	84,0%	0,0%
	c	6	9	3	0	0	0	100,0%	66,7%	83,3%	0,0%
	Total	40	30	8	4	0	0	92,3%	84,6%	85,4%	0,0%
Dairy products	a	11	17	3	3	0	0	82,4%	82,4%	82,4%	0,0%
	b	5	9	4	1	0	0	90,0%	60,0%	73,7%	0,0%
	c	12	19	2	6	0	0	70,0%	90,0%	79,5%	0,0%
	Total ①	28	45	9	10	0	0	78,7%	80,9%	79,3%	0,0%
	a	10	6	2	2	0	0	85,7%	85,7%	80,0%	0,0%
	b	8	7	4	2	0	0	85,7%	71,4%	71,4%	0,0%
	c	8	8	2	2	0	0	83,3%	83,3%	80,0%	0,0%
	Total ③	26	21	8	6	0	0	85,0%	80,0%	77,0%	0,0%
	Total	54	66	17	16	0	0	81,6%	80,5%	78,4%	0,0%
Seafood products	a	15	12	4	1	1	0	95,0%	80,0%	84,4%	8,3%
	b	6	9	1	4	0	0	63,6%	90,9%	75,0%	0,0%
	c	7	12	2	4	0	0	69,2%	84,6%	76,0%	0,0%
	Total	28	33	7	9	1	0	79,5%	84,1%	79,2%	3,0%
Vegetal products	a	10	22	3	1	1	0	92,9%	78,6%	88,9%	4,5%
	b	7	18	3	0	0	0	100,0%	70,0%	89,3%	0,0%
	c	16	8	1	2	0	0	89,5%	94,7%	88,9%	0,0%
	Total	33	48	7	3	1	0	93,0%	83,7%	89,0%	2,1%
Composite foods	a	11	12	5	3	0	0	84,2%	73,7%	74,2%	0,0%
	b	7	9	3	2	0	0	83,3%	75,0%	76,2%	0,0%
	c	5	14	1	4	0	0	60,0%	90,0%	79,2%	0,0%
	Total	23	35	9	9	0	0	78,0%	78,0%	76,3%	0,0%
Environmental samples	a	8	11	1	3	0	0	75,0%	91,7%	82,6%	0,0%
	b	3	15	2	2	0	0	71,4%	71,4%	81,8%	0,0%
	c	23	36	2	3	0	0	89,3%	92,9%	92,2%	0,0%
	Total	34	62	5	8	0	0	83,0%	89,4%	88,1%	0,0%
TOTAL ALL CATEGORIES		212	274	53	49	2	0	84,4%	83,1%	82,7%	0,7%
Total protocol ①		163	217	43	40	2	0	83,7%	82,5%	82,1%	0,9%
Total protocol ②		23	36	2	3	0	0	89,3%	92,9%	92,2%	0,0%
Total protocol ③		26	21	8	6	0	0	85,0%	80,0%	77,0%	0,0%

* : PPNA are already included in NA and PPND in ND

A summary of the results is given in Table 7.

Table 7 : Summary of results

	EN ISO 16140-2 Formula	All categories
Sensitivity for the alternative method	$SE_{alt} = \frac{(PA + PD)}{(PA + ND + PD)} \times 100\ \%$	**84.4 %**
Sensitivity for the reference method	$SE_{ref} = \frac{(PA + ND)}{(PA + ND + PD)} \times 100\ \%$	**83.1 %**
Relative trueness (RT)	$RT = \frac{(PA + NA)}{N} \times 100\ \%$	**82.7 %**
False positive ratio for the alternative method (FPR)	$FPR = \frac{FP}{NA} \times 100\ \%$	**0.7 %**

3.1.1.6. Analysis of discordant results

Positive deviations

A positive result is obtained by the alternative method whereas a negative result is obtained by the reference method.
Positive deviations are listed in Table 8.
53 positive deviations were observed, 29 on naturally contaminated samples and 24 on artificially samples.
Due to the difference of sampling between both methods, no cell of *L. spp.* may have been taken in the sampling for the reference method.

Negative deviations

A positive result is obtained by the reference method whereas a negative result is obtained by the alternative method.
Negative deviations are listed in Table 9.
49 negative deviations were observed, 27 on naturally contaminated samples and 22 on artificially contaminated samples.
For 42 samples, the presence of *Listeria* spp. strains was not confirmed. Due to the difference of sampling between both methods, and the use of contaminated samples with low levels of contamination, no cell of *Listeria spp*. may have been present in the sampling of the alternative method.
For 3 sample (GL297/ 4 / 34), the confirmatory tests concluded to the presence of Listeria spp. It's important to note that the result of the reference method for sample 4 showed only one plate with typical colonies. For the sample 34, the GENE-UP detection test was repeated and gave a positive result.
For 4 samples (GL47 / GL120 / GL476 / 38), only the supplementary confirmation protocol of the ISO 16140-2: 2016 allowed finding typical colonies which were confirmed as *Listeria spp*.
For these 7 samples, it is probable that the enrichment did not allow to reach the threshold of the GENE-UP method.
Two samples found positive with the Gene-UP LIS method were not confirmed : GL206 (chive) and GL379 (red mullet fillet).

In addition, no sample in negative agrement was confirmed positive after the confirmation step.

The analysis of discordant results according to the EN ISO 16140-2:2016 is presented in Table 10.

Table 8 : Positive deviations

Sample N°	Category	Sample	Contamination			RM : NF EN ISO 11290-1		AM : GENE UP® LIS 2								Concordance RM /AM
						Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	
											ALOA	PALCAM				
GL142	Meat products	Fillet of tournedos (raw)	/	nc	/	-	A	29,06	60,68	+	3h- Ø	3 M	+ (L. w)	+ (L. w)	P	PD
GL159		Beef tournedos (raw)	LIS.4.11	se	1,6	-	A	26,42	53,07	+	4h+ Ø	4 L	+ (L. m)	+ (L. m)	P	PD
GL3		Nem Chua (raw preparation)	L.m 1/2a	nc	/	-	A	32,08	52,97	+	0 Ø	0 L	/	/	P	PD
										⇨Fraser	1 L	1 L	+ (L. w)	+ (L. w)		
GL18		Minced steak beef green beans	/	nc	/	-	A	25,11	59,49	+	2h- Ø	3 M	+ (L. w)	+ (L. w)	P	PD
GL52		Boneless pork fillet (raw)	/	nc	/	-	A	31,74	60,28	+	3h- L	0 H	+ (L. w)	+ (L. w)	P	PD
GL17		Block of smoked veal	L.m 1/2a	nc	/	-	A	33,72	53,24	+	2h- Ø	0 L	+ (L. w)	+ (L. w)	P	PD
GL19		Dry Garlic Sausage	/	nc	/	-	A	32,52	52,40	+	2h+ L	2 L	+ (L. m)	+ (L. m)	P	PD
GL163		Top ham without rind	LIS.4.26	se	2,8	-	A	27,25	53,25	+	3h+ Ø	3 Ø	+ (L. m)	+ (L. m)	P	PD
GL118	Dairy products	Emmental Savoie (cheese - raw cow)	LIS.3.7	se	1,7	-	A	31,94	55,07	+	2h+ L	0 H	+ (L. iv)	+ (L. iv)	P	PD
GL121		Moulis (cheese - raw cow)	LIS.5.3	se	0,3	-	A	34,48	59,14	+	0 L	0 M	/	/	P	PD
										⇨Fraser	1 L	1 M	+ (L. s)	+ (L. s)		
GL167		Emmental (cheese - raw cow)	/	nc	/	-	A	29,00	53,15	+	4h+ Ø	2 H	+ (L. m)	+ (L. m)	P	PD
GL124		Jersey raw butter (raw milk)	LIS.4.23	se	3,3	-	A	25,99	53,45	+	3h+ Ø	3 L	+ (L. m)	+ (L. m)	P	PD
GL125		Sweet churn butter (raw milk)	LIS.4.23	se	3,3	-	A	28,84	53,29	+	3h+ Ø	2 L	+ (L. m)	+ (L. m)	P	PD
GL128		Fermented lean ribot milk	LIS.4.4	se	2,3	-	A	26,16	53,30	+	4h+ Ø	0 H	+ (L. m)	+ (L. m)	P	PD
GL130		Microfiltered semi-skimmed milk	LIS.4.46	se	0,3	-	A	28,63	53,22	+	2h+ Ø	1 M	+ (L. m)	+ (L. m)	P	PD
GL116		Munster (cheese - pasteurized - cow)	LIS.6.5	se	2,0	-	A	30,18	59,01	+	0 L	0 H	/	/	P	PD
			LIS.6.5							⇨Fraser	1h- L	1 L	+ (L. w)	+ (L. w)		
GL181		Semi-skimmed milk (pasteurized)	LIS.6.4	se	2,2	-	A	28,63	59,41	+	2h- L	3 Ø	+ (L. w / L. s)	+ (L. w)	P	PD
GL383	Sea food products	Plaice fillet	LIS.4.15	se	0.8	-	A	28.22	53.03	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	P	PD
GL402		Trout fillet	/	nc	/	-	A	32.05	53.09	+	3h+ L	0 H	+ (L. m)	+ (L. m)	P	PD
GL406		Swordfish	/	nc	/	-	A	26.70	53.01	+	4h-/1h+ L	0 H	+ (L. in + L. m)	+ (L. in + L. m)	P	PD
GL439		Tuna slice (frozen)	LIS.2.16	se	1.2	-	A	23.66	59.63	+	4h- Ø	3 M	+ (L. in)	+ (L. in)	P	PD
GL388		Beech smoked trout bacon	LIS.4.25	se	0.4	-	A	26.79	53.20	+	4h+ Ø	4 L	+ (L. m)	+ (L. m)	P	PD
GL368		Fricassee appliance	/	nc	/	-	A	33.48	52.02	+	1h- H	0 H	-	-	P	PD
											⇨ confirmation positive after storage					
GL433		Tomato and small vegetable sardine fillets	/	nc	/	-	A	23.46	59.64	+	4h- Ø	4 Ø	+ (L. in)	+ (L. in)	P	PD
GL228	Vegetal products	Cabbage and lentil salad	/	nc	/	-	A	32,65	57,70	+	0 H	0 H	/	/	P	PD
											⇨ conf. + with ISO					

Sample N°	Category	Sample	Contamination			RM : NF EN ISO 11290-1		AM : GENE UP® LIS 2								Concordance RM /AM
						Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	
											ALOA	PALCAM				
GL245		White asparagus	LIS.5.9	se	1,8	-	**A**	24,87	59,70	+	4h- Ø	4 Ø	+ (L. se)	+ (L.se)	**P**	**PD**
GL 358		Cherry tomatoes	LIS.4.76	se	0,6	-	**A**	26,09	53,45	+	4h+ Ø	2 H	+ (L. m)	+ (L. m)	**P**	**PD**
GL186		Packaged cauliflower	LIS.2.2	se	1,0	-	**A**	24,91	57,74	+	4h- Ø	3 H	+ (L. in)	+ (L. in)	**P**	**PD**
GL187		Packaged broccoli	LIS.2.2	se	1,0	-	**A**	21,69	56,67	+	4h- Ø	3 H	+ (L. in)	+ (L. in)	**P**	**PD**
GL201		Pre-cooked cauliflower	LIS.4.17	se	1,4	-	**A**	29,36	53,24	+	3h+ Ø	3 Ø	+ (L. m)	+ (L. m)	**P**	**PD**
GL 349		Ratatouille	/	nc	/	-	**A**	25,84	53,52	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	**P**	**PD**
GL319	Composite foods	Pineapple, carrot and surimi duo	LIS.4.7	se	0.6	-	**A**	29,15	53,16	+	3h+ Ø	2 L	+ (L. m)	+ (L. m)	**P**	**PD**
GL322		Poultry tabbouleh	LIS.4.8	se	1.8	-	**A**	27,31	53,5	+	2h+ L	1 M	+ (L. m)	+ (L. m)	**P**	**PD**
GL326		Chicken Caesar Wrap	/	nc	/	-	**A**	20,57	59,86	+	4h- L	3 H	+ (L. in)	+ (L. in)	**P**	**PD**
GL327		Sheep ham wrap	/	nc	/	-	**A**	22,49	60,04	+	4h- Ø	2 H	+ (L. in)	+ (L. in)	**P**	**PD**
GL333		Piemontaise	/	nc	/	-	**A**	33,03	60,63	+	0 H	0 H	/	/	**P**	**PD**
											⇨ conf. positive with Fraser					
GL266		4 cheese pizza	LIS.4.46	se	2,2	-	**A**	25,61	53,33	+	4h+ Ø	0 H	+ (L. m)	+ (L. m)	**P**	**PD**
GL294		Chicken burger	/	nc	/	-	**A**	28,86	53,09	+	1h-3h+ M	1 H	+ (L. se + L. m)	+ (L. se + L. m)	**P**	**PD**
GL302		Minced steak sandwich (ST 1489)	/	nc	/	-	**A**	26,71	53,03	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	**P**	**PD**
GL259		Plum pie	LIS.4.20	se	0,6	-	**A**	31,64	53,11	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	**P**	**PD**
GL477	Environ. samples	Process water 13	LIS.6.10	se	1,9	/	**A**	28,01	59,78	+	3h-Ø	3Ø	+(L.w)	+(L.w)	**P**	**PD**
GL498		Dust 6	/	nc	/	/	**A**	32,97	52,35	+	4h+Ø	3Ø	+ (L.m)	+ (L.m)	**P**	**PD**
GL500		Dust 8	/	nc	/	/	**A**	24,14	52,46	+	3h+Ø	2Ø	+ (L.m)	+ (L.m)	**P**	**PD**
GL454		Swab 10	LIS.5.3	se	2,2	/	**A**	22,83	59,85	+	3h-Ø	4Ø	+ (L.se)	+ (L.se)	**P**	**PD**
GL513		Swab 20	/	nc	/	/	**A**	25,69	51,65	+	3h+Ø	0H	+ (L.m)	+ (L.m)	**P**	**PD**
1	Dairy products (protocol③)	Raw milk cheese	AFNL88	se	4,0	/	**A**	36,66	53,15	+	-	-	/	/	**P**	**PD**
											⇨ conf. + with ISO					
10		Raw milk cheese	AFNL171	se	2,9	/	**A**	35,75	59,18	+	-	-	/	/	**P**	**PD**
23		Cow raw milk	AFNL178	se	2,8	/	**A**	34,17	52,84	+	+ (h+)	+	L..m	+	**P**	**PD**
33		Cow raw milk	AFNL138	se	2,1	/	**A**	23,13	59,56	+	+ (h-)	+	L. in	+	**P**	**PD**
35		Cottage cheese	AFNL138	se	2,1	/	**A**	33,56	59,07	+	+ (h-)	+	L. in	+	**P**	**PD**
64		Raw ewe milk	AFNL180	se	2,8	/	**A**	27,71	52,81	+	+ (h+)	+	L.m	+	**P**	**PD**
48		Pasteurised milk cheese	AFNL183	se	1,8	/	**A**	22,78	52,13	+	+ (h+)	+	L..m	+	**P**	**PD**
51		Ripe blueberry yogurt	AFNL154	se	2,5	/	**A**	27,72	60,17	+	+ (h-)	+	L. .w	+	**P**	**PD**

Tableau 9 : Negative deviations

Sample N°	Category	Sample	Contamination		RM : NF EN ISO 11290-1		AM : GENE UP® LIS 2								Confirmation ISO 16140-2 on MA negative samples		Concordance RM /AM
					Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	Conf. 3	Final result	
										ALOA	PALCAM						
GL47	Meat products	Turkey escalope (raw)	nc	/	+ (L. w)	P	0,00	0,00	- / - / -	0 M	0 H	/	/	A	+ (L. w)	P	ND
GL143		T-bone steak (raw)	nc	/	+ (L. w)	P	0,00	0,00	-	0 M	0 H	/	/	A	-	A	ND
GL153		Pork meat (raw)	nc	/	+ (L. w)	P	0,00	0,00	-	0 M	0 H	/	/	A	-	A	ND
GL51		Pure beef minced steak	nc	/	+ (L. w)	P	0,00	0,00	-	0 L	0 M	/	/	A	-	A	ND
GL33	Dairy products	Raw milk cheese 1	nc	/	+ (L. in)	P	0,00	0,00	-	0 H	0 H	/	/	A	-	A	ND
GL120		Rocamadour (cheese - raw - goat)	se	3,0	+ (L. s)	P	0,00	0,00	-	0 L	0 L	/	/	A	+ (L. s)	P	ND
GL171		Raw goat's milk cheese	nc	/	+ (L. m)	P	0,00	0,00	-	0 L	0 M	/	/	A	-	A	ND
GL126		Semi-salt churn butter (raw milk)	se	2,3	+ (L. m)	P	0,00	0,00	-	0 H	0 H	/	/	A	-	A	ND
GL115		Plain white cheese (pasteurized - cow)	se	2,0	+ (L. w)	P	0,00	0,00	-	0 H	0 H	/	/	A	/	A	ND
GL129		Semi-skimmed milk (pasteurized)	se	0,3	+ (L. m)	P	0,00	0,00	-	0 Ø	0 Ø	/	/	A	-	A	ND
GL132		Fresh Jersey Cow Milk	se	3,0	+ (L. m)	P	0,00	0,00	-	0 Ø	0 H	/	/	A	-	A	ND
									⇨Fraser	0 Ø	0 Ø	/	/				
GL170		Plain white cheese (pasteurized - cow)	se	1,8	+ (L. in)	P	0,00	0,00	-	0 H	0 H	/	/	A	-	A	ND
GL173		Pasteurized sheep's milk cheese	nc	/	+ (L. m)	P	0,00	0,00	-	0 H	0 H	/	/	A	-	A	ND
GL179		Egg flan	se	2,2	+ (L. w)	P	0,00	0,00	-	0 M	0 H	/	/	A	-	A	ND
GL382	Sea food products	Cod fillet	se	0.8	+ (L. m)	P	0.00	0.00	-	0 L	0 H	/	/	A	-	A	ND
GL366		Smoked salmon	nc	/	+ (L. m)	P	0.00	0.00	-	0 M	0 H	/	/	A	-	A	ND
GL371		Smoked salmon	nc	/	+ (L. m)	P	0.00	0.00	-	0 Ø	0 H	/	/	A	-	A	ND
GL375		Marinated tuna carpaccio	se	1.2	+ (L. m)	P	0.00	0.00	-	0 M	0 H	/	/	A	-	A	ND
GL390		Garlic and parsley marinated shrimp tails	nc	/	+ (L. m)	P	0.00	0.00	-	0 H	0 H	/	/	A	-	A	ND
GL393		Catalan tuna	se	0,2	+ (L. m)	P	0.00	0.00	-	0 Ø	0 Ø	/	/	A	-	A	ND
GL394		Salmon Rillettes	se	0,2	+ (L. m)	P	0.00	0.00	-	0 Ø	0 Ø	/	/	A	-	A	ND
GL431		Sardine fillets with lemon-basil sauce	nc	/	+ (L. in)	P	0.00	0.00	-	0 Ø	0 Ø	/	/	A	-	A	ND
GL432		Spicy sardines	nc	/	+ (L. in)	P	0.00	0.00	-	0 Ø	0 Ø	/	/	A	-	A	ND
GL204	Vegetal products	basil	se	0,8	+ (L. m)	P	0,00	0,00	-	0 L	0 M	/	/	A	-	A	ND
GL 346		Fresh Basil Pesto	nc	/	+ (L. m)	P	0,00	0,00	-	0 M	0 H	/	/	A	-	A	ND
GL 353		Carrot puree	nc	/	+ (L. m)	P	0,00	0,00	-	0 L	0 H	/	/	A	-	A	ND

Sample N°	Category	Sample	Contamination		RM : NF EN ISO 11290-1		AM : GENE UP® LIS 2								Confirmation ISO 16140-2 on MA negative samples		Concordance RM /AM
					Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	Conf. 3	Final result	
										ALOA	PALCAM						
GL262	Composite foods	Chicken salad, raw vegetables	se	2,4	+ (L. m)	P	0	0	-	0 H	0 H	/	/	A	-	A	ND
GL320		Tangerine prawn salad	se	1.8	+ (L. m)	P	0,00	0,00	-	0 M	0 H	/	/	A	-	A	ND
GL332		Surimi , carrots, pineapple salad	nc	/	+ (L. iv)	P	0,00	0,00	-	0 H	0 H	/	/	A	-	A	ND
GL296		Quiche lorraine	nc	/	+ (L. m)	P	0,00	0,00	-	0 M	0 H	/	/	A	-	A	ND
GL297		Chorizo tomato pie	nc	/	+ (L. m)	P	0,00	0,00	-	4h+ Ø	0 H	+ (L. m)	+ (L. m)	A (FN)	+ (L. m)	P	ND
GL255		Apricot Pie	se	0,6	+ (L. m)	P	0,00	0,00	-	0 L	0 H	/	/	A	-	A	ND
GL257		Apple pie	se	0,6	+ (L. m)	P	0,00	0,00	-	0 Ø	0 H	/	/	A	-	A	ND
GL258		Flan	se	0,6	+ (L. m)	P	0,00	0,00	-	0 L	0 H	/	/	A	-	A	ND
GL298		Chocolate cake	nc	/	+ (L. m)	P	0,00	0,00	-	0 L	0 H	/	/	A	-	A	ND
GL467	Environmental products	Process water 4	se	2,1	+ (L.m)	P	0,00	0,00	-	0Ø	0Ø	/	/	A	-	A	ND
GL476		Process water 12	se	1,9	+ (L.w)	P	0,00	0,00	-	0Ø	0Ø	/	/	A	+ (L.w)	P	ND
GL537		Process water 34	se	1,8	+(L.iv)	P	0,00	0,00	-	0L	0H	/	/	A	-	A	ND
GL494		Dust 2	nc	/	+(L.iv)	P	0,00	0,00	-	0M	0H	/	/	A	-	A	ND
GL499		Dust 7	nc	/	+(L.m)	P	0,00	0,00	-	0L	0L	/	/	A	-	A	ND
GL447		Swab 3	se	2,7	+ (L.in)	P	0	0	-	0M	0H	/	/	A	-	A	ND
GL462		Sponge 5	se	1,7	+ (L.m)	P	0	0	-	0H	0H	/	/	A	-	A	ND
GL525		Sponge 8	se	2,8	+(L.m)	P	0	0	-	0L	0H	/	/	A	-	A	ND
4	Dairy products (protocol③)	Raw milk cheese	se	4,3	+ (L.w)	P	/	/	-	+ (h-)	-	+ (L.w)	/	A	+ (L.w)	P	ND
8		Raw milk cheese	se	2,9	+(L.m)	P	/	/	-	-	-	/	/	A	-	A	ND
34		Cottage cheese	se	2,1	+ (L.in)	P	-/+/-/+	-/+/-/+	-	+ (h-)	+	+ (L.in)	/	A	+ (L.in)	P	ND
38		Cottage cheese	se	2,1	+ (L.in)	P	/	/	-	-	-	/	/	A	+ (L.in)	P	ND
41		Grated cheese	se	3.0	+ (L.m)	P	/	/	-	-	-	/	/	A	-	A	ND
53		Mozzarella	se	2.5	+ (L.w)	P	/	/	-	-	-	/	/	A	-	A	ND

Table 10 : Analysis of discordant results

Category	Type		PD	ND	PPND	(ND+PPND)-PD	AL
Meat products	a	Raw products (including deep-frozen, fresh, seasoned)	2	3	0	1	
	b	Ready-to-eat and processed meat products	3	1	0	-2	
	c	Fermented or dried meat products (raw and cooked)	3	0	0	-3	
	Total		8	4	0	-4	3
Dairy products	a	Raw milk cheese	3	3	0	0	
	b	Other raw milk products	4	1	0	-3	
	c	Heat-processed milk and dairy products	2	6	0	4	
	Total ①		9	10	0	1	3
	a	Raw milk cheese	2	2	0	0	
	b	Other raw milk products	4	2	0	-2	
	c	Heat-processed milk and dairy products	2	2	0	0	
	Total ③		8	6	0	-2	3
	Total dairy products		17	16	0	-1	5
Seafood products	a	Raw products	4	1	0	-3	
	b	Smoked, marinated products	1	4	0	3	
	c	Processed products	2	4	0	2	
	Total		7	9	0	2	3
Vegetal products	a	Raw vegetal products	3	1	0	-2	
	b	Ready-to-eat and ready-to-cook raw vegetal products, precooked vegetal products	3	0	0	-3	
	c	Processed vegetal products	1	2	0	1	
	Total		7	3	0	-4	3
Composite foods	a	Ready-to-eat foods	5	3	0	-2	
	b	Ready-to-reheat foods	3	2	0	-1	
	c	Pastries, egg products	1	4	0	3	
	Total		9	9	0	0	3
Environmental samples	a	Process waters	1	3	0	2	
	b	Dusts and residues	2	2	0	0	
	c	Sponges and swabs	2	3	0	1	
	Total		5	8	0	3	3
TOTAL ALL CATEGORIES			53	49	0	-4	9
Total protocol ①			43	40	0	-3	7
Total protocol ②			2	3	0	1	3
Total protocol ③			8	6	0	-2	3

The observed values ((ND+PPND)– PD) are below the acceptability limit for each category and for all categories.

3.1.1.7. Confirmations

Confirmations were carried out by streaking 10 µL of the enriched broth on an ALOA petri dish and on a PALCAM petri dish.
Considering the overall categories, characteristic colonies were observed for all samples except for 13.

For 11 samples, a transfer in Fraser broth was necessary to confirm a positive GENE-UP result :

- Meat products: samples GL3 / GL24
- Dairy products: samples GL114 / GL 116 / GL121 / GL132 / GL169 / GL180
- Vegetal products: GL 356 / GL357
- Composite foods: GL 333

For 2 samples (GL228 / 1), the extended confirmation protocol of the ISO 11290-1 standard was necessary to confirm the positive GENE-UP result.

3.1.1.8. Study of storage at 5°C

Study of storage of the DNA extracts

A stability study of the DNA lysates stored at 5±3°C for 72 hours was performed on all samples. After storage, the lysates were re-analyzed (results in appendix 4).
No modification appeared between the analysis just after the lysis step and after three days of storage for the categories and protocols previously tested.
During this extension study, 2 modifications appeared for samples 4 and 34. This two samples, found positive after storage of the DNA, were confirmed positive before the storage (false negative results).
The changes observed are listed in table 11.

Study of storage of the enriched broths

A stability study of the enriched broths stored at 5±3°C for 72 hours was performed on all positive and discordant samples. After storage, the broths were re-analyzed and confirmed with an isolation on ALOA agar media (results in appendix 4).
Five modifications were observed during the previous validations.
During this extension study, 4 modifications appeared for samples 1, 4, 10 and 34.
The changes observed are listed in table 11.

Table 11 : Enrichment broth and lysate storage

Category	Type	Protocol	Sample N°	Sample	Result before storage	Result after broth storage	Result after lysate storage
Dairy products	a	①	GL106	Raw goat's cheese	PD	NA	PD
	c	①	GL132	Fresh Jersey Cow Milk	ND	ND (PP)	ND
	a	③	1	Raw milk cheese	PD	NA	PD
	a	③	4	Raw milk cheese	ND	PA	PA
	a	③	10	Raw milk cheese	PD	NA	PD
	b	③	34	Cottage cheese	ND	PA	PA
Meat products	c	①	GL17	Block of smoked veal	PD	NA	PD
Environmental samples	c	②	GL522	Swab 29	NA	NA (PP)	NA
	c	②	GL525	Sponge 8	ND	ND (PP)	ND

The analysis of discordant results is given in table 12 for enrichment broth storage and table 13 for lysate storage.

Table 12 : Analysis of discordant results after broth storage for 72h at 5°C

Category	Type		PD	ND	PPND	(ND+PPND)-PD	AL
Meat products	a	Raw products (including deep-frozen, fresh, seasoned)	2	3	0	1	
	b	Ready-to-eat and processed meat products	3	1	0	-2	
	c	Fermented or dried meat products (raw and cooked)	2	0	0	-2	
	Total		7	4	0	-3	3
Dairy products	a	Raw milk cheese	3	3	1	1	
	b	Other raw milk products	4	1	0	-3	
	c	Heat-processed milk and dairy products	2	5	1	4	
	Total ①		9	9	2	2	3
	a	Raw milk cheese	0	1	0	1	
	b	Other raw milk products	4	1	0	-3	
	c	Heat-processed milk and dairy products	2	2	0	0	
	Total ③		6	4	0	-2	3
	Total dairy products		15	13	2	0	5
Seafood products	a	Raw products	4	1	0	-3	
	b	Smoked, marinated products	1	4	0	3	
	c	Processed products	2	4	0	2	
	Total		7	9	0	2	3
Vegetal products	a	Raw vegetal products	3	1	0	-2	
	b	Ready-to-eat and ready-to-cook raw vegetal products, precooked vegetal products	3	0	0	-3	
	c	Processed vegetal products	1	2	0	1	
	Total		7	3	0	-4	3
Composite foods	a	Ready-to-eat foods	5	3	0	-2	
	b	Ready-to-reheat foods	3	2	0	-1	
	c	Pastries, egg products	1	4	0	3	
	Total		9	9	0	0	3
Environmental samples	a	Process waters	1	3	0	2	
	b	Dusts and residues	2	2	0	0	
	c	Sponges and swabs	2	2	1	1	
	Total		5	7	1	3	3
TOTAL ALL CATEGORIES			50	44	3	-4	9
Total protocol ①			42	39	2	-1	7
Total protocol ②			2	2	1	1	3
Total protocol ③			6	4	0	-2	3

Table 13 : Analysis of discordant results after lysate storage for 72h at 5°C

Category	Type		PD	ND	PPND	(ND+PPND)-PD	AL
Meat products	a	Raw products (including deep-frozen, fresh, seasoned)	2	3	0	1	
	b	Ready-to-eat and processed meat products	3	1	0	-2	
	c	Fermented or dried meat products (raw and cooked)	3	0	0	-3	
	Total		8	4	0	-4	3
Dairy products	a	Raw milk cheese	3	3	0	0	
	b	Other raw milk products	4	1	0	-3	
	c	Heat-processed milk and dairy products	2	6	0	4	
	Total ①		9	10	0	1	3
	a	Raw milk cheese	2	1	0	-1	
	b	Other raw milk products	4	1	0	-3	
	c	Heat-processed milk and dairy products	2	2	0	0	
	Total ③		8	4	0	-4	3
	Total dairy products		17	14	0	-3	5
Seafood products	a	Raw products	4	1	0	-3	
	b	Smoked, marinated products	1	4	0	3	
	c	Processed products	2	4	0	2	
	Total		7	9	0	2	3
Vegetal products	a	Raw vegetal products	3	1	0	-2	
	b	Ready-to-eat and ready-to-cook raw vegetal products, precooked vegetal products	3	0	0	-3	
	c	Processed vegetal products	1	2	0	1	
	Total		7	3	0	-4	3
Composite foods	a	Ready-to-eat foods	5	3	0	-2	
	b	Ready-to-reheat foods	3	2	0	-1	
	c	Pastries, egg products	1	4	0	3	
	Total		9	9	0	0	3
Environmental samples	a	Process waters	1	3	0	2	
	b	Dusts and residues	2	2	0	0	
	c	Sponges and swabs	2	3	0	1	
	Total		5	8	0	3	3
TOTAL ALL CATEGORIES			53	47	0	-6	9
Total protocol ①			43	40	0	-3	7
Total protocol ②			2	3	0	1	3
Total protocol ③			8	4	0	-4	3

The observed values ((ND+PPND) – PD) are below the acceptability limit for each category and for all categories. The alternative method produces results comparable to the reference method. These results did not modify the conclusion for the conservation of the broths and the lysates.

3.1.1.9. Inhibition

One inhibition was observed with sample GL183 (radish). The workflow to remove the inhibition has been applied successfully (lysate dilute to 1:3).

3.1.2. Relative level of detection

The relative level of detection (RLOD) is defined as the level of detection at P = 0.50 (LOD50) of the alternative (proprietary) method divided by the level of detection at P = 0.50 (LOD50) of the reference method.

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

$$RLOD = \frac{LOD_{alt}}{LOD_{ref}}$$

3.1.2.1. Experimental design

8 matrix-strain couples were studied in parallel by both methods. For each category of the scope, one relevant type of food product is selected. Three levels of contamination per type were prepared consisting of a negative control level, a low level, and a higher level. Only one strain of the target analyte is used to contaminate the low and the high level.

The negative control level shall not produce positive results. Five replicates are tested for this level.

The low level shall be the theoretical detection level, providing fractional recovery results. Twenty replicates are tested for this level.

The higher level shall be just above the theoretical detection level. Five replicates are tested for this level.

Food products were contaminated using the seeding protocol. Bulk contaminations were performed on the matrices for the different levels of contamination, then the matrices were stored at 5±3°C for two or three days before analysis. Samples were then analyzed by the reference and the alternative method.

For the alternative method, only the minimal incubation time of the broth of the alternative method was tested, namely 22 hours for protocols ① and ③, and 18 hours for the protocol ②. Results were obtained using the GENE-UP Routine software version 1.1 (previous validartions) or 3.1 (extension study).

Simultaneously, a total viable count was performed on a portion of non-contaminated matrix to estimate the concentration of mesophilic aerobic flora. A detection of *Listeria spp.* using the reference method was also performed to check the absence of the target analyte in the matrix.

Table 14 details the couples matrix-strain tested.

Table 14 : couples matrix-strain used for the determination of the RLOD of the method

Category	Matrix type	Strain	Code	Strain origin	Protocol
Meat products	Pork rillettes	*Listeria monocytogenes 1/2c*	LIS.4.33	Minced meat	①
Dairy products	Raw milk	*Listeria innocua*	LIS.2.11	Milk filter	①
	Raw cow milk	*Listeria monocytogenes 2a*	AFNL102	Milk	③
Seafood products	Salmon offcuts	*Listeria monocytogenes* 4b	LIS.4.50	Swab on salmon	①
Vegetal products	Mix of precooked vegetables	*Listeria seeligeri*	LIS.2.1	Vegetables sandwich	①
Composite foods	Mixed salad	*Listeria welshimeri*	LIS.6.7	Spinach	①
Environmental samples	Swab on a surface	*Listeria ivanovii*	LIS.3.10	Seafood processing environment	②
Environmental samples	Process water	*Listeria monocytogenes* 1/2a	LIS.4.16	Surface control drainage point	①

3.1.2.2. Results and calculation of the RLODs

Raw results are shown in appendix 5.
The RLODs calculations were performed according to the standard ISO 16140-2: 2016 using the Excel spreadsheet available for download at http://standards.iso.org/iso/16140. Values of the RLODs are presented in table 15.

Table 15 : RLODs values for the six categories
(RLOD: the estimated relative level of detection value, RLODU: the upper limit of the 95% confidence interval for RLOD, RLODL: the lower limit of the 95% confidence interval for RLOD, b=ln(RLOD): logarithm of the RLOD value, sd(b): standard deviation of b, z-Test statistic: absolute value of the test statistic of the z-Test with the null hypothesis H0: b=0, p-value: p-value of the z-Test)

Matrix	Protocol	AL	RLOD	RLODL	RLODU	b=ln (RLOD)	sd(b)	z-Test statistic	p-value
Pork rillettes	①	2.5	**0.678**	0.275	1.668	-0.389	0.450	0.864	1.612
Raw milk	①		**1.208**	0.394	3.701	0.189	0.560	0.337	0.736
Raw milk	③		**0.401**	0.183	0.875	-0.914	0.391	2.341	1.981
Salmon offcuts	①		**1.533**	0.686	3.424	0.427	0.402	1.063	0.288
Mix of precooked vegetables	①		**1.253**	0.597	2.629	0.226	0.370	0.609	0.543
Mixed salad	①		**0.685**	0.273	1.719	-0.378	0.460	0.822	1.589
Swab on a surface	②		**0.660**	0.277	1.573	-0.415	0.434	0.957	1.661
Process water	①		**0.756**	0.291	1.969	-0.279	0.478	0.584	1.441
Combined			0.855	0.646	1.131	-0.157	0.140	1.119	1.737

The RLODs values are below the acceptability limit set at 2.5, meaning that alternative and reference methods show similar LODs values for the detection of *Listeria spp.* in the tested categories.

3.1.2.3. Calculation of the $LOD_{50\%}$

The $LOD_{50\%}$ calculations according to the Wilrich & Wilrich POD-LOD calculation program – version 10, 2021-03-02 test are given in table 16.

Table 16 : LOD_{50} results

Category	Strain/matrix pair	Protocol	Level of detection at 50% (CFU/sample size) according to Wilrich & Wilrich	
			Reference method	Alternative method
Meat products	Pork rillettes/*Listeria monocytogenes* 1/2c	①	0,90 [0,49-1,68]	0,67 [0,38-1,19]
Dairy products	Raw milk/*Listeria innocua*	①	1,00 [0,56-1,81]	1,14 [0,62-2,08]
	Raw milk /*Listeria monocytogenes 2a*	③	1,22 [0,70-2,13]	0.47 [0,27-0.81]
Seafood products	Salmon offcuts/*Listeria monocytogenes 4b*	①	0,38 [0,22-0,66]	0,57 [0,33-0,97]
Vegetal products	Precooked vegetables/*Listeria seeligeri*	①	0,61 [0,37-1,03]	0,78 [0,46-1,35]
Composite foods	Mixed salad/*Listeria welshimeri*	①	1,13 [0,58-2,21]	0,78 [0,43-1,41]
Environment.samples	Swab on a surface/*Listeria ivanovii*	②	0,96 [0,56-1,66]	0,68 [0,40-1,16]
	Process water/*Listeria monocytogenes 1/2a*	①	3,81 [1,85-7,86]	2,91 [1,51-5,63]
Combined			1,07 [0,87-1,32]	0.90 [0,74-1,10]

3.1.3. Inclusivity / Exclusivity

Inclusivity is the capacity of the alternative method to detect the target analyte from a wide range of strains. Exclusivity is the absence of interferences by an appropriate range of untargeted strains from the alternative method.

3.1.3.1. Tests protocols

Initial validation study

Fifty target strains and thirty non-target strains were analyzed by the alternative method.

For target strains, 225 mL of LPT broth were inoculated with 10 to 50 cells of *Listeria spp*. The complete protocol of the alternative method was then applied after an incubation at the minimum enrichment time of the alternative method (22 h). Results were obtained using the Gene-UP Routine software version 1.0.

Positive results were confirmed by streaking of the enriched broth on ALOA and PALCAM agar media, incubated for 24 to 48 h at 37±1°C.

For non-target strains, cells were cultivated first overnight in a non
-selective broth (BHI) at 10^5 CFU/mL. The protocol of the alternative method was then applied.

2021 extension study

The new protocol ③ of this extension study considered as more selective than the protocol ①, it was proposed to proceed to a new inclusivity study.

Fifty target strains were analyzed by the alternative method with the new protocol ③ (20 *Listeria monocytogenes* and 30 *Listeria* other than *monocytogenes*).
225 mL of LX broth were inoculated with 10 to 100 cells of *Listeria* spp. The complete protocol of the alternative method was then applied after an incubation at the minimum enrichment time of the alternative method (22 h).

Positive results were confirmed by streaking of the enriched broth on ALOA agar media, incubated for 24 to 48 h at 37±1°C.

3.1.3.2. Results

The raw data are shown in appendix 6.

All target strains were detected by the alternative method.
None of the non-target strains showed a cross reaction with the alternative method.

3.1.4. Praticability

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

1. Storage conditions, shelf-life and modalities of utilization after first use

The GENE-UP kits are stored at room temperature (15-25°C) and have not to be refrigerated.
After opening a kit, the pouches have to be correctly sealed and undamaged. If not, they have not to be used.
Once pouches are opened, freeze-dried pellets should be reconstituted and used within 2 months.
Freeze-dried pellets should be stored in original sealed pouch (with lab adhesive or bag clip).
Once freeze-dried pellets are reconstituted, testing on the GENE-UP Thermocycler should be initiated as soon as possible. Storage conditions for vials are the following: 2 hours at ambient temperature, 2 days at 2 – 8°C, 8 days at -20°C.

2. Time-to-result

Negative results are obtained in one day.
Positive results are obtained in two to three days.

3. Common step with the reference method

The alternative method has no common step with the reference method.

3.2. Extension study results for the unit dose kit

An extension study was carried out on december 2018 for a new format of the kit.

- Summary of the difference between the two PCR assays :

	Multi-Dose	**Unit-Dose**
Name	GENE-UP® *Listeria spp*	GENE-UP® *Listeria spp* 2
Kit reference	414059	423106
Kit insert reference	43-04320	050567
Mix PCR	Freeze dried reagent for 8 reactions - Reconstitution with 45 µl of buffer, then distribution of 5 µL in each PCR tube	Freeze dried reagent for 1 reaction in each PCR tube
Volume of lysate	5 µl	10 µl
Software version	2.0	3.0

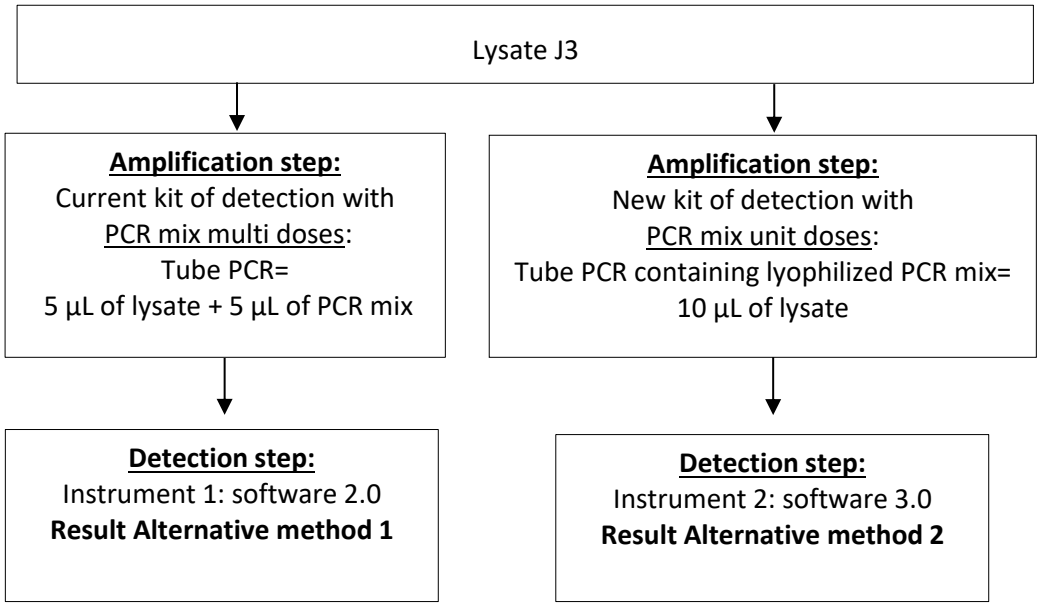
- Interpretation of both software versions :

PCR result determination with software 2.0
A sample is declared negative if no melt peak is detected or if the peak is outside of a defined range of TM values, or if the height of the peak is lower than a negative threshold value.
A sample is declared positive if the melt peak is inside the TM range of values and if the peak is higher than the negative threshold.

PCR result determination with software 3.0
A sample is declared negative if no melt peak is detected or if the peak is outside of a defined range of TM values, or if the height of the peak is lower than a negative threshold value. The negative threshold is the same as in version 2.0.
A sample is declared positive if the melt peak is inside the TM range of values and if the peak is higher than the negative threshold, or if the curve crosses a new positive threshold. This positive threshold is the main difference between version 2.0 and 3.0.
In version 3.0, the threshold for the internal control has been increased to better detect inhibitions.
Version 3.0, also allows a specific access to individual assays, which provides more flexibility.

3.2.1. Analysis

For the GENE-UP® LIS method, during the initial validation the lysates were analyzed at the end of the incubation time, then after storage for 72 hours at 2-8°C and they were then stored at -25± 6°C.
As only the PCR step is concerned by the changes, the comparison study was performed using the lysates J3 as described below.



All lysates generated during the validation studies (551 lysates) were tested with the multi dose and the unit dose kits using the software 2.0 and 3.0 respectively. The results of the unit dose format/software 3.0 were compared to the results of the multi doses format/ software version 2.0.

As agreed by the AFNOR Technical Committee, only the lysates from the sensitivity study were retested.

3.2.2. Results

The results of the comparison between both kits using respectively the software 2.0 and 3.0, are shown in appendix 7.

Difference observed between the two protocols are presented in the table 17.

Table 17: Difference observed between the multi dose and the unit dosekits using respectively the software 2.0 and 3.0

N°	Sample	Previous validation study			1) AM: GENE UP Current kit/software 2.0			2) AM: GENE UP New kit/software 3.0			Concor-dance between 1) and 2)
		CP	MP	Result PCR	CP	MP	Result PCR	CP	MP	Result PCR	
GL108	Neuchâtel (cheese with raw milk)	31.08	53.24	+	0.00/ 35.62/ 34.88	0.00/ 53.56/ 53.89	-/+/+	30.59	53.42	+	≠/=/=
GL121	Moulis artisanal (cheese with raw milk)	35.88	59.17	+	0.00/ 38.56/ 38.96	0.00/ 59.65/ 59.24	-/+/+	36.43	59.11	+	≠/=/=

All samples called “negative”” gave negative results after analysis with both kits.

All samples called “positive” gave also positive results after analysis with both kits except for two of them.
Samples GL108 and GL121, found positive and confirmed positive during the initial validation study, were found positive with the unit dose PCR assay and negative with the multi dose PCR assay. These two samples were retested two times with the multi dose kit and gave positives results. As attested by the high CP values, a concentration of *Listeria* close to the threshold of the tests may explain the difference between the two assays.

For the sample called “positives” some slight differences in the TM values were observed between the two tested kits without any change in the test interpretation.

Four inhibitions were observed among the 551 PCR reactions performed (two with the multi dose kit, GL70 and GL85 and two with the unit dose kit, GL4 and GL70). These inhibitions are presented in the Table 18.

Table 18: Inhibitions observed with the multi dose and the unit dose kits using respectively the software 2.0 and 3.0 (I: inhibition ; (1/3): dilution 1/3 of the lysate).

SN	Sample	Previous validation study			AM: GENE UP Current kit/software 2.0			AM: GENE UP New kit/software 3.0			Concor-dance between 1) and 2)
		CP	MP	Result PCR	CP	MP	Result PCR	CP	MP	Result PCR	
GL4	Pipa duck (cooked)	21.03	60.73	+	20.50	60.70	+	21.56	60.70	I/+ (1/3)	=
GL70	Cœur de chèvre (raw goat's cheese)	0.00	0.00	-	I/0.00	I/0.00	I/- (1/3)	I/0.00	I/0.00	I/- (1/3)	=
GL85	Cabécou bio 1 (cheese - raw - goat)	0.00	0.00	-	I/0.00	I/0.00	I/- (1/3)	0.00	0.00	-	=

As described by the supplier, the lysates were diluted at 1/3 and analyzed again. Finally the analysis of the diluted lysates gave the results expected with the two tested kits. The negative samples remained negative and the positive samples remained positive.

3.2.3. Conclusion

In conclusion, among the 551 lysates tested only two differences between the 2 kit formats and the software 2.0 and 3.0, were observed. The observed values ((ND+PPND)– PD) are the same as during the previous validation study and are below the acceptability limit for each category and for all categories.
The performance obtained during the extension study are not modified and the results allowed to conclude to equivalency of the unit doses format associated to software version 3.0 with the multi doses PCR format associated to software version 2.0.

3.3. Inter-laboratory study

The purpose of the interlaboratory studies is to determine the difference in sensitivity between the reference method and the alternative method when tests are performed by different collaborators using identical samples (reproducibility conditions).

3.3.1. Inter-laboratory study organization

3.3.1.1. Collaborators

The interlaboratory study was conducted by the expert laboratory (ISHA) with fifteen collaborators coming from fourteen different organizations.

3.3.1.2. Matrix and strain of *Listeria spp.*

A full-cream goat milk cottage cheese was used as test matrix.
It was contaminated by a strain of *Listeria monocytogenes* 1/2 b, isolated from a raw milk (LIS.4.67).

The absence of *Listeria spp.* in the matrix before contamination was checked using the reference method.

3.3.1.3. Matrix Stability of the strain in the test matrix

The stability of the strain in the matrix was evaluated for 4 days at 5±3°C before the interlaboratory study. Samples for enumeration were contaminated at a level close to 100 CFU/g. Samples for detection were inoculated at a level from 1 to 3 CFU/25 g. Results of the analyses are presented in table 19. No significant variation of the *L. monocytogenes* count was observed until Day 3.

Table 19 : determination of the stability of the strain of *L. monocytogenes*

Day	Enumeration CFU/g	Alternative method	Reference method
D0	160	Presence in 25 g	Presence in 25 g
D1	200	Presence in 25 g	Presence in 25 g
D2	140	Presence in 25 g	Presence in 25 g
D3	210	Presence in 25 g	Presence in 25 g

3.3.1.4. Preparation and contamination of the sample

The matrix was inoculated with the target strain suspension to obtain 3 contamination levels:
- L0 : 0 cell in 25 g,
- L1 : 0.7 – 1 cells in 25 g,
- L2 : 10 cells in 25 g.

Twenty-five grams of matrix were distributed in sterile bags. Each bag was individually contaminated and homogenized. Eight samples per level, per collaborator and per method were prepared. Each collaborator received 48 samples to analyze, one sample to perform the total viable count (TVC) and one water sample containing a temperature probe.
The results of the TVC, the target levels and the real levels of contamination are presented in table 20.

Table 20 : target level, real level and endogenous flora of the matrix

Matrix	TVC (CFU/g)	Target level (cells/25 g)	Real level (cells/25 g)	Confidence interval
Cottage cheese	$3{,}0.10^6$	0	/	/
		0.7 – 1	1.9	[1.5 ; 2.4]
		10	9.2	[7.2 ; 11.4]

3.3.1.5. Labelling of the samples

Labelling of the bags was realized as follows:
- a code to identify the laboratory: from A to O.
- and a code to identify each sample, only known by the expert laboratory.

The samples and the temperature control vials (water sample with a temperature probe) were stored at 5±3°C before shipping.

3.3.1.6. Shipping and receipt of the samples, analyses by the collaborators

The samples were shipped in a coolbox the 25th of April 2016.

The coolboxes were received the 26th or the 27th of April 2016 by the collaborators. The control temperature was recorded upon receipt of the package and the temperature probe sent to the expert laboratory. The samples had to be analyzed the 26th or the 27th of April 2016.

The expert laboratory concurrently analyzed a set of samples under the same conditions with both methods.

3.3.2. Results

3.3.2.1. Shipping Temperature and state of the samples at receipt

The temperature readings upon reception and the state of the samples are shown in table 21.

Table 21 : temperature and state of the samples at reception (/: data unable to be gathered)

Collaborator	Date and time of receipt	Temperature (°C) determined by the collaborator	Mean temperature (°C) during the shipping given by the probe	State of the samples	Date of analysis
A	04/26/2016 at 11:30	3.8	2.4	Correct	04/26/2016
B	04/26/2016 at 12:30	2.8	/	Correct	04/27/2016
C	04/26/2016 at 11:45	3.6	2.0	Correct	04/26/2016
D	04/26/2016 at 11:35	5.2	2.5	Correct	04/27/2016
E	04/26/2016 at 10:05	2.6	/	Correct	04/26/2016
F	04/26/2016 at 12:30	7.3	/	Correct	04/27/2016
G	04/26/2016 at 11:00	6.6	4.8	Correct	04/26/2016
H	04/27/2016 at 10:30	3.0	2.9	Correct	04/27/2016
I	04/27/2016 at 10:00	6.5	2.0	Correct	04/28/2016
J	04/26/2016 at 09:35	4.0	3.9	Correct	04/26/2016
K	04/26/2016 at 07:30	2.9	3.7	2 samples leaky	/
L	04/26/2016 at 11:15	4.0	3.5	Correct	04/26/2016
M	04/26/2016 at 10:00	2.9	4.9	Correct	04/26/2016
N	04/26/2016 at 10:20	2.8	1.4	Correct	04/26/2016
O	04/26/2016 at 11:35	5.3	2.5	Correct	04/27/2016

Only laboratory K didn't receive the sample in adequate conditions: two samples were leaky. This collaborator did not thus realize the analyses. All other laboratories received the samples in appropriate conditions.
Temperatures during the shipping and upon receipt were correct for all laboratories.

Collaborator I realized the analyses (alternative and reference method) the 28th of April 2016, due to a late delivery of the reagents of the methods. As the stability of the strain in the matrix was tested for four days (from D0 to D3) and was correct, the expert laboratory proposes to keep the results of this collaborator in the final data.

So fourteen collaborators realized the analyses.

3.3.2.2. Expert laboratory results

The results obtained by the expert laboratory are summarized in table 22.

Raw results are presented in appendix 8.

Table 22 : positive results obtained by expert laboratory by both methods

Contamination level	Alternative method	Reference method
L0	0/8	0/8
L1	3/8	1/8
L2	8/8	8/8

The enumeration of the TVC by the expert laboratory gave the result of 4.7 x 10^8 CFU/g.

3.3.2.3. Collaborators results

Raw results are presented in appendix9.

Mesophilic aerobic flora

For the whole laboratories, the total viable count varied between 6.6 x 10^2 CFU/g and 4.8 x 10^8 CFU/g. It is important to note that only two collaborators from the same laboratory found a TVC below 3.0 x 10^7 CFU/g. This laboratory indicated that the readings of the Petri dishes were performed by technicians not familiar with enumeration techniques which have probably counted only the colonies at the surface of the agar media for the first dilutions of the sample.

The TVCs observed by all other collaborators and by the expert laboratory are between 3.0 x 10^7 CFU/g and 4.8 x 10^8 CFU/g.

Results of the reference method

Positive results of the collaborators for the reference method are presented in the table 23.

Table 23 : positive results of the reference method for all laboratories

Collaborator	Contamination level		
	L0	L1	L2
A	0 / 8	8 / 8	8 / 8
B	0 / 8	8 / 8	8 / 8
C	0 / 8	8 / 8	8 / 8
D	0 / 8	8 / 8	8 / 8
E	0 / 8	8 / 8	8 / 8
F	0 / 8	7 / 8	8 / 8
G	0 / 8	8 / 8	8 / 8
H	2 / 8	2 / 8	8 / 8
I	2 / 8	5 / 8	8 / 8
J	0 / 8	4 / 8	8 / 8
L	0 / 8	8 / 8	8 / 8
M	0 / 8	8 / 8	8 / 8
N	0 / 8	8 / 8	8 / 8
O	0 / 8	8 / 8	8 / 8
TOTAL	**4 / 112**	**98 / 112**	**112 / 112**

Results of the alternative method

Positive results of the collaborators for the alternative method are presented in the table 24.

Table 24 : positive results of the alternative method for all laboratories

Collaborator	Contamination level					
	L0		L1		L2	
	Before confirmation	After confirmation	Before confirmation	After confirmation	Before confirmation	After confirmation
A	0 / 8	0 / 8	8 / 8	8 / 8	8 / 8	8 / 8
B	0 / 8	0 / 8	8 / 8	7 / 8	8 / 8	8 / 8
C	0 / 8	0 / 8	8 / 8	8 / 8	8 / 8	8 / 8
D	0 / 8	0 / 8	8 / 8	8 / 8	8 / 8	8 / 8
E	0 / 8	0 / 8	8 / 8	8 / 8	8 / 8	8 / 8
F	4 / 8	2 / 8	7 / 8	7 / 8	8 / 8	8 / 8
G	0 / 8	0 / 8	5 / 8	5 / 8	8 / 8	8 / 8
H	0 / 8	0 / 8	2 / 8	2 / 8	8 / 8	8 / 8
I	0 / 8	0 / 8	1 / 8	1 / 8	8 / 8	8 / 8
J	0 / 8	0 / 8	4 / 8	4 / 8	8 / 8	8 / 8
L	0 / 8	0 / 8	6 / 8	6 / 8	8 / 8	8 / 8
M	0 / 8	0 / 8	7 / 8	7 / 8	8 / 8	8 / 8
N	0 / 8	0 / 8	8 / 8	8 / 8	8 / 8	8 / 8
O	0 / 8	0 / 8	8 / 8	8 / 8	8 / 8	8 / 8
TOTAL	**4 / 112**	**2 / 112**	**88 / 112**	**87 / 112**	**112 / 112**	**112 / 112**

3.3.3. Analys of the Results

3.3.3.1. Level 0

According to the specific requirements of the Technical Board linked to the standard ISO 16140-2 : 2016, collaborators who obtained more than one positive result at level 0 (confirmed or not) per method must be excluded from the statistical analysis of the results.
This case happens for:
- collaborator F: 1 presumptive positive result not confirmed and 2 positive results with the alternative method,
- collaborator H: 2 positive results obtained with the reference method,
- collaborator I: 2 positive results obtained with the reference method (*Listeria* other than *L. monocytogenes*)

3.3.3.2. Level 1

The results shown by the alternative method for all negative deviations observed at level 1 is: CT: 0,00 / MP: 0,00, so an absence of amplification and no detection of a melting peak, except for the sample 22 of the collaborator B which is not confirmed despite the presence of a CT and a typical melting peak.

Nevertheless, it is possible to precise for each collaborator (even the ones that were not kept in the statistical analysis), the origin of the non-detection at level 1 and its potential cause:

Colla-borator	Number of non detections at level 1	Gene-UP result(s)	Confirmation	Origin	Hypothesis of the cause
B	1	Positive	Negative	This presumed positive sample was not able to be confirmed by the collaborator	Low concentration of the target microorganism in the enriched broth (very late CT: 34)
F	1	Positive for first analysis Negative for a re-test	Negative	This presumed positive sample was not able to be confirmed by the collaborator	Result probably close to the limit of detection of the method and considered as false positive according to the standard ISO/FDIS 16140-2. Re-test negative.
G	3	Negative	Negative	Target bacteria not detected	This collaborator used refrigerated LPT broths which must probably delayed the growth of *Listeria* cells
H	6	Negative	Negative	Target bacteria not detected	Absence of *Listeria* in the broth (well balanced with the reference method at L1: 2 positive on eight samples for the 2 methods)
I	7	Negative	Negative	Target bacteria not detected	Absence of *Listeria* in the broth (not balanced by the reference method). However this collaborator detected 2 positive results with the reference method at L0.
J	4	Negative	Negative	Target bacteria not detected	Absence of *Listeria* in the broth (well balanced with the reference method at L1: 4 positive on eight samples for the 2 methods)
L	2	Negative	Negative	Target bacteria not detected	This collaborator used LPT broths not fully brought to ambient temperature (only 2 hours, measured temperature : 12°C) which probably delayed the growth of *Listeria* cells
M	1	Negative	Negative	Target bacteria not detected	Absence of *Listeria* in the broth

Among these collaborators, three (F, H and I) were already withdrawn from the statistical analysis of the results because of false positive results at level 0 (see paragraph 3.3.3.1).

The expert laboratory proposes to also exclude collaborator G because of its bad application of the protocol of the alternative method.

3.3.3.3. Level 2

For the level 2, all results are consistent with those expected for all collaborators, namely a detection of all samples of the level by the two methods.

3.3.3.4. Conclusion

After having removed collaborators F, G, H and I, ten sets of data were available for the statistical analysis.

3.3.3.5. Results kept for the statistical interpretation

Results kept are presented in tables below.

Table 25 : positive results of the reference method for laboratories kept for the statistical analysis

Collaborator	Contamination level		
	L0	L1	L2
A	0 / 8	8 / 8	8 / 8
B	0 / 8	8 / 8	8 / 8
C	0 / 8	8 / 8	8 / 8
D	0 / 8	8 / 8	8 / 8
E	0 / 8	8 / 8	8 / 8
J	0 / 8	4 / 8	8 / 8
L	0 / 8	8 / 8	8 / 8
M	0 / 8	8 / 8	8 / 8
N	0 / 8	8 / 8	8 / 8
O	0 / 8	8 / 8	8 / 8
TOTAL	**0 / 80**	**76 / 80**	**80 / 80**

Table 26 : positive results of the alternative method for laboratories kept for the statistical analys

Collaborator	Contamination level					
	L0		L1		L2	
	Before confirmation	After confirmation	Before confirmation	After confirmation	Before confirmation	After confirmation
A	0 / 8	0 / 8	8 / 8	8 / 8	8 / 8	8 / 8
B	0 / 8	0 / 8	8 / 8	7 / 8	8 / 8	8 / 8
C	0 / 8	0 / 8	8 / 8	8 / 8	8 / 8	8 / 8
D	0 / 8	0 / 8	8 / 8	8 / 8	8 / 8	8 / 8
E	0 / 8	0 / 8	8 / 8	8 / 8	8 / 8	8 / 8
J	0 / 8	0 / 8	4 / 8	4 / 8	8 / 8	8 / 8
L	0 / 8	0 / 8	6 / 8	6 / 8	8 / 8	8 / 8
M	0 / 8	0 / 8	7 / 8	7 / 8	8 / 8	8 / 8
N	0 / 8	0 / 8	8 / 8	8 / 8	8 / 8	8 / 8
O	0 / 8	0 / 8	8 / 8	8 / 8	8 / 8	8 / 8
TOTAL	**0 / 80**	**0 / 80**	**73 / 80**	**72 / 80**	**80 / 80**	**80 / 80**

3.3.4. Interpretation of the results

3.3.4.1. Summary of the results

The global results are presented in the table below.

Table 27 : tests results for the two methods (PA: positive agreement, NA: negative agreement, ND: negative deviation, PD: positive deviation, PP: presumed positive before confirmation)

Level	Alternative method	Reference method		
		MR+	MR-	Total
L0	MA+	PA = 0	PD = 0	0
	MA-	ND = 0 including 0 PPND	NA = 80 including 0 PPNA	80
	Total	0	80	80
L1	MA+	PA = 70	PD = 2	72
	MA-	ND = 6 including 0 PPND	NA = 2 including 1 PPNA	8
	Total	76	4	80
L2	MA+	PA = 80	PD = 0	80
	MA-	ND = 0 including 0 PPND	NA = 0 including 0 PPNA	0
	Total	80	0	80
L0+L1+L2	MA+	PA = 150	PD = 2	152
	MA-	ND = 6 including 0 PPND	NA = 82 including 1 PPNA	88
	Total	156	84	240

3.3.4.2. Calculation of sensitivities, relative accuracy and false positive ratio

Based on the three different data sets, the following parameters are calculated:

- Sensitivity for the alternative method: $SE_{alt} = \frac{(PA+PD)}{(PA+ND+PD)} \times 100\%$
- Sensitivity for the reference method: $SE_{ref} = \frac{(PA+ND)}{(PA+ND+PD)} \times 100\%$
- Relative accuracy: $AC = \frac{(PA+NA)}{N} \times 100\%$
- False positive ratio for the alternative method: $FP = \frac{(FP)}{NA} \times 100\%$

where N is the total number of samples (NA + PA + PD + ND) and FP is false positive results.

Results are presented in the table below.

Table 28 : values of sensitivities, relative accuracy and false positive ratio for the three data sets

Data set	Parameter			
	SE_{alt}	SE_{ref}	RT	FPR
Interlaboratory study 10 collaborators	94.8%	98.0%	95.4%	1.1%

3.3.4.3. Determination of the acceptability limit and conclusion

The difference between (ND – PD) for the level where fractional recovery was obtained (L1) is calculated. The observed value found for (ND – PD) shall not be higher than the acceptability limit (AL). The AL is defined as $[(ND - PD)_{max}]$ and calculated per level where fractional recovery was obtained as described below using the following three parameters:

- $(p+)_{ref} = \frac{P_x}{N_x}$, where

  Px = number of samples with a positive result obtained with the reference method at level x, (L1 or L2) for all laboratories;
  Nx = number of samples tested at level x (L1 or L2) with the reference method by all laboratories.

- $(p+)_{alt} = \frac{CP_x}{N_x}$, where

  CPx = number of samples with a confirmed positive result obtained with the alternative method at level x (L1 or L2) for all laboratories;
  Nx = number of samples tested at level x (L1 or L2) with the alternative method by all laboratories.

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

  Nx = the total number of samples tested for level x (L1 or L2) by all laboratories.

The AL is not met when the observed value is higher than the A*L*. 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 in case the AL is not met shall be stated in the study report.

In this study, fractional positive results are observed at level L1 only. The different parameters obtained by the calculation are detailed in the table below:

Table 29 : values obtained for the determination of the acceptability limit

Parameter	Value
N_x	80
$(p+)_{ref}$	0.95
$(p+)_{alt}$	0.90
$(ND-PD)_{max}$	5.80
(ND-PD)	4

The value (ND-PD) is inferior to the AL in all cases, so the requirements of the standard ISO 16140-2 : 2016 are fulfilled.

The performance of the alternative method and the reference method can be considered as equivalent.

3.3.4.4. Determination of the relative level of detection

This evaluation is performed according to the EN ISO 16140-2 : 2016 Excel spreadsheet available at https://standards.iso.org/iso/16140/-2/ed-1/en/RLOD_inter-lab-study_16140-2_AnnexF_ver1_28-06-2017.xls.
As there is limited experience with the interpretation of this approach, the results are used only for information. Results are shown in the table below :

Table 30 : values obtained for the determination of the relative level of detection

Method	LOD50%	LOD95%	RLOD
Reference	0,44 [0,32 ; 0,61]	1,90 [1,37 ; 2,63]	1,3 [0,91 ; 1,86]
Alternative	0,57 [0,43 ; 0,76]	2,47 [1,85 ; 3,31]	

3.4. Conclusion

Overall, the study concerned 551 samples from six categories: meat products, dairy products, seafood products, vegetal products, composite foods and environmental samples.

The sensitivity of the alternative method was 85.6% and the sensitivity of the reference method was 84.9%.
The observed values ((ND+PPND) – PD) were below or equal to the acceptability limit for each category and for all categories.

The RLODs values were below the acceptability limits set at 2.5, meaning that, as stated in ISO 16140-2: 2016, the maximum increase in LOD of the alternative versus the reference method is not considered as relevant in consideration of the fitness for purpose of the method.
The GENE-UP *Listeria* spp method and the reference method showed similar LODs values for the detection of *Listeria* spp in the categories tested.

The inclusivity and the exclusivity of the method showed that the method GENE-UP *Listeria* spp is specific and selective.

The practicability of the method highlighted a method quick and easy to apply.

It is possible to store the enrichment broth and the lysates for 72 h at 5°C ± 3°C.

The unit dose kit gave reliable results compared to the multi doses kit.

The interlaboratory study concerned fifteen collaborators for the analysis of a goat milk cottage cheese contaminated with a strain of *Listeria monocytogenes*. The interpretation of the results showed that the performance of the alternative method can be considered as equivalent to the performance of the reference method.

Considering all the categories of the application scope, namely a broad range of foods and environmental samples, the GENE-UP® *Listeria* spp method produces results comparable to the reference method EN ISO 11290-1/A1 according to the standard ISO 16140-2: 2016.

TOURS, the 18th of June 2024
Stéphanie ROTILY-FORCIOLI
Aid of Microbiology service

Appendices

APPENDIX 1

ALTERNATIVE METHOD PROTOCOL : multi doses kit

Protocol for a broad range of foods and environmental samples

Enrichment

Food sample and environmental sample except surface samples: (general protocol) :
25 g sample + 225 LPT broth at room temperature in a blender bag.
Incubate for 22 – 28 h at 37±1°C.

Environmental surface samples (specific protocol) :
Sponge or swipe + 100 mL LPT broth at room temperature in a blender bag.
Swab + 10 mL LPT broth at room temperature in a blender bag.
Incubate for 18 – 24 h at 37±1°C.

Lysis

Mix manually the content of the blender bag.
Transfer 20 µL of the enriched broth into a lysis tube.
Place the tube in a bead beater and run it for 5 minutes at 2 200 rpm.

Final setup for PCR

Reconstitute the PCR reagent according to the manufacturer's recommendations.
A blue color shall be obtained.
Pipet 5 µL of the reagent in a PCR tube.
Using a 10 µL Biotix filter pipette tip, transfer 5 µL of the lysed sample (red color) into the PCR tube.
When sample is added to the PCR reagent, the solution turns purple.
Place a strip cap on each strip tube and seal it.
Spin in a plate centrifuge for 10 seconds.
The plate is now ready to be processed in the GENE-UP instrument and must be started within 15 minutes.

Results

Start the run according to the instructions of the manufacturer.
Read the results with the GENE-UP Routine software.

Confirmation

Confirm all positive results obtained with GENE-UP *Listeria spp.*
Isolate 10 µL of the LPT broth on an ALOA or PALCAM agar plate.
Incubate for 24±3 h at 37°C.
The plates can be read between 24 and 48 hours.
The presence of typical colonies confirms a positive result.
An API LIS strip can be performed directly from an isolated colony

ALTERNATIVE METHOD PROTOCOL : unit dose kit

Protocol for a broad range of foods and environmental samples

Enrichment

Food sample and environmental sample except surface samples: (general protocol) :
25 g sample + 225 LPT broth at room temperature in a blender bag.
Incubate for 22 – 28 h at 37±1°C.

Environmental surface samples (specific protocol) :
Sponge or swipe + 100 mL LPT broth at room temperature in a blender bag.
Swab + 10 mL LPT broth at room temperature in a blender bag.
Incubate for 18 – 24 h at 37±1°C.

Lysis

Mix manually the content of the blender bag.
Transfer 20 µL of the enriched broth into a lysis tube.
Place the tube in a bead beater and run it for 5 minutes at 2 200 rpm.

Final setup for PCR

Using a 10 µL Biotix filter pipette tip, transfer 10 µL of the lysed sample into the PCR tube.
Place a strip cap on each strip tube and seal it.
Spin in a plate centrifuge for 10 seconds.
The plate is now ready to be processed in the GENE-UP instrument and must be started within 120 minutes.

Results

Start the run according to the instructions of the manufacturer.
Read the results with the GENE-UP Routine software.

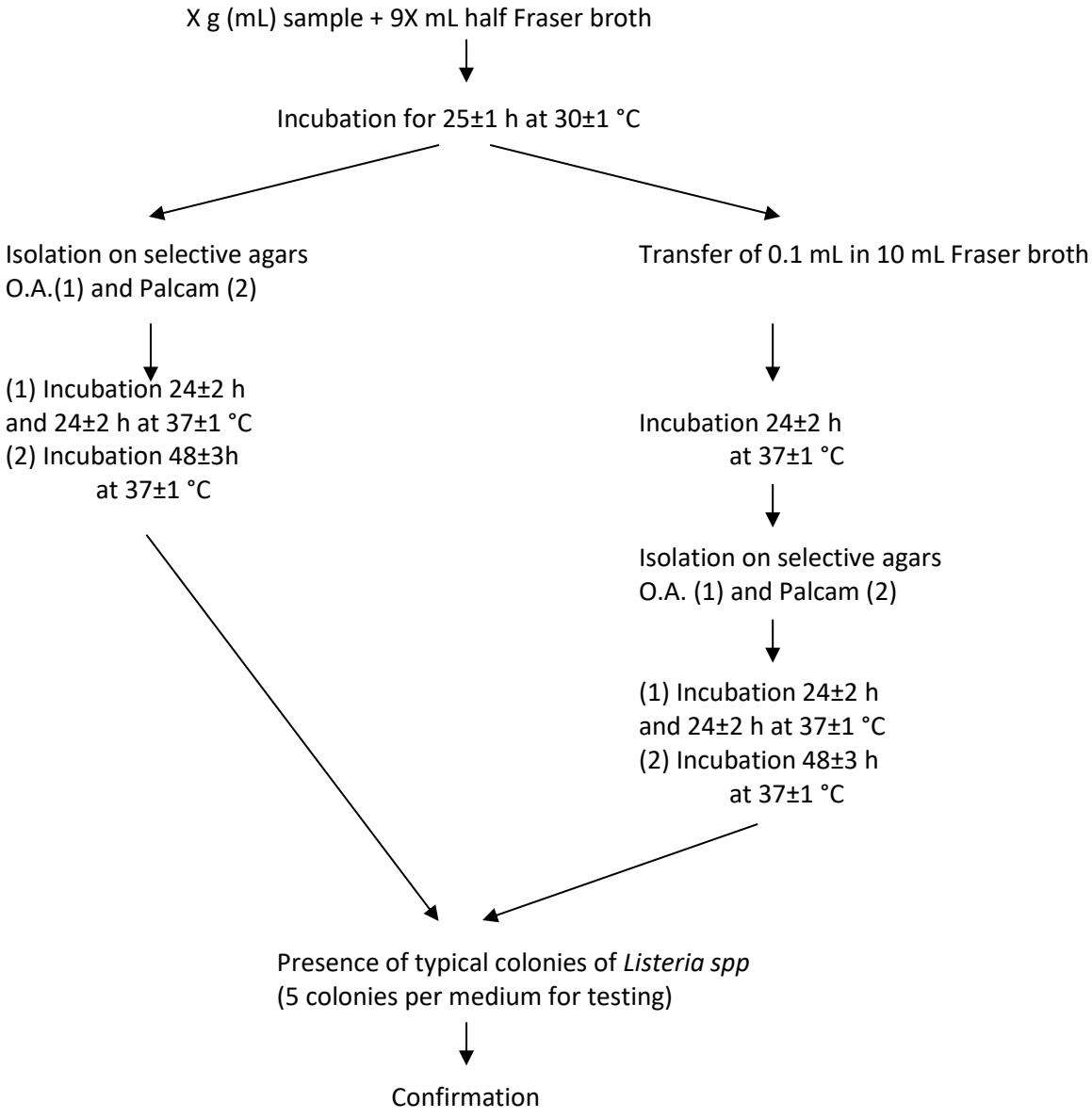
Confirmation

Confirm all positive results obtained with GENE-UP *Listeria spp.*
Isolate 10 µL of the LPT broth on an ALOA or PALCAM agar plate.
Incubate for 24±3 h at 37°C.
The plates can be read between 24 and 48 hours.
The presence of typical colonies confirms a positive result.
An API LIS strip can be performed directly from an isolated colony

APPENDIX 2

REFERENCE METHOD PROTOCOL

ISO 11290-1 (May 2017)



Listeria spp : - Gram
- Catalase

Listeria monocytogenes : - Haemolysis
- Rhamnose
- Xylose

APPENDIX 3

ARTIFICIAL CONTAMINATIONS OF SAMPLES

Year	Category	Sample ID	Sample	Code strain	Strain	Origin	Protocol of seeding	Inoculation level (CFU/25g)	Global result
2016	Meat products	GL25	Leg of lamb without bones (raw)	LIS.2.2	*Listeria innocua*	sandwich bacon crudité	48 h at 5±3°C	0.3	+
2016		GL26	Veal escalope (raw)	LIS.2.6	*Listeria innocua*	17765 (viande de porc)	48 h at 5±3°C	2.0	+
2016		GL27	Pork loin chop (raw)	LIS.2.7	*Listeria innocua*	Sandwich poulet bacon	48 h at 5±3°C	1.3	+
2016		GL28	Boneless pork tenderloin (raw)	LIS.2.8	*Listeria innocua*	Langue de bœuf	48 h at 5±3°C	0.7	+
2016		GL29	Smoked bacon	LIS.4.20	*Listeria monocytogenes 1/2a*	sandwich bacon crudité	48 h at 5±3°C	1.7	+
2016		GL30	Smoked bacon	LIS.4.27	*Listeria monocytogenes 1/2a*	Viande hachée	48 h at 5±3°C	1.3	+
2016		GL31	Smoked cured ham	LIS.4.28	*Listeria monocytogenes 1/2b*	cuisse de canard	48 h at 5±3°C	1.0	-
2016		GL32	Montbéliard sausages (to be cooked)	LIS.4.30	*Listeria monocytogenes 1/2b*	roulé de dinde cru	48 h at 5±3°C	0.5	-
2016		GL159	Beef tournedos (raw)	LIS.4.11	*Listeria monocytogenes 1/2a*	poulet curry	48 h at 5±3°C	1.6	+
2016		GL160	Turkey filet mignon (raw)	LIS.4.11	*Listeria monocytogenes 1/2a*	poulet curry	48 h at 5±3°C	1.6	+
2016		GL161	Speck	LIS.4.11	*Listeria monocytogenes 1/2a*	poulet curry	48 h at 5±3°C	1.6	+
2016		GL162	Smoked salami (pork)	LIS.4.26	*Listeria monocytogenes 1/2a*	Jambon	48 h at 5±3°C	2.8	-
2016		GL163	Top ham without rind	LIS.4.26	*Listeria monocytogenes 1/2a*	Jambon	48 h at 5±3°C	2.8	+
2016		GL164	Top ham with rind	LIS.4.26	*Listeria monocytogenes 1/2a*	Jambon	48 h at 5±3°C	2.8	+
2016	Dairy products	GL99	Garlic and Herbs Spread Cheese	LIS.4.24	*Listeria monocytogenes 1/2a*	Repas fromager	48 h at 5±3°C	1.6	+
2016		GL100	Spreadable cheese (pasteurized milk)	LIS.4.24	*Listeria monocytogenes 1/2a*	Repas fromager	48 h at 5±3°C	1.6	+
2016		GL101	Plain yogurt (pasteurized milk)	LIS.4.24	*Listeria monocytogenes 1/2a*	Repas fromager	48 h at 5±3°C	1.6	+
2016		GL102	Montagnolo (cheese - pasteurized - cow)	LIS.4.58	*Listeria monocytogenes*	Fromage non affiné lait cru vache	48 h at 5±3°C	1.4	+
2016		GL103	Emmental bio 2 (cheese - raw)	LIS.4.58	*Listeria monocytogenes*	Fromage non affiné lait cru vache	48 h at 5±3°C	1.4	+
2016		GL104	Tomme de Savoie (cheese - raw - cow)	LIS.4.58	*Listeria monocytogenes*	Fromage non affiné lait cru vache	48 h at 5±3°C	1.4	+
2016		GL105	Comté (cheese - raw cow)	LIS.4.60	*Listeria monocytogenes*	Fromage autre lait cru vache	48 h at 5±3°C	1.8	+
2016		GL106	Cœur de chèvre (raw goat's cheese)	LIS.4.60	*Listeria monocytogenes*	Fromage autre lait cru vache	48 h at 5±3°C	1.8	+
2016		GL107	L a croseta (raw goat's cheese)	LIS.4.60	*Listeria monocytogenes*	Fromage autre lait cru vache	48 h at 5±3°C	1.8	+
2016		GL110	Fermented ribot milk	LIS.4.69	*Listeria monocytogenes*	Fromage au lait cru	48 h at 5±3°C	1.0	+

Year	Category	Sample ID	Sample	Code strain	Strain	Origin	Protocol of seeding	Inoculation level (CFU/25g)	Global result
2016	Dairy products	GL111	Saveur du maquis (cheese - pasteurized - sheep)	LIS.2.13	*Listeria innocua*	Fromage au lait cru	48 h at 5±3°C	2.3	+
2016		GL112	Cantal (cheese - raw - cow)	LIS.2.13	*Listeria innocua*	Fromage au lait cru	48 h at 5±3°C	2.3	+
2016		GL113	Abondance fermier (cheese - raw - cow)	LIS.2.13	*Listeria innocua*	Fromage au lait cru	48 h at 5±3°C	2.3	+
2016		GL114	Corsica (cheese - pasteurized - sheep)	LIS.6.5	*Listeria welshimeri*	Crème dessert	48 h at 5±3°C	2.0	+
2016		GL115	Plain white cheese (pasteurized - cow)	LIS.6.5	*Listeria welshimeri*	Crème dessert	48 h at 5±3°C	2.0	+
2016		GL116	Munster (cheese - pasteurized - cow)	LIS.6.5	*Listeria welshimeri*	Crème dessert	48 h at 5±3°C	2.0	+
2016		GL117	Lingot d'or (cheese - pasteurized - cow)	LIS.3.7	*Listeria ivanovii*	Fromage au lait pasteurisé tranché	48 h at 5±3°C	1.7	+
2016		GL118	Emmental Savoie (cheese - raw cow)	LIS.3.7	*Listeria ivanovii*	Fromage au lait pasteurisé tranché	48 h at 5±3°C	1.7	+
2016		GL119	Le rondin (cheese - raw - goat)	LIS.5.4	*Listeria seeligeri*	Crème pâtissière	48 h at 5±3°C	3.0	-
2016		GL120	Rocamadour (cheese - raw - goat)	LIS.5.4	*Listeria seeligeri*	Crème pâtissière	48 h at 5±3°C	3.0	+
2016		GL121	Moulis (cheese - raw cow)	LIS.5.3	*Listeria seeligeri*	Filtre à lait chèvre	48 h at 5±3°C	0.3	+
2016		GL122	Cabri de touraine (cheese - raw - goat)	LIS.5.3	*Listeria seeligeri*	Filtre à lait chèvre	48 h at 5±3°C	0.3	-
2016		GL123	Cabri de touraine cendré (cheese - raw - goat)	LIS.4.23	*Listeria monocytogenes 1/2a*	Fromage frais	48 h at 5±3°C	3.3	+
2016		GL124	Jersey raw butter (raw milk)	LIS.4.23	*Listeria monocytogenes 1/2a*	Fromage frais	48 h at 5±3°C	3.3	+
2016		GL125	Sweet churn butter (raw milk)	LIS.4.23	*Listeria monocytogenes 1/2a*	Fromage frais	48 h at 5±3°C	3.3	+
2016		GL126	Semi-salt churn butter (raw milk)	LIS.4.4	*Listeria monocytogenes 1/2a*	brochette courgette chèvre	48 h at 5±3°C	2.3	+
2016		GL127	Mascarpone	LIS.4.4	*Listeria monocytogenes 1/2a*	brochette courgette chèvre	48 h at 5±3°C	2.3	+
2016		GL128	Fermented lean ribot milk	LIS.4.4	*Listeria monocytogenes 1/2a*	brochette courgette chèvre	48 h at 5±3°C	2.3	+
2016		GL129	Semi-skimmed milk (pasteurized)	LIS.4.46	*Listeria monocytogenes 3a*	Sandwich chèvre	48 h at 5±3°C	0.3	+
2016		GL130	Microfiltered semi-skimmed milk	LIS.4.46	*Listeria monocytogenes 3a*	Sandwich chèvre	48 h at 5±3°C	0.3	+
2016		GL131	Fresh microfiltered milk bio	LIS.4.46	*Listeria monocytogenes 3a*	Sandwich chèvre	48 h at 5±3°C	0.3	+
2016		GL132	Fresh Jersey Cow Milk	LIS.4.7	*Listeria monocytogenes 1/2a*	sandwich jambon emmental	48 h at 5±3°C	3.0	+
2016		GL133	Fermented ribot milk	LIS.4.7	*Listeria monocytogenes 1/2a*	sandwich jambon emmental	48 h at 5±3°C	3.0	+
2016		GL134	Fermented ribot milk	LIS.4.7	*Listeria monocytogenes 1/2a*	sandwich jambon emmental	48 h at 5±3°C	3.0	+
2016		GL165	Pistachio ice cream	LIS.4.56	*Listeria monocytogenes*	Fromage autre lait cru vache	48 h at 5±3°C	2.8	+
2016		GL166	Coffee ice cream	LIS.4.56	*Listeria monocytogenes*	Fromage autre lait cru vache	48 h at 5±3°C	2.8	+
2016		GL168	Camembert (cheese - raw - cow)	LIS.2.11	*Listeria innocua*	Filtre à lait vache	48 h at 5±3°C	1.8	-
2016		GL169	Lingot d'or (cheese - pasteurized - cow)	LIS.2.11	*Listeria innocua*	Filtre à lait vache	48 h at 5±3°C	1.8	+

Year	Category	Sample ID	Sample	Code strain	Strain	Origin	Protocol of seeding	Inoculation level (CFU/25g)	Global result
2016	Dairy products	GL170	Plain white cheese (pasteurized - cow)	LIS.2.11	*Listeria innocua*	Filtre à lait vache	48 h at 5±3°C	1.8	+
2016		GL179	Egg flan	LIS.6.4	*Listeria welshimeri*	Produit laitier	48 h at 5±3°C	2.2	+
2016		GL180	Saveur du maquis (cheese - pasteurized - sheep)	LIS.6.4	*Listeria welshimeri*	Produit laitier	48 h at 5±3°C	2.2	+
2016		GL181	Semi-skimmed milk (pasteurized)	LIS.6.4	*Listeria welshimeri*	Produit laitier	48 h at 5±3°C	2.2	+
2016		GL182	Fermented ribot milk	LIS.6.4	*Listeria welshimeri*	Produit laitier	48 h at 5±3°C	2.2	-
2021		1	Tomme d'Espagne	AFNL 88	Listeria monocytogenes	Raw milk cheese	72 h at 5±3°C	4,0	+
2021		2	Pate dur fromagerie d'Etaux	AFNL174	Listeria monocytogenes	Raw milk cheese	72 h at 5±3°C	4,5	-
2021		3	Camembert	AFNL 80	Listeria innocua	Raw milk cheese	72 h at 5±3°C	2,4	-
2021		4	Buche de chèvre	AFNL 18	Listeria welshimeri	Raclette cheese	72 h at 5±3°C	4,3	+
2021		5	Taleggio Italien	AFNL88	Listeria monocytogenes	Raw milk cheese	72 h at 5±3°C	4,0	+
2021				AFNL 80	Listeria innocua	Raw milk cheese		2,4	
2021		6	Camembert fromagerie livarot	AFNL174	Listeria monocytogenes	Raw milk cheese	72 h at 5±3°C	4,5	+
2021				AFNL 18	Listeria welshimeri	Raclette cheese		4,3	
2021		8	Pate dur fromagerie d'Etaux	AFNL 87	Listeria monocytogenes	Raw goat milk	72 h at 5±3°C	2,9	+
2021		9	Camembert	AFNL137	Listeria ivanovii	Raw goat milk	72 h at 5±3°C	3,0	-
2021		10	Buche de chèvre	AFNL171	Listeria seelegeri	Wipe (dairy industry)	72 h at 5±3°C	2,9	+
2021		11	Taleggio Italien	AFNL 83	Listeria monocytogenes	Raw milk cheese	72 h at 5±3°C	3,0	+
2021				AFNL169	Listeria welshimeri	environment		2,6	
2021		12	Camembert fromagerie livarot	AFNL 87	Listeria monocytogenes	Raw goat milk	72 h at 5±3°C	2,9	+
2021				AFNL134	Listeria innocua	Raw goat milk		2,6	
2021		15	Coulommiers marque cœur de lion	AFNL137	*Listeria ivanovii*	Raw goat milk	72 h at 5±3°C	3,0	+
2021		16	Lait de chèvre	AFNL171	*Listeria seelegeri*	Wipe (dairy industry)	72 h at 5±3°C	2,9	+
2021		17	Roquefort marque société	AFNL 83	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	3,2	+
2021				AFNL169	*Listeria welshimeri*	environment		2,6	
2021		18	Brie de maux marque "mmm"	AFNL 87	*Listeria monocytogenes*	Raw goat milk	72 h at 5±3°C	2,9	+
2021				AFNL134	*Listeria innocua*	Raw goat milk		2,6	
2021		19	Lait cru de chèvre	AFNL178	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	2,8	-
2021		20	lait cru de chèvre	AFNL178	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	2,8	-
2021		21	Yaourt lait cru de vache	AFNL178	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	2,8	-

Year	Category	Sample ID	Sample	Code strain	Strain	Origin	Protocol of seeding	Inoculation level (CFU/25g)	Global result
2021	Dairy products	22	Faisselle de chèvre	AFNL178	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	2,8	-
2021		23	Lait cru de vache	AFNL178	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	2,8	+
2021		24	Faisselle de chèvre	AFN178	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	2,8	-
2021		25	Faisselle de brebis	AFNL181	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	3,0	-
2021		26	Lait cru de chèvre	AFNL181	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	3,0	-
2021		33	Lait cru de vache	AFNL138	*Listeria innocua*	Raw goat milk	72 h at 5±3°C	2,1	+
2021		34	Faisselle de brebis	AFNL138	*Listeria innocua*	Raw goat milk	72 h at 5±3°C	2,1	+
2021		35	Faisselle de chèvre	AFNL138	*Listeria innocua*	Raw goat milk	72 h at 5±3°C	2,1	+
2021		36	Yaourt lait cru de vache	AFNL138	*Listeria innocua*	Raw goat milk	72 h at 5±3°C	2,1	+
2021		37	Lait cru de chèvre	AFNL138	*Listeria innocua*	Raw goat milk	72 h at 5±3°C	2,1	+
2021		38	Faisselle de chèvre	AFNL138	*Listeria innocua*	Raw goat milk	72 h at 5±3°C	2,1	+
2021		39	Fromage à tartiner	AFNL182	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	3,0	+
2021		40	Fromage blanc	AFNL182	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	3,0	-
2021		41	Fromage râpé	AFNL182	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	3,0	+
2021		42	Yaourt à la grecque	AFNL182	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	3,0	-
2021		43	Mozzarella	AFNL182	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	3,0	-
2021		44	Yaourt mûres myrtilles	AFNL182	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	3,0	-
2021		45	Crème fraiche	AFNL183	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	1,8	+
2021		46	Caprices des dieux	AFNL183	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	1,8	+
2021		48	emmental	AFNL183	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	1,8	+
2021		49	mimolette	AFNL183	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	1,8	+
2021		50	Fromage blanc	AFNL183	*Listeria monocytogenes*	Raw milk cheese	72 h at 5±3°C	1,8	+
2021		51	Yaourt mûres myrtilles	AFNL154	*Listeria welshimeri*	Food	72 h at 5±3°C	2,5	+
2021		52	Yaourt à la grecque	AFNL154	*Listeria welshimeri*	Food	72 h at 5±3°C	2,5	-
2021		53	Mozzarella	AFNL154	*Listeria welshimeri*	Food	72 h at 5±3°C	2,5	+
2021		54	Roquefort	AFNL154	*Listeria welshimeri*	Food	72 h at 5±3°C	2,5	+
2021		55	Caprices des dieux	AFNL154	*Listeria welshimeri*	Food	72 h at 5±3°C	2,5	+
2021		56	Fromage râpé	AFNL154	*Listeria welshimeri*	Food	72 h at 5±3°C	2,5	+
2021		62	Lait de brebis	AFNL180	*Listeria monocytogenes*	Food	72 h at 5±3°C	2,8	+

Year	Category	Sample ID	Sample	Code strain	Strain	Origin	Protocol of seeding	Inoculation level (CFU/25g)	Global result
2021		64	Lait de brebis	AFNL180	*Listeria monocytogenes*	Food	72 h at 5±3°C	2,8	+
2016	Seafood products	GL375	Marinated tuna carpaccio	LIS.4.8	*Listeria monocytogenes 1/2a*	sandwich thon œuf surimi	48 h at 5±3°C	1.2	+
2016		GL376	Anchovies and capers in alcohol vinegar	LIS.4.8	*Listeria monocytogenes 1/2a*	sandwich thon œuf surimi	48 h at 5±3°C	1.2	-
2016		GL377	Alcohol vinegar rollmops	LIS.4.8	*Listeria monocytogenes 1/2a*	sandwich thon œuf surimi	48 h at 5±3°C	1.2	-
2016		GL378	Monkfish fillet	LIS.4.12	*Listeria monocytogenes 1/2a*	saumon fumé	48 h at 5±3°C	1.6	+
2016		GL379	Red mullet fillet	LIS.4.12	*Listeria monocytogenes 1/2a*	saumon fumé	48 h at 5±3°C	1.6	-
2016		GL380	Merlan fillet	LIS.4.12	*Listeria monocytogenes 1/2a*	saumon fumé	48 h at 5±3°C	1.6	+
2016		GL381	Swordfish	LIS.4.15	*Listeria monocytogenes 1/2a*	tartare de saumon	48 h at 5±3°C	0.8	+
2016		GL382	Cod fillet	LIS.4.15	*Listeria monocytogenes 1/2a*	tartare de saumon	48 h at 5±3°C	0.8	+
2016		GL383	Plaice fillet	LIS.4.15	*Listeria monocytogenes 1/2a*	tartare de saumon	48 h at 5±3°C	0.8	+
2016		GL387	Aquitaine smoked trout	LIS.4.25	*Listeria monocytogenes 1/2a*	Poisson et légumes à la provençale	48 h at 5±3°C	0.4	+
2016		GL388	Beech smoked trout bacon	LIS.4.25	*Listeria monocytogenes 1/2a*	Poisson et légumes à la provençale	48 h at 5±3°C	0.4	+
2016		GL389	Smoked salmon bacon	LIS.4.25	*Listeria monocytogenes 1/2a*	Poisson et légumes à la provençale	48 h at 5±3°C	0.4	+
2016		GL393	Catalan tuna	LIS.4.42	*Listeria monocytogenes 3a*	saumon fumé	48 h at 5±3°C	0,2	+
2016		GL394	Salmon Rillettes	LIS.4.42	*Listeria monocytogenes 3a*	saumon fumé	48 h at 5±3°C	0,2	+
2016		GL395	Parisian tuna salad	LIS.4.42	*Listeria monocytogenes 3a*	saumon fumé	48 h at 5±3°C	0,2	+
2016		GL437	Nile perch fillet (frozen)	LIS.2.16	*Listeria innocua*	Filet de lieu	48 h at 5±3°C	1.2	+
2016		GL438	Saber fillet	LIS.2.16	*Listeria innocua*	Filet de lieu	48 h at 5±3°C	1.2	+
2016		GL439	Tuna slice (frozen)	LIS.2.16	*Listeria innocua*	Filet de lieu	48 h at 5±3°C	1.2	+
2016		GL440	Swordfish	LIS.6.8	*Listeria welshimeri*	Filet de lieu	48 h at 5±3°C	2.0	+
2016		GL441	Jumbo shrimp (frozen)	LIS.6.8	*Listeria welshimeri*	Filet de lieu	48 h at 5±3°C	2.0	+
2016		GL442	Scallops (frozen)	LIS.6.8	*Listeria welshimeri*	Filet de lieu	48 h at 5±3°C	2.0	+
2016	Vegetal products	GL186	Packaged cauliflower	LIS.2.2	*Listeria innocua*	sandwich bacon crudité	48 h at 5±3°C	1,0	+
2016		GL187	Packaged broccoli	LIS.2.2	*Listeria innocua*	sandwich bacon crudité	48 h at 5±3°C	1,0	+
2016		GL188	Packaged batavia salad	LIS.2.2	*Listeria innocua*	sandwich bacon crudité	48 h at 5±3°C	1,0	-
2016		GL189	Whole frozen chanterelles	LIS.4.4	*Listeria monocytogenes 1/2a*	brochette courgette chèvre	48 h at 5±3°C	2,8	-
2016		GL190	Pre-cooked lentils	LIS.4.4	*Listeria monocytogenes 1/2a*	brochette courgette chèvre	48 h at 5±3°C	2,8	+

Year	Category	Sample ID	Sample	Code strain	Strain	Origin	Protocol of seeding	Inoculation level (CFU/25g)	Global result
2016		GL191	Zucchini puree	LIS.4.4	*Listeria monocytogenes 1/2a*	brochette courgette chèvre	48 h at 5±3°C	2,8	+
2016		GL192	Celery puree	LIS.4.5	*Listeria monocytogenes 1/2a*	jambon crudité	48 h at 5±3°C	2,0	+
2016		GL193	Split pea puree	LIS.4.5	*Listeria monocytogenes 1/2a*	jambon crudité	48 h at 5±3°C	2,0	+
2016		GL194	Pre-cooked potatoes	LIS.4.5	*Listeria monocytogenes 1/2a*	jambon crudité	48 h at 5±3°C	2,0	+
2016		GL195	Soy packed	LIS.4.10	*Listeria monocytogenes 1/2a*	salade	48 h at 5±3°C	2,4	-
2016		GL196	Soup mix	LIS.4.10	*Listeria monocytogenes 1/2a*	salade	48 h at 5±3°C	2,4	+
2016		GL197	Packaged white cabbage -red cabbage	LIS.4.10	*Listeria monocytogenes 1/2a*	salade	48 h at 5±3°C	2,4	+
2016		GL198	Whole frozen chanterelles	LIS.4.20	*Listeria monocytogenes 1/2a*	sandwich bacon crudité	48 h at 5±3°C	1,2	-
2016		GL199	Whole frozen mushrooms	LIS.4.20	*Listeria monocytogenes 1/2a*	sandwich bacon crudité	48 h at 5±3°C	1,2	+
2016		GL200	Strawberries	LIS.4.20	*Listeria monocytogenes 1/2a*	sandwich bacon crudité	48 h at 5±3°C	1,2	-
2016		GL201	Pre-cooked cauliflower	LIS.4.17	*Listeria monocytogenes 1/2a*	crudités	48 h at 5±3°C	1,4	+
2016		GL202	Packaged lettuce	LIS.4.17	*Listeria monocytogenes 1/2a*	crudités	48 h at 5±3°C	1,4	-
2016		GL203	Parsley	LIS.4.17	*Listeria monocytogenes 1/2a*	crudités	48 h at 5±3°C	1,4	+
2016		GL204	basil	LIS.4.18	*Listeria monocytogenes 1/2a*	salade de légumes	48 h at 5±3°C	0,8	+
2016		GL205	Tarragon	LIS.4.18	*Listeria monocytogenes 1/2a*	salade de légumes	48 h at 5±3°C	0,8	-
2016		GL206	Chive	LIS.4.18	*Listeria monocytogenes 1/2a*	salade de légumes	48 h at 5±3°C	0,8	-
2016		GL236	Sorrel	LIS.2.18	*Listeria innocua*	Feves (congelées)	48 h at 5±3°C	2,0	+
2016		GL237	Dill	LIS.2.18	*Listeria innocua*	Feves (congelées)	48 h at 5±3°C	2,0	+
2016		GL238	Pumpkin soup	LIS.2.18	*Listeria innocua*	Feves (congelées)	48 h at 5±3°C	2,0	+
2016		GL239	Vegetable soup	LIS.2.19	*Listeria innocua*	Feves (congelées)	48 h at 5±3°C	0,0	+
2016		GL240	Tomato soup	LIS.2.19	*Listeria innocua*	Feves (congelées)	48 h at 5±3°C	0,0	+
2016		GL241	Cherry tomatoes	LIS.2.19	*Listeria innocua*	Feves (congelées)	48 h at 5±3°C	0,0	+
2016		GL242	Whole frozen morels	LIS.3.11	*Listeria ivanovii*	Salade	48 h at 5±3°C	7,6	-
2016		GL243	Whole frozen mushrooms	LIS.3.11	*Listeria ivanovii*	Salade	48 h at 5±3°C	7,6	+
2016		GL244	Whole frozen chanterelles	LIS.3.11	*Listeria ivanovii*	Salade	48 h at 5±3°C	7,6	+
2016		GL245	White asparagus	LIS.5.9	*Listeria seeligeri*	Epinards (congelés)	48 h at 5±3°C	1,8	+
2016		GL246	Red peppers	LIS.5.9	*Listeria seeligeri*	Epinards (congelés)	48 h at 5±3°C	1,8	-
2016	Vegetal products	GL247	West Indian peppers	LIS.5.9	*Listeria seeligeri*	Epinards (congelés)	48 h at 5±3°C	1,8	-
2016		GL248	Chestnuts	LIS.6.9	*Listeria welshimeri*	Salade thon œuf	48 h at 5±3°C	1,6	+

Year	Category	Sample ID	Sample	Code strain	Strain	Origin	Protocol of seeding	Inoculation level (CFU/25g)	Global result
2016		GL249	Vegetable Macedonia	LIS.6.9	*Listeria welshimeri*	Salade thon œuf	48 h at 5±3°C	1,6	+
2016		GL 358	Cherry tomatoes	LIS.4.76	*Listeria monocytogenes*	Salade	48 h at 5±3°C	0,6	+
2016	Composite foods	GL254	Pear Pie	LIS.4.20	*Listeria monocytogenes 1/2a*	sandwich bacon crudité	48 h at 5±3°C	0,6	-
2016		GL255	Apricot Pie	LIS.4.20	*Listeria monocytogenes 1/2a*	sandwich bacon crudité	48 h at 5±3°C	0,6	+
2016		GL256	Cherry Clafoutis Pie	LIS.4.20	*Listeria monocytogenes 1/2a*	sandwich bacon crudité	48 h at 5±3°C	0,6	-
2016		GL257	Apple pie	LIS.4.20	*Listeria monocytogenes 1/2a*	sandwich bacon crudité	48 h at 5±3°C	0,6	+
2016		GL258	Flan	LIS.4.20	*Listeria monocytogenes 1/2a*	sandwich bacon crudité	48 h at 5±3°C	0,6	+
2016		GL259	Plum pie	LIS.4.20	*Listeria monocytogenes 1/2a*	sandwich bacon crudité	48 h at 5±3°C	0,6	+
2016		GL260	Ham, raw vegetables, emmental salad	LIS.4.39	*Listeria monocytogenes 1/2c*	Tartare saumon	48 h at 5±3°C	2,4	+
2016		GL261	Tuna salad, pasta, raw vegetables	LIS.4.39	*Listeria monocytogenes 1/2c*	Tartare saumon	48 h at 5±3°C	2,4	+
2016		GL262	Chicken salad, raw vegetables	LIS.4.39	*Listeria monocytogenes 1/2c*	Tartare saumon	48 h at 5±3°C	2,4	+
2016		GL263	Chicken tabbouleh	LIS.4.42	*Listeria monocytogenes 3a*	saumon fumé	48 h at 5±3°C	7	+
2016		GL264	Torti surimi	LIS.4.42	*Listeria monocytogenes 3a*	saumon fumé	48 h at 5±3°C	7	+
2016		GL265	Piemontaise ham	LIS.4.42	*Listeria monocytogenes 3a*	saumon fumé	48 h at 5±3°C	7	+
2016		GL266	4 cheese pizza	LIS.4.46	*Listeria monocytogenes 3a*	Sandwich chèvre	48 h at 5±3°C	2,2	+
2016		GL267	Emmental ham pizza	LIS.4.46	*Listeria monocytogenes 3a*	Sandwich chèvre	48 h at 5±3°C	2,2	-
2016		GL268	Carbonara Fusilli	LIS.4.46	*Listeria monocytogenes 3a*	Sandwich chèvre	48 h at 5±3°C	2,2	+
2016		GL269	Fusilli with cheese	LIS.4.77	*Listeria monocytogenes*	Sandwich thon crudité	48 h at 5±3°C	7	+
2016		GL270	Chicken and vegetable noodles	LIS.4.77	*Listeria monocytogenes*	Sandwich thon crudité	48 h at 5±3°C	7	+
2016		GL271	Penne Bolognese	LIS.4.77	*Listeria monocytogenes*	Sandwich thon crudité	48 h at 5±3°C	7	+
2016		GL314	Coconut flan	LIS.4.6	*Listeria monocytogenes 1/2a*	sandwich jambon emmental	48 h at 5±3°C	0.6	+
2016		GL315	Coffee eclair	LIS.4.6	*Listeria monocytogenes 1/2a*	sandwich jambon emmental	48 h at 5±3°C	0.6	+
2016		GL316	Cookie	LIS.4.6	*Listeria monocytogenes 1/2a*	sandwich jambon emmental	48 h at 5±3°C	0.6	-
2016		GL317	Grape flan	LIS.4.7	*Listeria monocytogenes 1/2a*	sandwich jambon emmental	48 h at 5±3°C	0.6	+
2016		GL318	Cabbage, ham and Comté trio	LIS.4.7	*Listeria monocytogenes 1/2a*	sandwich jambon emmental	48 h at 5±3°C	0.6	-
2016		GL319	Pineapple, carrot and surimi duo	LIS.4.7	*Listeria monocytogenes 1/2a*	sandwich jambon emmental	48 h at 5±3°C	0.6	+
2016		GL320	Tangerine prawn salad	LIS.4.8	*Listeria monocytogenes 1/2a*	sandwich thon œuf surimi	48 h at 5±3°C	1.8	+
2016		GL321	Potatoes and sausage salad	LIS.4.8	*Listeria monocytogenes 1/2a*	sandwich thon œuf surimi	48 h at 5±3°C	1.8	-
2016		GL322	Poultry tabbouleh	LIS.4.8	*Listeria monocytogenes 1/2a*	sandwich thon œuf surimi	48 h at 5±3°C	1.8	+

Year	Category	Sample ID	Sample	Code strain	Strain	Origin	Protocol of seeding	Inoculation level (CFU/25g)	Global result
2016	Environmental samples	GL445	Swab 1	LIS.2.3	*Listeria innocua*	contrôle surface porte	48 h at 5±3°C	2,7	-
2016		GL446	Swab 2	LIS.2.3	*Listeria innocua*	contrôle surface porte	48 h at 5±3°C	2,7	+
2016		GL447	Swab 3	LIS.2.3	*Listeria innocua*	contrôle surface porte	48 h at 5±3°C	2,7	+
2016		GL448	Swab 4	LIS.2.3	*Listeria innocua*	contrôle surface porte	48 h at 5±3°C	2,7	+
2016		GL449	Swab 5	LIS.2.11	*Listeria innocua*	Filtre à lait vache	48 h at 5±3°C	2,0	+
2016		GL450	Swab 6	LIS.2.11	*Listeria innocua*	Filtre à lait vache	48 h at 5±3°C	2,0	+
2016		GL451	Swab 7	LIS.2.11	*Listeria innocua*	Filtre à lait vache	48 h at 5±3°C	2,0	+
2016		GL452	Swab 8	LIS.2.11	*Listeria innocua*	Filtre à lait vache	48 h at 5±3°C	2,0	+
2016		GL453	Swab 9	LIS.5.3	*Listeria seeligeri*	Filtre à lait chèvre	48 h at 5±3°C	2,2	+
2016		GL454	Swab 10	LIS.5.3	*Listeria seeligeri*	Filtre à lait chèvre	48 h at 5±3°C	2,2	+
2016		GL455	Swab 11	LIS.5.3	*Listeria seeligeri*	Filtre à lait chèvre	48 h at 5±3°C	2,2	+
2016		GL456	Swab 12	LIS.5.3	*Listeria seeligeri*	Filtre à lait chèvre	48 h at 5±3°C	2,2	+
2016		GL457	Swab 13	LIS.4.2	*Listeria monocytogenes*	environnement	48 h at 5±3°C	2,7	+
2016		GL458	Sponge 1	LIS.4.2	*Listeria monocytogenes*	environnement	48 h at 5±3°C	2,7	+
2016		GL459	Sponge 2	LIS.4.2	*Listeria monocytogenes*	environnement	48 h at 5±3°C	2,7	+
2016		GL460	Sponge 3	LIS.4.16	*Listeria monocytogenes 1/2a*	contrôle surface égoût	48 h at 5±3°C	1,7	+
2016		GL461	Sponge 4	LIS.4.16	*Listeria monocytogenes 1/2a*	contrôle surface égoût	48 h at 5±3°C	1,7	+
2016		GL462	Sponge 5	LIS.4.16	*Listeria monocytogenes 1/2a*	contrôle surface égoût	48 h at 5±3°C	1,7	+
2016		GL463	Sponge 6	LIS.4.16	*Listeria monocytogenes 1/2a*	contrôle surface égoût	48 h at 5±3°C	1,7	+
2016		GL466	Process water 3	LIS.4.50	*Listeria monocytogenes 4b*	Contrôle de surface sur saumon	48 h at 5±3°C	2,1	+
2016		GL467	Process water 4	LIS.4.50	*Listeria monocytogenes 4b*	Contrôle de surface sur saumon	48 h at 5±3°C	2,1	+
2016		GL470	Process water 7	LIS.4.44	*Listeria monocytogenes 3a*	Contrôle de surface	48 h at 5±3°C	2,0	+
2016		GL471	Process water 8	LIS.4.44	*Listeria monocytogenes 3a*	Contrôle de surface	48 h at 5±3°C	2,0	+
2016		GL472	Process water 9	LIS.4.50	*Listeria monocytogenes 4b*	Contrôle de surface sur saumon	48 h at 5±3°C	3,0	+
2016		GL473	Process water 10	LIS.4.57	*Listeria monocytogenes*	Filtre à lait chèvre	48 h at 5±3°C	3,0	+
2016		GL474	Process water 11	LIS.4.57	*Listeria monocytogenes*	Filtre à lait chèvre	48 h at 5±3°C	3,0	-
2016		GL475	Swab 14	LIS.4.2	*Listeria monocytogenes*	environnement	48 h at 5±3°C	2,7	+
2016		GL476	Process water 12	LIS.6.10	*Listeria welshimeri*	Couteau de découpe	48 h at 5±3°C	1,9	+

Year	Category	Sample ID	Sample	Code strain	Strain	Origin	Protocol of seeding	Inoculation level (CFU/25g)	Global result
2016	Environmental samples	GL477	Process water 13	LIS.6.10	*Listeria welshimeri*	Couteau de découpe	48 h at 5±3°C	1,9	+
2016		GL478	Process water 14	LIS.6.10	*Listeria welshimeri*	Couteau de découpe	48 h at 5±3°C	1,9	+
2016		GL479	Process water 15	LIS.6.10	*Listeria welshimeri*	Couteau de découpe	48 h at 5±3°C	1,9	+
2016		GL480	Process water 16	LIS.6.10	*Listeria welshimeri*	Couteau de découpe	48 h at 5±3°C	1,9	-
2016		GL496	Dust 4	LIS.3.3	*Listeria welshimeri*	Couteau de découpe	48 h at 5±3°C	2,2	-
2016		GL497	Dust 5	LIS.3.3	*Listeria welshimeri*	Couteau de découpe	48 h at 5±3°C	2,2	-
2016		GL503	Dust 11	LIS.4.67	*Listeria monocytogenes 1/2 b*	AFSSA lait cru	48 h at 5±3°C	2,1	-
2016		GL504	Dust 12	LIS.4.67	*Listeria monocytogenes 1/2 b*	AFSSA lait cru	48 h at 5±3°C	2,1	-
2016		GL505	Dust 13	LIS.4.67	*Listeria monocytogenes 1/2 b*	AFSSA lait cru	48 h at 5±3°C	2,1	-
2016		GL506	Dust 14	LIS.4.67	*Listeria monocytogenes 1/2 b*	AFSSA lait cru	48 h at 5±3°C	2,1	-
2016		GL507	Dust 15	LIS.4.67	*Listeria monocytogenes 1/2 b*	AFSSA lait cru	48 h at 5±3°C	2,1	-
2016		GL533	Dust 17	LIS.3.12	*Listeria ivanovii*	Planche de découpe	48 h at 5±3°C	1,8	+
2016		GL534	Dust 18	LIS.3.12	*Listeria ivanovii*	Planche de découpe	48 h at 5±3°C	1,8	+
2016		GL535	Process water 32	LIS.3.12	*Listeria ivanovii*	Planche de découpe	48 h at 5±3°C	1,8	+
2016		GL536	Process water 33	LIS.3.12	*Listeria ivanovii*	Planche de découpe	48 h at 5±3°C	1,8	+
2016		GL537	Process water 34	LIS.3.12	*Listeria ivanovii*	Planche de découpe	48 h at 5±3°C	1,8	+

APPENDIX 4a

SENSITIVITY STUDY : RAW DATA (ISHA)

Caption:

◊ : level determined by 3 to 5 enumerations
sp :
spiking
se :
seeding
nc : naturally contaminated
cm: contamination by mixture
+ / Pos : positive result
- / Neg : negative result
/ : test not realized
Ø : absence of colonies
PA : positive agreement
NA : negative agreement
PD : positive deviation
ND : negative deviation
FN : false negative result
FP : false positive result
PP: presumed positive result before confirmation
A : absence
P : presence
0 / 1 / 2 / 3 / 4 : level of typical flora, from absence to high
Ø / L / M / H : level of annex flora, from absence to high
I : result after re-isolation
(XXX) : number of typical colonies
L.m : Listeria monocytogenes
L.w : Listeria welshimeri
L.in: Listeria inocua
L.iv: Listeria ivanovii
Confirmation : streaking on selective medium + ISO 11290-1 confirmation
Conf. 1 : streaking on selective medium + visual reading
Conf. 2 : streaking on selective medium + API Listeria
Conf. 3 : streaking on selective medium + ISO 11290-1 confirmation (case n°1)
chromID L. mono: w=white colonies / b=blue colonies

CP : Number of amplification cycles necessary to obtain a statistically significant fluorescent signal with regard to the background noise
MP : Temperature for which 50% of the double strand DNA is separeted

MEAT PRODUCTS

Type	Sample N°	Sample	Contamination	RM: NF EN ISO 11290-1						AM: GENE UP							AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage of the broths 3 days at 5°C						Confirmation ISO 16140-2 : 2016 on MA negative samples		Concordance RM /AM	
				Half Fraser		Fraser		Conf.	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf. 3	Final result	Final result	After a 3-day storage at 5°C
				ALOA	PALCAM	ALOA	PALCAM						ALOA	PALCAM										ALOA	PALCAM					
a-	GL22	Pork feet (cooked)	nc	0 L	0 L	0 Ø	0 M	-	A	0,00	0,00	-	0 Ø	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL53	Beef flank steak (raw)	/	0 L	0 M	0 Ø	0 L	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL135	Raw marinated beef (walnut oil, balsamic vinegar)	/	0 L	0 L	0 Ø	0 Ø	-	A	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL136	Raw marinated beef (lemon olive oil)	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 Ø	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL137	Raw marinated beef (parmesan, tomatoes)	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 Ø	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL140	Chicken fillet (raw)	/	0 L	0 M	0 Ø	0 Ø	-	A	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL145	Fillet of beef (raw)	/	0 Ø	0 L	0 Ø	0 L	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL146	Beef (raw)	/	0 Ø	0 L	0 Ø	0 L	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL147	Beef rump steak (raw)	/	0 L	0 L	0 Ø	0 L	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL148	False horse fillet (raw)	/	0 Ø	0 M	0 Ø	0 L	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL152	Prime rib steak (raw)	/	0 Ø	0 L	0 Ø	0 M	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL154	Pork loin chop (raw)	/	0 L	0 L	0 L	0 M	-	A	0,00	0,00	-	0 L	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL155	Lamb chops (raw)	/	0 Ø	0 L	0 Ø	0 L	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL156	Veal chop (raw)	/	0 Ø	0 L	0 Ø	0 L	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a+	GL5	Chicken leg without bones or skin (raw/frozen)	nc	3h+ Ø	2 Ø	4h+ Ø	4 Ø	+ (L. m)	P	20,32	52,93	+	4h+ Ø	0 H	+ (L. m)	+ (L. m)	P	22,10	53,22	+	21,18	53,20	+	4h+ L	2 H	P	/	/	PA	PA
a+	GL8	Duck wings (raw)	nc	2h+ Ø	2 Ø	4h+ Ø	4 Ø	+ (L. m)	P	21,34	52,56	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	P	20,80	52,81	+	22,60	53,34	+	4h+ Ø	4 M	P	/	/	PA	PA
a+	GL12	Pork cartilage (raw)	nc	3h+ L	3 Ø	4h+ L	3 M	+ (L. m)	P	24,18	52,95	+	4h+ Ø	2 M	+ (L. m)	+ (L. m)	P	25,79	52,92	+	22,50	52,77	+	4h+ M	3 H	P	/	/	PA	PA
a+	GL16	Chicken (raw)	nc	2h+ Ø	2 Ø	4h+ L	4 Ø	+ (L. m)	P	19,15	53,09	+	4h+ Ø	3 L	+ (L. m)	+ (L. m)	P	19,92	53,19	+	18,78	52,95	+	4h+ L	4 M	P	/	/	PA	PA
a+	GL25	Leg of lamb without bones (raw)	se nc	1h+ Ø	1 Ø	4h+ Ø	4 M	+ (L. m)	P	30,14	56,71	+	2h+/1h- Ø	3 L	+ (L. in + L. m)	+ (L. in + L. m)	P	31,18	58,53	+	28,18	57,54	+	2h+/2h- Ø	3 Ø	P	/	/	PA	PA
a+	GL26	Veal escalope (raw)	se	1h- Ø	1 Ø	4h- Ø	4 Ø	+ (L. w)	P	28,07	59,59	+	4h- Ø	4 L	+ (L. in)	+ (L. in)	P	27,49	59,49	+	24,98	59,53	+	4h- Ø	3 M	P	/	/	PA	PA
a+	GL27	Pork loin chop (raw)	se	2h- Ø	2 Ø	4h- Ø	4 Ø	+ (L. in)	P	25,17	59,68	+	3h- Ø	0 H	+ (L. in)	+ (L. in)	P	25,58	59,64	+	20,81	59,80	+	4h- Ø	2 H	P	/	/	PA	PA
a+	GL28	Boneless pork tenderloin (raw)	se	1h- Ø	1 L	3h- Ø	4 M	+ (L. in)	P	29,86	58,81	+	3h- L	0 H	+ (L. in)	+ (L. in)	P	29,93	59,36	+	28,95	58,94	+	4h- Ø	2 H	P	/	/	PA	PA
a+	GL39	Marinated turkey escalope (raw)	nc	2h- L	2 L	4h- Ø	3 Ø	+ (L. w)	P	26,66	60,77	+	4h- Ø	3 L	+ (L. w)	+ (L. w)	P	27,26	60,85	+	26,14	59,94	+	4h- Ø	2 H	P	/	/	PA	PA
a+	GL47	Turkey escalope (raw)	nc	1h- L	1 L	3h- Ø	3 Ø	+ (L. w)	P	0,00	0,00	- / - / -	0 M	0 H	/	/	A	0,00	0,00	-	0,00	0,00	- / - / -	0 M	0 H	A	+ (L. w)	P	ND	ND
a+	GL48	Chicken escalope (raw)	nc	0 L	0 L	3h- Ø	0 H	+ (L. w)	P	28,48	59,13	+	3h-/2h+ Ø	0 H	+ (L. w)	+ (L. w)	P	27,93	59,25	+	26,78	59,41	+	3h- Ø	2 H	P	/	/	PA	PA
a+	GL50	Leg of lamb (raw)	nc	1h+ Ø	1 Ø	4h+ Ø	4 Ø	+ (L. iv)	P	30,80	54,93	+	3h+ Ø	0 H	+ (L.iv)	+ (L.iv)	P	34,03	35,03	+	31,24	55,00	+	2h+ L	2 M	P	/	/	PA	PA
a+	GL54	Horse rumsteak (raw)	nc	1h+ Ø	0 L	4h+ 1h- Ø	4 Ø	+ (L. w + L. m)	P	28,12	52,06	+	4h+ Ø	0 H	+ (L. m)	+ (L. m)	P	30,14	52,33	+	28,25	52,40	+	4h+ Ø	3 M	P	/	/	PA	PA
a+	GL138	Turkey filet mignon (raw)	nc	2h+/1h- L	3 L	3h+ 2h- Ø	2 Ø	+ (L. in + L. m)	P	22,89	59,44	+	4h+ 1h- L	3 M	+ (L. in + L. m)	+ (L. in + L. m)	P	21,21	59,50	+	21,56	59,77	+	4h+ 2h- Ø	4 L	P	/	/	PA	PA
a+	GL139	Turkey escalope (raw)	nc	2h- L	2 L	3h- Ø	3 Ø	+ (L. w)	P	27,24	60,71	+	4h- L	3 M	+ (L. w)	+ (L. w)	P	25,98	60,54	+	25,04	60,70	+	4h- Ø	4 L	P	/	/	PA	PA
a+	GL141	Chicken escalope (raw)	nc	2h- L	1 L	2h- L	2 L	+ (L. w)	P	25,26	52,33	+	4h+ Ø	4 M	+ (L. m)	+ (L. m)	P	23,47	52,44	+	21,88	52,65	+	4h+ L	3 M	P	/	/	PA	PA
a+	GL142	Fillet of tournedos (raw)	nc	0 Ø	0 H	0 Ø	0 M	-	A	29,06	60,68	+	3h- Ø	3 M	+ (L. w)	+ (L. w)	P	28,47	60,62	+	22,64	60,81	+	4h- Ø	4 M	P	/	/	PD	PD
a+	GL143	T-bone steak (raw)	nc	1h- Ø	1 L	3h- Ø	3 Ø	+ (L. w)	P	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	0,00	0,00	-	0 M	0 M	A	-	A	ND	ND
a+	GL144	Lamb necklace (raw)	nc	2h+ Ø	2 L	3h+ 2h- L	4 L	+ (L. in + L. m)	P	28,56	52,62	+	3h+ 1h- Ø	2 M	+ (L. in + L. m)	+ (L. in + L. m)	P	29,20	53,03	+	27,08	53,03	+	2h+ 1h- Ø	3 L	P	/	/	PA	PA
a+	GL149	Sliced horse (raw)	nc	2h+ Ø	3 L	3h+ 1h- Ø	4 Ø	+ (L. in + L. m)	P	27,55	59,29	+	3h- Ø	0 H	+ (L. in)	+ (L. in)	P	28,46	59,65	+	26,97	59,78	+	3h- Ø	4 L	P	/	/	PA	PA
a+	GL150	Shoulder of lamb (raw)	nc	1h+ L	1 L	3h+ 1h- M	3 M	+ (L. in + L. m)	P	30,55	52,76	+	3h+ 2h- M	2 M	+ (L. in + L. m)	+ (L. in + L. m)	P	30,47	52,88	+	29,59	53,01	+	2h+ 1h- L	3 Ø	P	/	/	PA	PA
a+	GL151	Veal steak (raw)	nc	1h- Ø	1 L	3h- L	3 L	+ (L. w)	P	27,12	61,06	+	4h- Ø	3 M	+ (L. w)	+ (L. w)	P	27,46	60,49	+	25,16	61,06	+	4h- Ø	4 L	P	/	/	PA	PA
a+	GL153	Pork meat (raw)	nc	1h- Ø	1 M	4h- Ø	4 Ø	+ (L. w)	P	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	0,00	0,00	-	0 M	0 H	A	-	A	ND	ND

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				Half Fraser		Fraser		Conf.	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf. 3	Final result	Final result	After a 3-day storage at 5°C
				ALOA	PALCAM	ALOA	PALCAM						ALOA	PALCAM										ALOA	PALCAM					
a+	GL157	Pork chop (raw)	nc	1h- L	1 L	4h- Ø	4 Ø	+ (L. w)	P	33,61	60,28	+	2h- Ø	2 Ø	+ (L. w)	+ (L. w)	P	32,04	60,11	+	30,16	60,45	+	2h- Ø	3 Ø	P	/	/	PA	PA
a+	GL158	Pork travers (raw)	nc	1h- L	1 M	3h- L	3 L	+ (L. w)	P	30,48	60,60	+	3h- L	0 H	+ (L. w)	+ (L. w)	P	29,65	60,32	+	28,47	60,71	+	3h- L	3 H	P	/	/	PA	PA
a+	GL159	Beef tournedos (raw)	se	0 Ø	0 L	0 Ø	0 L	-	A	26,42	53,07	+	4h+ Ø	4 L	+ (L. m)	+ (L. m)	P	26,45	53,15	+	0,00	50,08	+	4h+ Ø	3 M	P	/	/	PD	PD
a+	GL160	Turkey filet mignon (raw)	se	2h+/1h- Ø	3 Ø	1h+/2h- Ø	3 Ø	+ (L. m)	P	22,76	59,43	+	4h+ 1h- Ø	4 L	+ (L. m)	+ (L. m)	P	21,80	59,55	+	21,18	58,30	+	4h+ Ø	3 M	P	/	/	PA	PA
b-	GL32	Montbéliard sausages (to be cooked)	se	0 Ø	0 L	0 Ø	0 M	-	A	0,00	0,00	-	0 L	0 L	/	/	A	0,00	0,00	-	/	/	/	/	0 L	/	-	A	NA	/
b-	GL44	Roast pork (cooked)	/	0 Ø	0 Ø	0 Ø	0 L	-	A	0,00	0,00	-	0 Ø	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b-	GL45	Duck mousse with port	/	0 Ø	0 L	0 L	0 M	-	A	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b-	GL46	Roasted chicken rillettes	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 Ø	0 Ø	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b-	GL58	Country terrine (pork)	/	0 Ø	0 L	0 L	0 L	-	A	0,00	0,00	-	0 Ø	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b-	GL61	Mini knacks	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 M	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b-	GL62	Rillettes du Mans	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 Ø	0 Ø	/	/	A	0,00	0,00	+	/	/	/	/	/	/	-	A	NA	/
b+	GL1	Sausage meat	nc	1h+ Ø	1 Ø	4h+ Ø	3 M	+ (L. m)	P	27,98	53,00	+	2h+ L	3 M	+ (L. m)	+ (L. m)	P	29,04	52,92	+	25,22	53,36	+	3h+ L	3 M	P	/	/	PA	PA
b+	GL2	Lacquered duck (cooked)	nc	2h+/2h- Ø	2 Ø	3h+/1h- Ø	3 Ø	+ (L. w + L. m)	P	22,74	52,44	+	3h+/1h- Ø	3 H	+ (L. in + L. m)	+ (L. in + L. m)	P	23,53	52,46	+	20,97	62,53	+	2h+/2h- Ø	3 H	P	/	/	PA	PA
b+	GL3	Nem Chua (raw preparation)	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	32,08	52,97	+	0 Ø	0 L	/	/	P	32,10	52,95	+	30,64	53,35	+	1h- Ø	0 L	P	/	/	PD	PD
												⇨Fraser	1 L	1 L	+ (L. w)	+ (L. w)							⇨Fraser	2h- Ø	1 L					
b+	GL4	Pipa duck (cooked)	nc	2h+/2h- Ø	3 Ø	2h+/2h- Ø	4 L	+ (L. w + L. m)	P	19,61	60,46	+	4h- Ø	4 Ø	+ (L. in)	+ (L. in)	P	21,03	60,73	+	18,17	60,77	+	4h- Ø	3 M	P	/	/	PA	PA
b+	GL6	Peking duck (raw)	nc	2h+ Ø	2 Ø	4h+ Ø	4 Ø	+ (L. m)	P	22,20	60,76	+	3h+/1h- Ø	3 M	+ (L. in + L. m)	+ (L. in + L. m)	P	23,59	60,29	+	18,84	60,93	+	4h- M	3 M	P	/	/	PA	PA
b+	GL9	Peking duck (raw)	nc	3h+ Ø	3 Ø	2h+/1h- M	3 M	+ (L. m)	P	19,51	52,47	+	3h+/1h- Ø	3 M	+ (L. in + L. m)	+ (L. in + L. m)	P	20,44	52,38	+	19,15	52,31	+	4h+/1h- L	4 H	P	/	/	PA	PA
b+	GL10	Peking duck (raw)	nc	2h+/2h- Ø	2 Ø	4h+ L	4 Ø	+ (L. w + L. m)	P	23,93	60,60	+	3h- Ø	3 M	+ (L. w)	+ (L. w)	P	25,18	60,62	+	20,05	60,50	+	3h- L	3 H	P	/	/	PA	PA
b+	GL11	Pork rillettes	nc	2h+ M	2 L	4h+ Ø	4 Ø	+ (L. m)	P	19,93	52,68	+	4h+ L	4 M	+ (L. m)	+ (L. m)	P	20,55	52,65	+	20,06	52,74	+	4h+ L	3 M	P	/	/	PA	PA
b+	GL13	Fresh vacuum-packed sausage	nc	2h+ Ø	2 Ø	3h+ Ø	3 M	+ (L. m)	P	26,86	53,21	+	3h+ L	3 M	+ (L. m)	+ (L. m)	P	27,68	53,32	+	21,01	53,21	+	4h+ L	3 H	P	/	/	PA	PA
b+	GL18	Minced steak beef green beans	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	25,11	59,49	+	2h- Ø	3 M	+ (L. w)	+ (L. w)	P	26,67	59,59	+	22,15	59,21	+	2h- Ø	3 M	P	/	/	PD	PD
b+	GL20	Chicken Bite (raw)	nc	3h+/1h- L	3 L	2h+ Ø	2 M	+ (L. in + L. m)	P	23,11	52,91	+	3h+/1h- L	3 H	+ (L. w + L. m)	+ (L. w + L. m)	P	24,50	52,89	+	21,81	53,24	+	4h+ M	3 H	P	/	/	PA	PA
b+	GL21	Mixed angel valley veal (cooked)	nc	2h+ Ø	2 Ø	4h+ Ø	3 M	+ (L. m)	P	19,54	52,55	+	4h+ L	4 H	+ (L. m)	+ (L. m)	P	20,57	52,56	+	18,71	52,46	+	4h+ L	3 H	P	/	/	PA	PA
b+	GL23	Chicken pâté (processed raw)	nc	1h+/3h- L	2 L	2h+/1h- L	0 H	+ (L. w + L. m)	P	23,27	52,83	+	1h+/2h- L	3 H	+ (L. in + L. m)	+ (L. in + L. m)	P	24,32	52,72	+	0,00	51,53	+	4h+/1h- L	3 H	P	/	/	PA	PA
b+	GL24	Minced steak with onions (frozen)	nc	3h- M	3 M	3h- L	0 H	+ (L. w)	P	29,94	60,35	+	0 H	0 H	/	/	P	30,97	60,13	+	23,97	60,28	+	0 H	0 H	P	/	/	PA	PA
												⇨Fraser	1 M	1 H	+ (L. w)	+ (L. w)							⇨Fraser	1 M	1 M					
b+	GL49	Boneless lamb to grill (raw)	nc	1h+ Ø	0 L	4h+ Ø	0 H	+ (L. iv)	P	31,16	55,06	+	3h+ L	0 H	+ (L.iv)	+ (L.iv)	P	33,19	55,10	+	30,26	55,19	+	2h+ Ø	2 M	P	/	/	PA	PA
b+	GL51	Pure beef minced steak	nc	1h- Ø	1 M	3h- Ø	4 L	+ (L. w)	P	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	0,00	0,00	-	0 M	0 M	A	-	A	ND	ND
b+	GL52	Boneless pork fillet (raw)	nc	0 L	0 M	0 L	0 L	-	A	31,74	60,28	+	3h- L	0 H	+ (L. w)	+ (L. w)	P	32,88	60,27	+	32,11	60,43	+	3h- Ø	3 H	P	/	/	PD	PD
b+	GL55	Medallion of turkey filet mignon (raw)	nc	3h- L	3 L	2h- Ø	3 Ø	+ (L. w)	P	28,05	59,58	+	3h- M	3 M	+ (L. in)	+ (L. in)	P	29,86	59,91	+	27,74	59,58	+	3h- L	4 M	P	/	/	PA	PA
c-	GL15	Upper ham with rind	nc	0 L	0 L	0 L	0 M	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL31	Smoked cured ham	se	0 L	0 M	0 M	0 M	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL40	Top ham without rind	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 Ø	0 Ø	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL41	Upper ham with rind	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 Ø	0 Ø	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL42	Chicken breast	/	0 Ø	0 Ø	0 L	0 M	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL43	Turkey breast	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 Ø	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL57	Smoked bacon matches	/	0 L	0 L	0 Ø	0 Ø	-	A	0,00	0,00	-	0 M	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL59	Smoked salami (pork)	/	0 Ø	0 L	0 Ø	0 Ø	-	A	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL162	Smoked salami (pork)	se	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/

Type	Sample N°	Sample	Contamination	RM: NF EN ISO 11290-1						AM: GENE UP							AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage of the broths 3 days at 5°C						Confirmation ISO 16140-2 : 2016 on MA negative samples		Concordance RM /AM	
				Half Fraser		Fraser		Conf.	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf. 3	Final result	Final result	After a 3-day storage at 5°C
				ALOA	PALCAM	ALOA	PALCAM						ALOA	PALCAM										ALOA	PALCAM					
c+	GL7	Ham with rind	nc	1h+/1h- L	1 L	4h+/1h- Ø	4 L	+ (L. in + L. m)	P	19,03	52,08	+	2h+/1h- Ø	4 L	+ (L. in + L. m)	+ (L. in + L. m)	P	21,36	52,10	+	19,58	52,26	+	3h+/1h- L	4 M	P	/	/	PA	PA
c+	GL14	Sliced smoked poultry	nc	3h+ Ø	3 Ø	4h+ L	4 Ø	+ (L. m)	P	19,86	53,40	+	3h+ Ø	3 M	+ (L. m)	+ (L. m)	P	20,56	53,25	+	18,10	53,23	+	4h+ Ø	4 H	P	/	/	PA	PA
c+	GL17	Block of smoked veal	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	33,72	53,24	+	2h- Ø	0 L	+ (L. w)	+ (L. w)	P	33,99	53,37	+	0,00	0,00	- / - / -	1h- Ø	0 L	A (FN)	-	A	PD	NA
c+	GL19	Sliced smoked poultry	nc	0 L	0 L	0 L	0 M	-	A	32,52	52,40	+	2h+ L	2 L	+ (L. m)	+ (L. m)	P	33,84	52,36	+	21,96	52,67	+	1h+ L	2 M	P	/	/	PD	PD
c+	GL29	Block of smoked veal	se	2h+/1h- M	1 M	4h+/1h- Ø	4 H	+ (L. m)	P	24,12	59,43	+	4h+/1h- Ø	3 M	+ (L. in + L. m)	+ (L. in + L. m)	P	25,71	59,43	+	24,03	59,55	+	3h+/1h- Ø	2 M	P	/	/	PA	PA
c+	GL30	Sliced smoked poultry	se	2h+ L	1 L	4h+/1h- Ø	3 M	+ (L. w + L. m)	P	26,19	52,97	+	3h+ L	3 M	+ (L. m)	+ (L. m)	P	26,57	52,87	+	24,09	53,20	+	4h+ Ø	3 M	P	/	/	PA	PA
c+	GL56	Block of smoked veal	nc	2h- L	0 H	3h- Ø	3 M	+ (L. w)	P	26,79	59,47	+	3h- L	2 M	+ (L. in)	+ (L. in)	P	28,19	59,45	+	25,11	59,63	+	3h- L	3 M	P	/	/	PA	PA
c+	GL60	Sliced smoked poultry	nc	0 L	0 L	4h- Ø	4 Ø	+ (L. w)	P	30,72	60,23	+	3h- M	2 H	+ (L. w)	+ (L. w)	P	32,27	60,26	+	29,11	60,39	+	3h- L	3 M	P	/	/	PA	PA
c+	GL161	Block of smoked veal	se	0 Ø	0 L	1h+/2h- Ø	3 Ø	+ (L. m)	P	26,28	59,70	+	2h- L	4 L	+ (L. in)	+ (L. in)	P	25,68	59,85	+	23,70	59,59	+	4h- L	4 L	P	/	/	PA	PA
c+	GL163	Sliced smoked poultry	se	0 Ø	0 Ø	0 Ø	0 Ø	-	A	27,25	53,25	+	3h+ Ø	3 Ø	+ (L. m)	+ (L. m)	P	27,65	53,33	+	24,94	53,04	+	3h+ Ø	4 Ø	P	/	/	PD	PD
c+	GL164	Block of smoked veal	se	1h+/1h- Ø	1 Ø	3h+ Ø	3 Ø	+ (L. m)	P	23,54	53,42	+	4h+ Ø	4 L	+ (L. m)	+ (L. m)	P	23,69	53,37	+	19,54	53,22	+	4h+ Ø	3 M	P	/	/	PA	PA

DAIRY PRODUCTS

Type	Sample N°	Sample	Contamination	RM: NF EN ISO 11290-1						AM: GENE UP							AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage of the broth 3 days at 5°C						Confirmation ISO 16140-2 :2016 on MA negative samples		Concordance RM /AM	
				Half Fraser		Fraser		Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf . 3	Final result	Final result	After a 3-day storage at 5°C
				ALOA	Palcam	ALOA	Palcam						ALOA	PALCAM										ALOA	PALCAM					
a-	GL34	Raw milk cheese 2	/	0 L	0 L	0 L	0 L	-	A	0,00	0,00	-	0 H	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL35	Raw milk cheese 3	/	0 M	0 L	0 M	0 M	-	A	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL36	Raw milk cheese 4	/	0 L	0 M	0 L	0 L	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL68	Tomme de Savoie (cheese - raw - cow)	/	0 Ø	0 Ø	0 L	0 Ø	-	A	0,00	0,00	-	0 L	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL69	Comté (cheese - raw-cow)	/	0 L	0 L	0 M	0 L	-	A	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL70	Cœur de chèvre (raw goat's cheese)	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL71	L a croseta (raw goat's cheese)	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL78	Emmental bio 1 (cheese - raw)	/	0 Ø	0 Ø	0 L	0 Ø	-	A	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL79	Salers (raw milk)	/	0 L	0 L	0 L	0 L	-	A	0,00	0,00	-	0 Ø	0 Ø	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL80	Brie de Meaux (raw milk)	/	0 L	0 L	0 L	0 L	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL81	Neuchâtel farmer (cheese - raw)	/	0 L	0 L	0 Ø	0 L	-	A	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL82	Petit Camembert (cheese - raw - cow)	/	0 Ø	0 Ø	0 M	0 H	-	**A**	0,00	0,00	-	0 H	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL85	Cabécou bio 1 (cheese - raw - goat)	/	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL119	Le rondin (cheese - raw - goat)	se	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL122	Cabri de touraine (cheese - raw - goat)	se	0 Ø	0 L	0 Ø	0 L	-	**A**	0,00	0,00	-	0 H	0 M	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL168	Camembert (cheese - raw - cow)	se	0 L	0 L	0 L	0 H	-	**A**	0,00	0,00	-	0 H	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL176	Raw goat milk cheese bio	/	0 Ø	0 Ø	0 Ø	0 L	-	**A**	0,00	0,00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a+	GL33	Raw milk cheese 1	nc	0 M	0 L	2h- M	3 H	+ (L. in)	P	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	0,00	0,00	-	0 H	0 H	**A**	-	A	ND	ND
a+	GL103	Emmental bio 2 (cheese - raw)	se	4h+ Ø	3 Ø	2h+ Ø	2 L	+ (L. m)	**P**	20,88	53,54	+	2h+ M	0 M	+ (L. m)	+ (L. m)	**P**	22,26	53,68	+	21,70	53,54	+	2h+ M	1 L	**P**	/	/	PA	PA
a+	GL104	Tomme de Savoie (cheese - raw - cow)	se	4h+ Ø	4 Ø	3h+ Ø	3 L	+ (L. m)	**P**	29,25	53,15	+	4h+ Ø	3 L	+ (L. m)	+ (L. m)	**P**	28,31	53,28	+	28,25	53,02	+	4h+ Ø	4 L	**P**	/	/	PA	PA
a+	GL105	Comté (cheese - raw cow)	se	4h+ Ø	3 L	3h+ Ø	4 L	+ (L. m)	**P**	20,00	53,53	+	4h+ Ø	3 L	+ (L. m)	+ (L. m)	**P**	20,91	53,64	+	20,25	53,49	+	4h+ Ø	0 H	**P**	/	/	PA	PA
a+	GL106	Cœur de chèvre (raw goat's cheese)	se	2h+ Ø	2 Ø	3h+ Ø	4 Ø	+ (L. m)	**P**	30,29	53,32	+	1h+ L	0 L	+ (L. m)	+ (L. m)	**P**	25,85	53,60	+	30,26	53,41	+ ⇨Fraser	0 L 0 L	0 H 0 H	**A (FP)**	/	/	PA	ND (PP)
a+	GL107	L a croseta (raw goat's cheese)	se	2h+ Ø	2 Ø	3h+ Ø	3 L	+ (L. m)	**P**	33,00	53,42	+	1h+ L	0 M	+ (L. m)	+ (L. m)	**P**	31,80	53,48	+	29,59	53,32	+	1h+ L	1 L	**P**	/	/	PA	PA
a+	GL108	Neuchâtel farmer (cheese - raw)	nc	1h+ Ø	1 Ø	2h+ Ø	3 Ø	+ (L. m)	**P**	30,80	53,41	+	3h+ M	2 M	+ (L. m)	+ (L. m)	**P**	31,08	53,24	+	27,84	53,40	+	4 h+ L	4 L	**P**	/	/	PA	PA
a+	GL109	Petit Camembert (cheese - raw - cow)	nc	4h+ Ø	3 M	3h+ Ø	3 L	+ (L. m)	**P**	25,54	53,25	+	4h+ Ø	2 H	+ (L. m)	+ (L. m)	**P**	34,49	53,44	+	24,85	53,57	+	4h+ Ø	2 M	**P**	/	/	PA	PA
a+	GL112	Cantal (cheese - raw - cow)	se	1h- Ø	1 L	3h- Ø	3 Ø	+ (L. in)	**P**	29,12	59,07	+	3h- Ø	1 H	+ (L. in)	+ (L. in)	**P**	29,94	59,34	+	28,68	59,06	+	3h- Ø	3 M	**P**	/	/	PA	PA
a+	GL113	Abondance fermier (cheese - raw - cow)	se	1h- L	1 Ø	2h- Ø	3 Ø	+ (L. in)	**P**	25,47	59,56	+	4h- Ø	3 M	+ (L. in)	+ (L. in)	**P**	25,24	59,71	+	23,65	59,57	+	4h- Ø	4 L	**P**	/	/	PA	PA
a+	GL118	Emmental Savoie (cheese - raw cow)	se	0 Ø	0 Ø	0 Ø	0 L	-	**A**	31,94	55,07	+	2h+ L	0 H	+ (L. iv)	+ (L. iv)	**P**	32,47	55,06	+	28,61	55,19	+	3h+ Ø	0 H	**P**	/	/	PD	PD
a+	GL120	Rocamadour (cheese - raw - goat)	se	1h- Ø	1 Ø	3h- Ø	3 Ø	+ (L. s)	**P**	0,00	0,00	-	0 L	0 L	/	/	**A**	0,00	0,00	-	0,00	0,00	-	0 L	0 L	**A**	+ (L. s)	**P**	ND	ND
a+	GL121	Moulis (cheese - raw cow)	se	0 Ø	0 L	0 Ø	0 L	-	**A**	34,48	59,14	+ ⇨Fraser	0 L 1 L	0 M 1 M	/ + (L. s)	/ + (L. s)	**P**	35,88	59,17	+	33,62	59,31	+ ⇨Fraser	0 L 1 L	0 M 1 M	**P**	/	/	PD	PD
a+	GL123	Cabri de touraine cendré (cheese - raw - goat)	se	1h+ Ø	1 L	2h+ Ø	2 Ø	+ (L. m)	**P**	33,71	53,34	+	1h+ L	0 M	+ (L. m)	+ (L. m)	**P**	33,84	53,25	+	32,58	52,98	+	1h+ L	1 L	**P**	/	/	PA	PA
a+	GL167	Emmental (cheese - raw cow)	nc	0 Ø	0 Ø	0 L	0 L	-	**A**	29,00	53,15	+	4h+ Ø	2 H	+ (L. m)	+ (L. m)	**P**	29,36	53,17	+	26,17	53,16	+	4h+ Ø	2 H	**P**	/	/	PD	PD
a+	GL171	Raw goat's milk cheese	nc	1h+ L	1 L	1h+ Ø	2 L	+ (L. m)	**P**	0,00	0,00	-	0 L	0 M	/	/	**A**	0,00	0,00	-	0,00	0,00	-	0 L	0 M	**A**	-	**A**	ND	ND
a+	GL172	Raw cow's milk cheese 1	nc	1h+ L	1 L	3h+ H	3 L	+ (L. m)	**P**	30,52	53,08	+	3h+ Ø	2 L	+ (L. m)	+ (L. m)	**P**	30,65	53,30	+	30,32	53,06	+	4h+ Ø	2 M	**P**	/	/	PA	PA
a+	GL174	Raw cow's milk cheese 2	nc	1h+ Ø	1 Ø	3h+ Ø	3 L	+ (L. m)	**P**	25,14	53,12	+	4h+ Ø	0 H	+ (L. m)	+ (L. m)	**P**	25,58	53,33	+	24,25	53,25	+	4h+ Ø	3 H	**P**	/	/	PA	PA
b-	GL86	Fermented ribot milk	/	0 Ø	0 L	0 L	0 H	-	**A**	0,00	0,00	-	0 M	0 M	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	**A**	NA	/
b-	GL87	Fermented lean ribot milk 1	/	0 Ø	0 Ø	0 M	0 H	-	**A**	0,00	0,00	-	0 L	0 M	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	**A**	NA	/

Type	Sample N°	Sample	Contamination	RM: NF EN ISO 11290-1						AM: GENE UP								AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage of the broth 3 days at 5°C						Confirmation ISO 16140-2 :2016 on MA negative samples		Concordance RM /AM	
				Half Fraser		Fraser		Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf . 3	Final result	Final result	After a 3-day storage at 5°C
				ALOA	Palcam	ALOA	Palcam						ALOA	PALCAM										ALOA	PALCAM					
b-	GL88	Fermented lean ribot milk 2	/	0 Ø	0 L	0 M	0 H	-	**A**	0,00	0,00	-	0 M	0 M	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
b-	GL89	Microfiltered milk 1	/	0 Ø	0 Ø	0 M	0 H	-	**A**	0,00	0,00	-	0 L	0 M	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
b-	GL91	Raw Jersey Cow Milk	/	0 Ø	0 Ø	0 Ø	0 M	-	**A**	0,00	0,00	-	0 L	0 M	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
b-	GL92	Raw Jersey Cow Butter	/	0 L	0 Ø	1h- L	0 L	-	**A**	0,00	0,00	-	0 L	0 M	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
b-	GL93	Sweet raw churn butter	/	0 L	0 L	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 H	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
b-	GL94	Raw salt churned butter	/	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 L	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
b-	GL182	Fermented ribot milk	se	0 Ø	0 L	0 L	0 M	-	**A**	0,00	0,00	-	0 M	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
b+	GL90	Microfiltered milk 2	nc	1h- Ø	1 L	4h- Ø	4 Ø	+ (L. in)	**P**	27,61	59,78	+	3h- Ø	2 M	+ (L. in)	+ (L. in)	**P**	28,64	59,72	+	21,03	60,00	+	4h- Ø	3 M	**P**	/	**/**	PA	PA
b+	GL110	Fermented ribot milk	se	2h+ Ø	3 L	3h+ Ø	3 L	+ (L. m)	**P**	27,27	53,54	+	3h+ Ø	2 M	+ (L. m)	+ (L. m)	**P**	25,68	53,54	+	21,81	53,57	+	4h+ Ø	3 M	**P**	/	**/**	PA	PA
b+	GL124	Jersey raw butter (raw milk)	se	0 L	0 L	0 M	0 L	-	**A**	25,99	53,45	+	3h+ Ø	3 L	+ (L. m)	+ (L. m)	**P**	26,64	53,37	+	22,20	53,60	+	4h+ Ø	4 L	**P**	/	**/**	PD	PD
b+	GL125	Sweet churn butter (raw milk)	se	0 L	0 L	0 Ø	0 L	-	**A**	28,84	53,29	+	3h+ Ø	2 L	+ (L. m)	+ (L. m)	**P**	28,82	53,30	+	22,55	53,42	+	4h+ Ø	4 L	**P**	/	**/**	PD	PD
b+	GL126	Semi-salt churn butter (raw milk)	se	1h+ Ø	1 Ø	3h+ Ø	3 Ø	+ (L. m)	**P**	0,00	0,00	-	0 H	0 H	/	/	**A**	0,00	0,00	-	0,00	0,00	-	0 H	0 H	**A**	-	**A**	ND	ND
b+	GL128	Fermented lean ribot milk	se	0 Ø	0 L	1h- L	1 M	-	**A**	26,16	53,30	+	4h+ Ø	0 H	+ (L. m)	+ (L. m)	**P**	26,58	52,92	+	23,63	53,44	+	4h+ Ø	0 H	**P**	/	**/**	PD	PD
b+	GL130	Microfiltered semi-skimmed milk	se	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	28,63	53,22	+	2h+ Ø	1 M	+ (L. m)	+ (L. m)	**P**	29,15	53,00	+	27,04	53,31	+	2h+ Ø	3 L	**P**	/	**/**	PD	PD
b+	GL131	Fresh microfiltered milk bio	se	1h+ Ø	1 Ø	3h+ Ø	4 Ø	+ (L. m)	**P**	26,23	53,34	+	3h+ Ø	1 H	+ (L. m)	+ (L. m)	**P**	26,67	53,29	+	24,49	53,32	+	3h+ Ø	2 H	**P**	/	**/**	PA	PA
b+	GL133	Fermented ribot milk	se	1h+ Ø	1 Ø	4h+ Ø	3 Ø	+ (L. m)	**P**	28,50	53,26	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	**P**	27,78	53,23	+	22,82	53,39	+	4h+ Ø	4 L	**P**	/	**/**	PA	PA
b+	GL134	Fermented ribot milk	se	1h+ Ø	1 L	3h+ Ø	4 Ø	+ (L. m)	**P**	26,20	53,45	+	4h+ Ø	2 H	+ (L. m)	+ (L. m)	**P**	25,71	53,14	+	21,53	53,22	+	4h+ Ø	3 M	**P**	/	**/**	PA	PA
b+	GL178	Raw butter (raw milk)	nc	1h+ L	1 Ø	3h+ Ø	3 Ø	+ (L. m)	**P**	3,09	53,17	+	3h+ L	0 H	+ (L. m)	+ (L. m)	**P**	33,46	53,32	+	32,89	53,15	+	2h+ L	1 M	**P**	/	**/**	PA	PA
c-	GL37	Churn butter	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL38	Pasteurized milk	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 Ø	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL63	Vanilla ice cream 1	/	0 Ø	0 L	0 M	0 H	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL64	Caramel ice cream	/	0 L	0 L	0 L	0 M	-	A	0,00	0,00	-	0 M	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL65	Chocolate ice cream 1	/	0 M	0 M	0 M	0 H	-	A	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL66	Spreadable cheese (pasteurized milk)	/	0 Ø	0 L	0 M	0 H	-	A	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL67	Montagnolo (cheese - pasteurized - cow)	/	0 L	0 L	0 M	0 L	-	A	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL73	Garlic and Herbs Spread Cheese	/	0 M	0 M	0 M	0 H	-	A	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL74	Trout and carré frais	/	0 Ø	0 L	0 M	0 H	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL75	Milk drink (strawberry)	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 Ø	0 Ø	/	/	A	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL76	Milk drink (chocolate)	/	0 Ø	0 Ø	0 M	0 H	-	A	0,00	0,00	-	0 M	0 Ø	/	/	A	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL77	Natural yogurt	/	0 Ø	0 L	0 M	0 H	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL83	Sweet butter (pasteurized milk)	/	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 L	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL84	Dessert cream with eggs and caramel	/	0 Ø	0 M	0 L	0 H	-	**A**	0,00	0,00	-	0 L	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL95	Nougat ice cream	/	0 Ø	0 L	0 M	0 H	-	**A**	0,00	0,00	-	0 M	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL96	Vanilla ice cream 2	/	0 Ø	0 L	0 M	0 M	-	**A**	0,00	0,00	-	0 M	0 M	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL97	Chocolate ice cream 1	/	0 M	0 M	0 M	0 H	-	**A**	0,00	0,00	-	0 H	0 M	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL98	Tzatziki	/	2h- M	0 M	4h- Ø	3 M	-	**A**	0,00	0,00	-	0 M	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c-	GL175	Pasteurized cow's milk cheese	/	0 L	0 L	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 M	0 M	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	**A**	NA	/
c+	GL72	Tzatziki	nc	0 M	0 M	2h- M	2 H	+ (L. s)	P	28,14	58,83	+ ⇨Fraser	0 H 3h- Ø	0 L 3 L	/ + (L. s)	/ + (L. s)	P	29,85	59,58	+	23,08	58,97	+	2h- M	2 M	**P**	/	**/**	PA	PA
c+	GL99	Garlic and Herbs Spread Cheese	se	4h+ Ø	4 L	3h+ Ø	3 M	+ (L. m)	**P**	21,36	53,58	+	4 h+ L	2 M	+ (L. m)	+ (L. m)	**P**	21,82	53,70	+	22,27	53,45	+	4 h+ L	0 H	**P**	/	**/**	PA	PA
c+	GL100	Spreadable cheese (pasteurized milk)	se	4h+ Ø	4 L	4h+ Ø	2 M	+ (L. m)	**P**	22,66	53,56	+	4 h+ L	3 M	+ (L. m)	+ (L. m)	**P**	23,09	53,70	+	23,69	53,54	+	4 h+ L	4 L	**P**	/	**/**	PA	PA

Type	Sample N°	Sample	Contamination	RM: NF EN ISO 11290-1						AM: GENE UP								AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage of the broth 3 days at 5°C						Confirmation ISO 16140-2 :2016 on MA negative samples		Concordance RM /AM	
				Half Fraser		Fraser		Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf . 3	Final result	Final result	After a 3-day storage at 5°C
				ALOA	Palcam	ALOA	Palcam						ALOA	PALCAM										ALOA	PALCAM					
c+	GL101	Plain yogurt (pasteurized milk)	se	4h+ Ø	4 L	4h+ Ø	4 L	+ (L. m)	P	22,22	53,35	+	4h+ Ø	3 M	+ (L. m)	+ (L. m)	P	22,31	53,58	+	19,68	53,35	+	4h+ Ø	4 Ø	P	/	/	PA	PA
c+	GL102	Montagnolo (cheese - pasteurized - cow)	se	4h+ Ø	4 Ø	3h+ Ø	4 L	+ (L. m)	P	23,27	53,35	+	4h+ Ø	0 H	+ (L. m)	+ (L. m)	P	21,32	53,57	+	20,82	53,44	+	4 h+ L	0 H	P	/	/	PA	PA
c+	GL111	Saveur du maquis (cheese - pasteurized - sheep)	se	1h- L	1 L	2h- Ø	3 L	+ (L. in)	P	29,92	59,75	+	2h- H	1 M	+ (L. in)	+ (L. in)	P	29,91	59,37	+	29,11	59,52	+	2h- M	2 M	P	/	/	PA	PA
c+	GL114	Corsica (cheese - pasteurized - sheep)	se	1h- L	1 L	3h- Ø	3 L	+ (L. w)	P	32,17	58,99	+ ⇨Fraser	0 M 1h- L	0 H 1 M	/ + (L. w)	/ + (L. w)	P	33,46	60,46	+	27,16	59,70	+ ⇨Fraser	0 M 1h- L	0 H 1 L	P	/	/	PA	PA
c+	GL115	Plain white cheese (pasteurized - cow)	se	1h- L	1 Ø	3h- Ø	3 L	+ (L. w)	P	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	0,00	0,00	-	0 H	0 H	A	/	A	ND	ND
c+	GL116	Munster (cheese - pasteurized - cow)	se	0 L	0 L	0 Ø	0 L	-	A	30,18	59,01	+ ⇨Fraser	0 L 1h- L	0 H 1 L	/ + (L. w)	/ + (L. w)	P	34,29	53,19	+	32,86	59,76	+ ⇨Fraser	/ 1h- L	/ 1 L	P	/	/	PD	PD
c+	GL117	Lingot d'or (cheese - pasteurized - cow)	se	0 L	0 L	3h+ Ø	3 L	+ (L. iv)	P	32,68	54,81	+	2h+ L	0 H	+ (L. iv)	+ (L. iv)	P	32,78	54,84	+	32,68	54,98	+	2h+ L	0 M	P	/	/	PA	PA
c+	GL127	Mascarpone	se	2h+ Ø	1 Ø	3h+ Ø	2 Ø	+ (L. m)	P	21,87	53,51	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	P	22,15	53,39	+	19,98	53,34	+	4h+ Ø	4 Ø	P	/	/	PA	PA
c+	GL129	Semi-skimmed milk (pasteurized)	se	1h+ Ø	1 Ø	3h+ Ø	3 Ø	+ (L. m)	P	0,00	0,00	-	0 Ø	0 Ø	/	/	A	0,00	0,00	-	0,00	0,00	-	0 Ø	0 Ø	A	-	A	ND	ND
c+	GL132	Fresh Jersey Cow Milk	se	1h+ Ø	1 Ø	2h+ Ø	3 Ø	+ (L. m)	P	0,00	0,00	- ⇨Fraser	0 Ø 0 Ø	0 H 0 Ø	/ /	/ /	A	0,00	0,00	-	0,00	65,81	+ ⇨Fraser	0 L 0 Ø	0 Ø 0 Ø	A (FP)	-	A	ND	ND (PP)
c+	GL165	Pistachio ice cream	se	2h+ Ø	1 L	3h+ Ø	3 L	+ (L. m)	P	24,28	53,15	+	3h+ L	2 H	+ (L. m)	+ (L. m)	P	24,28	53,31	+	21,96	53,19	+	4h+ Ø	2 H	P	/	/	PA	PA
c+	GL166	Coffee ice cream	se	2h+ Ø	1 L	3h+ L	3 L	+ (L. m)	P	33,12	53,32	+	2h+ L	0 H	+ (L. m)	+ (L. m)	P	33,70	53,33	+	33,08	52,90	+	2h+ Ø	0 H	P	/	/	PA	PA
c+	GL169	Lingot d'or (cheese - pasteurized - cow)	se	0 L	0 L	3h- Ø	3 L	+ (L. in)	P	35,17	59,05	+ ⇨Fraser	0 H 3h- Ø	0 M 3 M	/ + (L. in)	/ + (L. in)	P	33,63	59,01	+	34,29	59,00	+ ⇨Fraser	0 H 3h- Ø	0 H 3 M	P	/	/	PA	PA
c+	GL170	Plain white cheese (pasteurized - cow)	se	1h- L	1 L	3h- L	3 L	+ (L. in)	P	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	0,00	0,00	-	0 H	0 H	A	-	A	ND	ND
c+	GL173	Pasteurized sheep's milk cheese	nc	1h+ L	1 L	3h+ Ø	3 Ø	+ (L. m)	P	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	0,00	0,00	-	0 H	0 H	A	-	A	ND	ND
c+	GL177	Mascarpone	nc	1h+ Ø	1 Ø	3h+ Ø	3 Ø	+ (L. m)	P	29,41	53,36	+	3h+ Ø	3 Ø	+ (L. m)	+ (L. m)	P	29,62	53,41	+	27,17	53,35	+	4h+ Ø	4 Ø	P	/	/	PA	PA
c+	GL179	Egg flan	se	1h- Ø	1 L	4h- L	3 L	+ (L. w)	P	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	0,00	0,00	-	0 M	0 H	A	-	A	ND	ND
c+	GL180	Saveur du maquis (cheese - pasteurized - sheep)	se	1h- L	1 L	3h- L	4 M	+ (L. w)	P	32,89	59,00	+ ⇨Fraser	0 H 4h- Ø	0 H 3 M	/ + (L. w)	/ + (L. w)	P	33,34	59,19	+	32,68	58,88	+	0 H	0 H	P	/	/	PA	PA
c+	GL181	Semi-skimmed milk (pasteurized)	se	0 Ø	0 Ø	0 Ø	0 L	-	A	28,63	59,41	+	2h- L	3 Ø	+ (L. w / L. s)	+ (L. w)	P	29,48	59,32	+	24,76	59,49	+	3h- Ø	4 Ø	P	/	/	PD	PD

DAIRY PRODUCTS : EXTENSION 2021

Type	Sample N°	Product (french name)	Product	Contamination	RM: ISO 11290-1 #						AM: GENE-UP LIS2																			Confirmation ISO 16140-2 on MA negative samples	
											AM: GENE UP - Protocol ③ for 22h at 37°C									AM: GENE UP after storage of the lysates 72h at 5°C			AM: GENE UP after storage of the broth 72h at 5°C						Agreement 72h lysate	Agreement 72h broth		
					Half Fraser		Fraser		Conf.	Final result	CP	MP	GENE-UP result	Conf. 1		Conf. 2	Conf. 5	Final result	agreement 22h	CP	MP	Final Result 72h lysate	CP	MP	Result	Conf. 1	Final result 72h			ALOA	Final result
					ALOA	Palcam	ALOA	Palcam						ALOA	PALCAM										ALOA					
a	1	Tomme d'Espagne	Raw milk cheese	se	-	-	-	-	/	-	36,66	53,15	+	-	-	/	/	+	PD	36,65	53,12	+	/	/	-	-	-	PD	NA	+ (h+)	+
a	2	Fromage à Pâte dure	Raw milk cheese	se	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
a	3	Camenbert	Raw milk cheese	se	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
a	4	Bûche de chèvre	Raw milk cheese	se	+ (h-)	-	-	-	L. W	+	/	/	-	+ (h-)	-	L.w		- (FN)	ND	36,93	60,14	+	36,67	60,23	+	+ (h-)	+	PA	PA	+ (h-)	+
a	5	Fromage italien	Raw milk cheese	se	-	-	+ (h+)	-	L.m	+	30,03	59,32	+	+ (h- et h+)	+	L.m + L.in		+	PA	30,42	59,59	+	29,63	59,28	+	+ (h- et h+)	+	PA	PA	/	/
a	6	Camembert	Raw milk cheese	se	+ (h+)	+	+ (h+)	+	L.m	+	33,3	52,66	+	+ (h+)	+	L.m	+	+	PA	32,88	52,78	+	33,5	52,81	+	-	+	PA	PA	/	/
a	8	Fromage à Pâte dure	Raw milk cheese	se	+ (h+) 1col	-	+ (h+)	+	L.m	+	/	/	-	-	-	/		-	ND	/	/	-	/	/	-	-	-	ND	ND	-	-
a	9	Camenbert	Raw milk cheese	se	-	-	-	-	/	-	/	/	-	+ (h+) 1 col	-	L. iv		- (FN)	NA	/	/	-	/	/	-	-	-	NA	NA	+ (h+)	+
a	10	Bûche de chèvre	Raw milk cheese	se	-	-	-	-	/	-	35,75	59,18	+	-	-	/		+	PD	36,13	59,16	+	/	/	-	-	-	PD	NA	+ (h-)	+
a	11	Fromage italien	Raw milk cheese	se	+ (h+)	+	+ (h+)	+	L.m	+	33	52,98	+	+ (h- et h+)	+	L.m + L.w		+	PA	33,57	52,81	+	33,89	53,05	+	+ (h- et h+)	+	PA	PA	/	/
a	12	Camembert	Raw milk cheese	se	+ (h-)	+	+ (h-)	+	L. in	+	34,52	52,96	+	+ (h- et h+)	+	L.m + L.in		+	PA	33,67	52,9	+	34,61	52,89	+	+ (h- et h+)	+	PA	PA	/	/
a	17	Roquefort société	Raw milk cheese	se	+ (h- et h+)	+	+ (h- et h+)	+	L.m + L.w	+	26,95	52,91	+	+ (h- et h+)	+	L.m + L.W		+	PA	26,55	52,91	+	26,6	52,94	+	+ (h+)	+	PA	PA	/	/
a	18	Brie de maux "mmm"	Raw milk cheese	se	+ (h-)	+	+ (h-)	+	L.in	+	33,46	59,65	+	+ (h-)	+	L.in		+	PA	32,84	59,51	+	33,95	59,44	+	+ (h-)	+	PA	PA	/	/
a	54	Roquefort	Raw milk cheese	se	+ (h-)	+	+ (h-)	+	L. w	+	30,8	60,04	+	+ (h-)	+	L. W	+	+	PA	30,67	60,05	+	30,13	60,16	+	+	+	PA	PA	/	/
a	58	Fromage lait cru de chèvre	Raw milk cheese	/	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
a	59	St maure de touraine	Raw milk cheese	CN	+ (h-)	+ (h-)	+ (h-)	+ (h-)	L. see	+	21,82	59,37	+	+ (h-)	+ (h-)	L. see		+	PA	20,94	59,11	+	21,44	59,55	+	+	+	PA	PA	/	/
a	60	Caillé de chèvre	Raw milk cheese	/	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
a	61	Chèvre frais	Raw milk cheese	/	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
b	16	Lait de chèvre	Raw goat milk	se	+ (h-)	+	+ (h-)	+	L.see	+	35,13	59,13	+	+ (h-)	-	L.see		+	PA	35,14	59,13	+	34,01	59,02	+	+ (h-)	+	PA	PA	/	/
b	19	Lait cru de chèvre	Raw goat milk	se	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
b	20	lait cru de chèvre	Raw goat milk	se	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
b	21	Yaourt lait cru de vache	Raw cow's milk yogurt	se	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
b	22	Faisselle de chèvre	Cottage cheese	se	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
b	23	Lait cru de vache	Cow raw milk	se	-	-	-	-	/	-	34,17	52,84	+	+ (h+)	+	L.m	+	+	PD	34,58	52,63	+	33,43	52,72	+	+	+	PD	PD	/	/
b	24	Faisselle de chèvre	Cottage cheese	se	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
b	25	Faisselle de brebis	Cottage cheese	se	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
b	26	Lait cru de chèvre	Raw goat milk	se	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	37,36	52,5	+	-	- (FP)	NA	(PP)NA	-	-
b	31	Lait cru de chèvre	Raw goat milk	CN	+ (h+)	+	+ (h+)	+	L.m	+	20,65	53,14	+	+ (h+)	+	L.m	+	+	PA	20,53	52,75	+	21,22	52,92	+	+	+	PA	PA	/	/
b	32	lait cru de chèvre	Raw goat milk	CN	+ (h+)	+	+ (h+)	+	L.m	+	20,97	53,11	+	+ (h+)	+	L.m	+	+	PA	20,74	52,68	+	21,98	52,64	+	+	+	PA	PA	/	/
b	33	Lait cru de vache	Cow raw milk	se	-	-	-	-	/	-	23,13	59,56	+	+ (h-)	+	L. in	+	+	PD	22,55	59,09	+	22,45	59,43	+	+	+	PD	PD	/	/
b	34	Faisselle de brebis	Cottage cheese	se	+ (h-)	+	+ (h-)	+	L. in	+	-/+/-/+	-/+/-/+	-	+ (h-)	+	L. in	+	-	ND	36,34	58,91	+	36,27	59,33	+	+	+	PA	PA	+ (h-)	+
b	35	Faisselle de chèvre	Cottage cheese	se	-	-	-	-	/	-	33,56	59,074	+	+ (h-)	+	L. in	+	+	PD	33,76	58,9	+	33,44	59,17	+	+	+	PD	PD	/	/
b	36	Yaourt lait cru de vache	Raw cow's milk yogurt	se	+ (h-)	+	+ (h-)	+	L. in	+	32,56	59,22	+	+ (h-)	+	L. in	+	+	PA	32,67	59,01	+	30,09	59,51	+	+	+	PA	PA	/	/
b	37	Lait cru de chèvre	Raw goat milk	se	+ (h-)	+	+ (h-)	+	L. in	+	29,15	59,45	+	+ (h-)	+	L. in	+	+	PA	29,08	59,11	+	30,11	59,54	+	+	+	PA	PA	/	/
b	38	Faisselle de chèvre	Cottage cheese	se	+ (h-)	+	+ (h-)	+	L. in	+	/	/	-	-	-	/	/	- (FN)	ND	/	/	-	/	/	-	-	-	ND	ND	+ (h-)	+
b	62	lait cru de brebis	Raw ewe milk	se	+	+	+	+	L.m	+	22,97	52,57	+	+ (h+)	+	L.m	+	+	PA	22,64	52,48	+	21,91	52,77	+	+ (h+)	+	PA	PA	/	/
b	64	lait cru de brebis	Raw ewe milk	se	-	-	-	-	/	-	27,71	52,81	+	+ (h+)	+	L.m	+	+	PD	27,2	52,6	+	27,3	52,96	+	+ (h+)	+	PD	PD	/	/
c	15	Coulommiers cœur de lion	Pasteurised milk cheese	se	+ (h+)	+	+ (h+)	+	L. iv	+	33,69	55,11	+	+ (h+)	+	L. iv		+	PA	33,06	55,04	+	33,55	54,95	+	+ (h+)	+	PA	PA	/	/
c	39	Fromage à tartiner	Cream cheese	se	+ (L.m)	+	+ (L.m)	+	L.m	+	24,14	52,92	+	+ (h+)	+	L.m	+	+	PA	24,18	52,77	+	20,31	52,98	+	+	+	PA	PA	/	/
c	40	Fromage blanc	Cottage cheese	se	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-

Type	Sample N°	Product (french name)	Product	Contamination	RM: ISO 11290-1 #						AM: GENE-UP LIS2																Confirmation ISO 16140-2 on MA negative samples	
											AM: GENE UP - Protocol ③ for 22h at 37°C									AM: GENE UP after storage of the lysates 72h at 5°C			AM: GENE UP after storage of the broth 72h at 5°C					Agreement 72h lysate	Agreement 72h broth		
					Half Fraser		Fraser		Conf.	Final result	CP	MP	GENE-UP result	Conf. 1		Conf. 2	Conf. 5	Final result	agreement 22h	CP	MP	Final Result 72h lysate	CP	MP	Result	Conf. 1	Final result 72h			ALOA	Final result
					ALOA	Palcam	ALOA	Palcam						ALOA	PALCAM										ALOA					
c	41	Fromage râpé	Grated cheese	se	+ (h+)	+	+ (h+)	+	L.m	+	/	/	-	-	-	/	/	-	ND	/	/	-	/	/	-	-	-	ND	ND	-	-
c	42	Yaourt à la grecque	Greek yogurt	se	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
c	43	Mozzarella	Mozzarella	se	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
c	44	Yaourt mûres myrtilles	Ripe blueberry yogurt	se	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
c	45	Crème fraiche	Sour cream	se	+ (h+)	+	+ (h+)	+	L.m	+	22,75	52,49	+	+ (h+)	+	L.m	+	+	PA	22,7	52,43	+	20	52,51	+	+	+	PA	PA	/	/
c	46	Caprices des dieux	Pasteurised milk cheese	se	+ (h+)	+	+ (h+)	+	L.m	+	24,29	51,89	+	+ (h+)	+	L.m	+	+	PA	24,43	51,82	+	21,51	52,1	+	+	+	PA	PA	/	/
c	48	emmental	Pasteurised milk cheese	se	-	-	-	-	/	-	22,78	52,13	+	+ (h+)	+	L.m	+	+	PD	22,76	52,25	+	21,65	52,33	+	+	+	PD	PD	/	/
c	49	mimolette	Pasteurised milk cheese	se	+ (h+)	+	+ (h+)	+	L.m	+	21,57	52,44	+	+ (h+)	+	L.m	+	+	PA	21,29	52,23	+	19,99	52,3	+	+	+	PA	PA	/	/
c	50	Fromage blanc	Cottage cheese	se	+ (h+)	+	+ (h+)	+	L.m	+	23,3	52,34	+	+ (h+)	+	L.m	+	+	PA	23,25	52,35	+	21,76	52,32	+	+	+	PA	PA	/	/
c	51	Yaourt mûres myrtilles	Ripe blueberry yogurt	se	-	-	-	-	/	-	27,72	60,17	+	+ (h-)	+	L. W	+	+	PD	27,64	60,34	+	23,92	60,42	+	+	+	PD	PD	/	/
c	52	Yaourt à la grecque	Greek yogurt	se	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
c	53	Mozzarella	Mozzarella	se	+ (h-)	+	+ (h-)	+	L. w	+	/	/	-	-	-	/	/	-	ND	/	/	-	/	/	-	-	-	ND	ND	-	-
c	55	Caprices des dieux	Pasteurised milk cheese	se	+ (h-)	+	+ (h-)	+	L. w	+	25,17	60,01	+	+ (h-)	+	L. W	+	+	PA	26,03	59,87	+	21,11	60,13	+	+	+	PA	PA	/	/
c	56	Fromage râpé	Grated cheese	se	+ (h-)	+	+ (h-)	+	L. w	+	28,59	60,08	+	+ (h-)	+	L. W	+	+	PA	28,52	59,96	+	28,52	60,06	+	+	+	PA	PA	/	/
c	73	yaourt à boire à la fraise	strawberry drinkable yogurt	/	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
c	74	Crème fraiche épaisse	Fresh cream	/	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-
c	75	fromage blanc	Cottage cheese	/	-	-	-	-	/	-	/	/	-	-	-	/	/	-	NA	/	/	-	/	/	-	-	-	NA	NA	-	-

SEA FOOD PRODUCTS

Type	Sample N°	Sample	Contamination	RM: NF EN ISO 11290-1						AM: GENE UP							AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage 3 days at 5°C						Confirmation ISO 16140-2 :2016 on MA negative samples		Concordance RM /AM	
				Half Fraser		Fraser		Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf . 3	Final result	Final result	After a 3-day storage at 5°C
				ALOA	Palcam	ALOA	Palcam						ALOA	PALCAM										ALOA	PALCAM					
a-	GL379	Red mullet fillet	se	0 H	0 H	0 M	0 M	-	A	33.84	57.53	+	0 H	0 H	/	/	A (FP)	32,20	57,39	+	32.67	57.48	+	0 H	0 H	A (FP)	-	A	NA (PP)	NA (PP)
a-	GL401	Cod fillet	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0.00	0.00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL403	Saithe fillet	nc	0 Ø	0 L	0 Ø	0 Ø	-	A	0.00	0.00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL404	Brine plaice fillet	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0.00	0.00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL405	Cod fillet	nc	0 L	0 Ø	0 Ø	0 Ø	-	A	0.00	0.00	-	0 Ø	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL407	Merlan fillet	nc	0 Ø	0 M	0 Ø	0 Ø	-	A	0.00	0.00	-	0 Ø	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL419	Loup de mer fillet	nc	0 Ø	0 L	0 Ø	0 Ø	-	A	0.00	0.00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL420	Cod fillet	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0.00	0.00	-	0 Ø	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL421	Merlan fillet	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0.00	0.00	-	0 Ø	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL422	Salmon fillet	nc	0 Ø	0 L	0 Ø	0 L	-	A	0.00	0.00	-	0 Ø	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL429	Cod	nc	0 H	0 H	0 Ø	0 M	-	A	0.00	0.00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL430	Trout fillet	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0.00	0.00	-	0 M	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a+	GL363	Norwegian fillet heart	nc	1h+ Ø	0 M	4h+ Ø	4 Ø	+ (L. m)	P	30.94	52.93	+	4h+ Ø	2 M	+ (L. m)	+ (L. m)	P	28,94	53,26	+	27.42	53.39	+	4h+ Ø	2 H	P	/	/	PA	PA
a+	GL364	Shrimp	nc	4h- Ø	4 L	4h- Ø	4 Ø	+ (L. in)	P	22.86	59.52	+	4h- Ø	2 H	+ (L. in)	+ (L. in)	P	22,45	59,74	+	21.7	59.92	+	4h- Ø	0 H	P	/	/	PA	PA
a+	GL365	Swordfish fillet	nc	4h+ Ø	3 M	4h+ Ø	4 L	+ (L. m)	P	23.72	53.11	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	P	22,66	53,48	+	22.05	53.33	+	4h+ L	0 H	P	/	/	PA	PA
a+	GL369	Raw salmon fillet	nc	4h+ Ø	0 H	4h+ Ø	2 H	+ (L. m)	P	27.85	52.97	+	4h+ Ø	2 H	+ (L. m)	+ (L. m)	P	24,79	53,22	+	23.06	53.38	+	4h+ Ø	1 H	P	/	/	PA	PA
a+	GL370	Salmon tartare	nc	4h+ L	1 H	4h+ Ø	4 Ø	+ (L. m)	P	26.81	53.16	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	P	25,49	53,22	+	23.76	53.19	+	4h+ Ø	1 H	P	/	/	PA	PA
a+	GL378	Monkfish fillet	se	3h- L	0 H	4h- L	0 H	+ (L. in)	P	31.23	53.04	+	4h+ L	0 H	+ (L. m)	+ (L. m)	P	30,97	52,89	+	30.36	52.70	+	2h+ M	4 Ø	P	/	/	PA	PA
a+	GL380	Merlan fillet	se	3h+ L	3 L	4h+ Ø	4 Ø	+ (L. m)	P	28.95	53.16	+	2h+ H	0 H	+ (L. m)	+ (L. m)	P	27,86	52,97	+	23.74	53.13	+	2h+ H	0 H	P	/	/	PA	PA
a+	GL381	Swordfish	se	0 M	0 H	2h+ Ø	2 L	+ (L. m)	P	26.03	53.11	+	4h+ Ø	0 H	+ (L. m)	+ (L. m)	P	25,02	53,12	+	23.08	53.14	+	3h+ M	3 M	P	/	/	PA	PA
a+	GL382	Cod fillet	se	4h+ Ø	1 M	4h+ Ø	4 Ø	+ (L. m)	P	0.00	0.00	-	0 L	0 H	/	/	A	0,00	0,00	-	0.00	0.00	-	/	/	A	-	A	ND	ND
a+	GL383	Plaice fillet	se	0 Ø	0 M	0 Ø	0 Ø	-	A	28.22	53.03	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	P	26,13	53,03	+	22.09	53.14	+	4h+ L	0 H	P	/	/	PD	PD
a+	GL384	Saithe fillet	nc	4h+ Ø	2 M	4h+ Ø	4 L	+ (L. m)	P	25.75	53.00	+	4h+ L	0 H	+ (L. m)	+ (L. m)	P	24,60	53,27	+	21.66	53.13	+	1h+ H	0 H	P	/	/	PA	PA
a+	GL385	Cod fillet	nc	4h+ Ø	3 L	4h+ Ø	4 Ø	+ (L. m)	P	24.13	53.23	+	4h+ Ø	0 H	+ (L. m)	+ (L. m)	P	22,62	53,12	+	21.5	53.03	+	4h+ Ø	4 L	P	/	/	PA	PA
a+	GL386	Trout fillet	nc	1h+ M	0 H	4h+ Ø	4 Ø	+ (L. m)	P	31.91	53.01	+	3h+ Ø	0 H	+ (L. m)	+ (L. m)	P	31,84	52,99	+	31.69	53.03	+	2h+ M	3 Ø	P	/	/	PA	PA
a+	GL402	Trout fillet	nc	0 L	0 M	0 Ø	0 Ø	-	A	32.05	53.09	+	3h+ L	0 H	+ (L. m)	+ (L. m)	P	32,00	52,91	+	31.47	53.23	+	3h+ L	2 M	P	/	/	PD	PD
a+	GL406	Swordfish	nc	0 M	0 M	0 Ø	0 Ø	-	A	26.70	53.01	+	4h-/1h+ L	0 H	+ (L. in + L. m)	+ (L. in + L. m)	P	26,49	52,75	+	23.94	52.89	+	2h-/2h+ Ø	4 Ø	P	/	/	PD	PD
a+	GL408	Monkfish fillet	nc	1h- L	0 H	4h- Ø	4 L	+ (L. in)	P	20.23	59.55	+	4h-/1h+ Ø	3 M	+ (L. in + L. m)	+ (L. in + L. m)	P	20,45	59,60	+	20.7	59.73	+	1h-/4h+ Ø	4 Ø	P	/	/	PA	PA
a+	GL437	Nile perch fillet (frozen)	se	2h- Ø	2 L	4h- Ø	4 Ø	+ (L. in)	P	28.04	59.55	+	4h- Ø	1 H	+ (L. in)	+ (L. in)	P	28,80	59,56	+	28.3	59.52	+	4h- Ø	3 M	P	/	/	PA	PA
a+	GL438	Saber fillet	se	3h- Ø	3 Ø	4h- Ø	4 Ø	+ (L. in)	P	25.96	59.59	+	4h- Ø	4 L	+ (L. in)	+ (L. in)	P	26,05	59,72	+	22.71	59.69	+	4h- Ø	4 L	P	/	/	PA	PA
a+	GL439	Tuna slice (frozen)	se	0 L	0 H	0 Ø	0 M	-	A	23.66	59.63	+	4h- Ø	3 M	+ (L. in)	+ (L. in)	P	23,69	59,64	+	23.54	59.41	+	4h- Ø	3 M	P	/	/	PD	PD
a+	GL440	Swordfish	se	1h- Ø	0 L	4h- Ø	4 L	+ (L. in)	P	24.53	60.63	+	4h- Ø	3 H	+ (L. w)	+ (L. w)	P	24,95	60,55	+	24.72	60.65	+	4h- Ø	3 M	P	/	/	PA	PA
a+	GL441	Jumbo shrimp (frozen)	se	0 M	0 M	4h- Ø	4 L	+ (L. w)	P	0.00	60.21	+	1h- H	0 M	+ (L. w)	+ (L. w)	P	33,67	60,24	+	31.52	60.56	+	1h- H	0 H	P	/	/	PA	PA
a+	GL442	Scallops (frozen)	se	4h- Ø	4 L	4h- Ø	4 Ø	+ (L. w)	P	23.96	60.78	+	4h- Ø	1 H	+ (L. w)	+ (L. w)	P	24,46	60,66	+	18.9	60.82	+	4h- Ø	3 M	P	/	/	PA	PA
b-	GL376	Anchovies and capers in alcohol vinegar	se	0 L	0 Ø	0 Ø	0 Ø	-	A	0.00	0.00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b-	GL377	Alcohol vinegar rollmops	se	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0.00	0.00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b-	GL399	Marinated tuna carpaccio	nc	0 L	0 M	0 Ø	0 Ø	-	A	0.00	0.00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b-	GL400	Smoked trout bacon	nc	0 Ø	0 M	0 Ø	0 Ø	-	A	0.00	0.00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b-	GL409	Garlic and parsley marinated shrimp tails	nc	0 H	0 H	0 Ø	0 H	-	A	0.00	0.00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b-	GL410	Smoked salmon bacon	nc	0 Ø	0 L	0 H	0 H	-	A	0.00	0.00	-	0 L	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b-	GL416	Anchovies marinated in the Orient	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0.00	0.00	-	0 Ø	0 Ø	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/

Type	Sample N°	Sample	Contamination	RM: NF EN ISO 11290-1						AM: GENE UP							AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage 3 days at 5°C						Confirmation ISO 16140-2 :2016 on MA negative samples		Concordance RM /AM	
				Half Fraser		Fraser		Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf . 3	Final result	Final result	After a 3-day storage at 5°C
				ALOA	Palcam	ALOA	Palcam						ALOA	PALCAM										ALOA	PALCAM					
b-	GL417	Anchovies marinated in garlic	nc	0 L	0 L	0 M	0 L	-	**A**	0.00	0.00	-	0 L	0 M	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	A	NA	/
b-	GL418	Anchovies marinated in oil	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0.00	0.00	-	0 L	0 L	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	A	NA	/
b+	GL366	Smoked salmon	nc	3h+ Ø	3 Ø	4h+ Ø	4 Ø	+ (L. m)	**P**	0.00	0.00	-	0 M	0 H	/	/	**A**	0,00	0,00	-	0.00	0.00	-	/	/	**A**	-	A	ND	ND
b+	GL371	Smoked salmon	nc	1h+ Ø	1 L	4h+ Ø	4 Ø	+ (L. m)	**P**	0.00	0.00	-	0 Ø	0 H	/	/	**A**	0,00	0,00	-	0.00	0.00	-	/	/	**A**	-	A	ND	ND
b+	GL372	Smoked salmon	nc	1h+ Ø	1 L	4h+ Ø	4 Ø	+ (L. m)	**P**	32.47	53.13	+	4h+ Ø	3 Ø	+ (L. m)	+ (L. m)	**P**	32,52	53,00	+	31.52	53.18	+	4h+ Ø	1 H	**P**	/	/	PA	PA
b+	GL373	Smoked salmon (Scotland)	nc	3h+ Ø	2 M	4h+ Ø	3 M	+ (L. m)	**P**	31.59	53.02	+	4h+ Ø	4 L	+ (L. m)	+ (L. m)	**P**	31,15	53,10	+	30.53	53.16	+	4h+ Ø	1 H	**P**	/	/	PA	PA
b+	GL374	Smoked salmon scraps	nc	3h+ Ø	3 L	3h+ Ø	3 L	+ (L. m)	**P**	29.36	53.16	+	4h+ Ø	3 H	+ (L. m)	+ (L. m)	**P**	28,61	53,23	+	26.66	53.12	+	4h+ L	1 H	**P**	/	/	PA	PA
b+	GL375	Marinated tuna carpaccio	se	3h+ L	1 M	4h+ Ø	3 M	+ (L. m)	**P**	0.00	0.00	-	0 M	0 H	/	/	**A**	0,00	0,00	-	0.00	0.00	-	/	/	**A**	-	A	ND	ND
b+	GL387	Aquitaine smoked trout	se	4h+ Ø	0 H	3h+ Ø	4 Ø	+ (L. m)	**P**	33.28	60.13	+	3h- L	0 H	+ (L. w)	+ (L. w)	**P**	31,26	60,31	+	29.34	60.63	+	1h- H	1 H	**P**	/	/	PA	PA
b+	GL388	Beech smoked trout bacon	se	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	26.79	53.20	+	4h+ Ø	4 L	+ (L. m)	+ (L. m)	**P**	24,61	53,27	+	23.84	53.17	+	4h+ Ø	4 Ø	**P**	/	/	PD	PD
b+	GL389	Smoked salmon bacon	se	4h+ L	2 H	3h+ H	0 H	+ (L. m)	**P**	27.62	53.04	+	4h+ Ø	4 L	+ (L. m)	+ (L. m)	**P**	26,02	53,26	+	22.78	53.26	+	4h+ Ø	4 L	**P**	/	/	PA	PA
b+	GL390	Garlic and parsley marinated shrimp tails	nc	2h+ M	0 H	4h+ Ø	0 H	+ (L. m)	**P**	0.00	0.00	-	0 H	0 H	/	/	**A**	0,00	0,00	-	0.00	0.00	-	/	/	**A**	-	A	ND	ND
b+	GL391	Beech smoked herring fillets	nc	2h+ Ø	2 L	4h+ Ø	4 L	+ (L. m)	**P**	32.20	53.30	+	4h+ Ø	0 H	+ (L. m)	+ (L. m)	**P**	31,89	53,29	+	31.49	53.06	+	4h+ Ø	2 M	**P**	/	/	PA	PA
b+	GL392	Sweet smoked herring fillets	nc	3h+ Ø	2 Ø	3h+ Ø	4 Ø	+ (L. m)	**P**	32.51	53.22	+	3h+ Ø	3 Ø	+ (L. m)	+ (L. m)	**P**	31,06	53,21	+	30.68	53.05	+	4h+ Ø	4 Ø	**P**	/	/	PA	PA
c-	GL362	Smoked salmon, cream	nc	0 M	0 M	0 M	0 H	-	**A**	0.00	0.00	-	0 H	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	A	NA	/
c-	GL411	Alaska pollock with lemon sauce and saffron rice	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0.00	0.00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	A	NA	/
c-	GL412	Parmentier of fish with chives	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0.00	0.00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	A	NA	/
c-	GL413	Provencal tuna and wheat	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0.00	0.00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	A	NA	/
c-	GL414	Salmon Rillettes	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0.00	0.00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	A	NA	/
c-	GL415	Catalan tuna	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0.00	0.00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	A	NA	/
c-	GL423	Sardine rillettes with sun-dried tomatoes	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0.00	0.00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	A	NA	/
c-	GL424	Crab rillettes	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0.00	0.00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	A	NA	/
c-	GL425	Tuna crumbs with tomato	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0.00	0.00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	A	NA	/
c-	GL426	Crumbled mackerel lemon and pepper	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0.00	0.00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	A	NA	/
c-	GL427	Cod liver with lemon	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0.00	0.00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	A	NA	/
c-	GL428	Salmon with lemon sauce	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0.00	0.00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	/	/	/	/	/	**/**	-	A	NA	/
c+	GL367	Shrimp croquette	nc	1h-/4h+ Ø	0 H	1h-/3h+ Ø	2 M	+ (L. in + L. m)	**P**	24.25	52.74	+	1h+ H	0 H	+ (L. m)	+ (L. m)	**P**	23,93	53,07	+	23.85	53.01	+	1h+ H	0 H	**P**	/	/	PA	PA
c+	GL368	Fricassee appliance	nc	0 M	0 H	0 L	0 H	-	**A**	33.48	52.02	+	1h- H ⇨ confirmation positive after storage	0 H	-	-	**P**	33,97	52,33	+	32.84	52.40	+	1h+ M	0 H	**P**	/	/	PD	PD
c+	GL393	Catalan tuna	se	3h+ Ø	3 Ø	4h+ Ø	4 Ø	+ (L. m)	**P**	0.00	0.00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	0.00	0.00	-	/	/	**A**	-	A	ND	ND
c+	GL394	Salmon Rillettes	se	4h+ Ø	4 Ø	4h+ Ø	4 Ø	+ (L. m)	**P**	0.00	0.00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	0.00	0.00	-	/	/	**A**	-	A	ND	ND
c+	GL395	Parisian tuna salad	se	4h+ Ø	3 Ø	4h+ Ø	4 L	+ (L. m)	**P**	27.79	53.37	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	**P**	26,96	52,87	+	22.83	53.27	+	4h+ Ø	4 Ø	**P**	/	/	PA	PA
c+	GL396	Alaska pollock with lemon sauce and saffron rice	nc	4h+ Ø	4 Ø	4h+ L	4 Ø	+ (L. m)	**P**	23.14	53.49	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	**P**	23,04	53,28	+	20.06	53.04	+	4h+ Ø	4 Ø	**P**	/	/	PA	PA
c+	GL397	Provencal tuna and wheat	nc	3h+ Ø	4 Ø	4h+ Ø	4 Ø	+ (L. m)	**P**	22.99	53.42	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	**P**	20,70	53,07	+	18.83	53.29	+	4h+ Ø	4 Ø	**P**	/	/	PA	PA
c+	GL398	Parmentier of fish with chives	nc	4h+ Ø	4 Ø	4h+ Ø	4 Ø	+ (L. m)	**P**	22.84	53.48	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	**P**	22,61	53,13	+	20.52	53.54	+	4h+ Ø	4 Ø	**P**	/	/	PA	PA
c+	GL431	Sardine fillets with lemon-basil sauce	nc	3h- Ø	3 Ø	4h- Ø	4 Ø	+ (L. in)	**P**	0.00	0.00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	0.00	0.00	-	/	/	**A**	-	A	ND	ND
c+	GL432	Spicy sardines	nc	4h- Ø	4 l	4h- Ø	4 Ø	+ (L. in)	**P**	0.00	0.00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	0.00	0.00	-	/	/	**A**	-	A	ND	ND
c+	GL433	Tomato and small vegetable sardine fillets	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	23.46	59.64	+	4h- Ø	4 Ø	+ (L. in)	+ (L. in)	**P**	23,53	59,64	+	19.64	59.87	+	4h- Ø	4 Ø	**P**	/	/	PD	PD
c+	GL434	Tomato-basil mackerel fillets	nc	4h- Ø	4 Ø	4h- Ø	4 Ø	+ (L. in)	**P**	25.56	57.95	+	4h- Ø	4 Ø	+ (L. in)	+ (L. in)	**P**	25,80	57,89	+	20.11	57.88	+	4h- Ø	4 Ø	**P**	/	/	PA	PA
c+	GL435	Sardines and olive tapenade	nc	4h- Ø	4 Ø	4h- Ø	4 Ø	+ (L. in)	**P**	22.5	58.14	+	4h- Ø	4 Ø	+ (L. in)	+ (L. in)	**P**	22,86	57,79	+	20.16	57.82	+	4h- Ø	4 Ø	**P**	/	/	PA	PA
c+	GL436	Salmon with sorrel sauce & pasta	nc	4h- Ø	3 Ø	4h- Ø	4 Ø	+ (L. in)	**P**	30.59	57.69	+	3h- Ø	4 Ø	+ (L. in)	+ (L. in)	**P**	31,52	57,40	+	25.79	57.76	+	4h- Ø	4 Ø	**P**	/	/	PA	PA

VEGETAL PRODUCTS

Type	Sample N°	Sample	Contamination	RM: NF EN ISO 11290-1						AM: GENE UP								AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage 3 days at 5°C						Confirmation ISO 16140-2 :2016 on MA negative samples		Concordance RM /AM		
				Half Fraser		Fraser		Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf . 3	Final result	Final result	After a 3-day storage at 5°C	vs suppl. conf.
				ALOA	Palcam	ALOA	Palcam						ALOA	PALCAM										ALOA	PALCAM						
a-	GL189	Whole frozen chanterelles	se	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 Ø	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL198	Whole frozen chanterelles	se	0 Ø	0 Ø	0 L	0 L	-	A	0,00	0,00	-	0 Ø	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL200	Strawberries	se	0 L	0 L	0 Ø	0 Ø	-	A	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL205	Tarragon	se	0 M	0 H	0 M	0 H	-	A	0	0	-	0 M	0 H	/	/	A	0,00	0,00	-	0	0	-	0 H	0 H	A	-	A	NA	NA	/
a-	GL206	Chive	se	0 M	0 H	0 M	0 H	-	A	31,15	53,13	+ / + / +	0 H	0 H	/	/	A (FP)	25,83	53,31	+	29,13	53,15	+ / + / +	0 H	0 H	**A (FP)**	-	A	NA (PP)	NA (PP)	/
a-	GL214	Strawberries	nc	0 Ø	0 L	0 M	0 H	-	**A**	0,00	0,00	-	0 M	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL225	Frozen green asparagus 1	nc	0 Ø	0 L	0 M	0 H	-	**A**	0,00	0,00	-	0 L	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL226	Frozen green asparagus 2	nc	0 M	0 M	0 H	0 H	-	**A**	0,00	0,00	-	0 H	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL229	Buckwheat flour 1	nc	0 H	0 H	0 M	0 H	-	**A**	0,00	0,00	-	0 H	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL230	Buckwheat flour 2	nc	0 L	0 M	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 H	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL231	Buckwheat flour 3	nc	0 M	0 H	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 H	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL232	Frozen green asparagus 3	nc	0 Ø	0 Ø	1h- M	0 M	-	**A**	0,00	0,00	-	0 L	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL242	Whole frozen morels	se	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 Ø	0 Ø	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL246	Red peppers	se	0 Ø	0 L	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 L	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL247	West Indian peppers	se	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 Ø	0 L	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL 340	Morels	nc	0 L	0 L	0 L	0 Ø	-	**A**	0,00	0,00	-	0 L	0 L	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL 341	Chanterelles	nc	0 Ø	0 L	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 H	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL 342	Mushrooms	nc	0 L	0 L	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 H	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL 354	Thyme	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 H	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL 355	Curly parsley	nc	0 H	0 H	0 M	0 H	-	**A**	0,00	0,00	-	0 H	0 H	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL 359	Apricots	nc	0 L	0 L	1h- L	0 M	-	**A**	0,00	0,00	-	0 M	0 L	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a-	GL 360	Gooseberries	nc	0 M	0 L	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 M	0 M	/	/	**A**	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
a+	GL199	Whole frozen mushrooms	se	2h+/1h- Ø	2 Ø	4h+ Ø	3 M	+ (L. in + L. m)	P	35,62	59,18	+	1h- L	0 H	+ (L. in)	+ (L. in)	**P**	35,53	58,93	+	35,02	58,97	+	1h- L	0 H	**p**	/	/	PA	PA	/
a+	GL203	Parsley	se	2h+ M	0 H	4h+ Ø	2 M	+ (L. m)	P	29,07	53,13	+	3h+ L	2 H	+ (L. m)	+ (L. m)	**P**	28,97	52,86	+	27,43	53,16	+	4h+ Ø	2 H	**P**	/	/	PA	PA	/
a+	GL204	basil	se	2h+ L	1 M	4h+ Ø	2 M	+ (L. m)	P	0,00	0,00	-	0 L	0 M	/	/	**A**	0,00	0,00	-	0,00	0,00	-	0 M	0 L	**A**	-	A	ND	ND	ND
a+	GL228	Cabbage and lentil salad	nc	0 M	0 M	0 Ø	0 Ø	-	**A**	32,65	57,70	+	0 H	0 H	/	/	**P**	32,54	57,64	+	32,54	57,66	+	0 H	0 M	**P**	+ (L. in + L. m)	**P**	PD	PD	/
													⇨ conf. + with ISO										⇨ conf. + with ISO								
a+	GL236	Sorrel	se	1h- H	0 H	3h- L	3 M	+ (L. in)	**P**	26,52	59,63	+	4h- H	0 H	+ (L. in)	+ (L. in)	**P**	26,87	59,68	+	25,28	59,66	+	3h- M	2 H	**P**	/	/	PA	PA	/
a+	GL237	Dill	se	2h- L	0 H	3h- Ø	3 M	+ (L. in)	**P**	32,23	59,09	+	1h- M	0 M	+ (L. in)	+ (L. in)	**P**	32,90	59,02	+	32,52	59,06	+	1h- L	0 M	**P**	/	/	PA	PA	/
a+	GL241	Cherry tomatoes	se	3h- Ø	3 Ø	4h- Ø	4 Ø	+ (L. in)	**P**	20,08	59,95	+	4h- Ø	4 M	+ (L. in)	+ (L. in)	**P**	21,57	60,08	+	18,77	59,89	+	4h- Ø	4 Ø	**P**	/	/	PA	PA	/
a+	GL243	Whole frozen mushrooms	se	1h+ Ø	1 L	4h+ Ø	4 Ø	+ (L. iV)	**P**	33,69	59,40	+	2h+ Ø	0 H	+ (L. iV)	+ (L. iV)	**P**	34,06	58,93	+	33,91	59,10	+	1h+ Ø	0 M	**P**	/	/	PA	PA	/
a+	GL244	Whole frozen chanterelles	se	2h+ Ø	2 Ø	4h+ Ø	4 Ø	+ (L. iV)	**P**	32,21	59,18	+	4h+ Ø	0 H	+ (L. iV)	+ (L. iV)	**P**	31,71	59,03	+	25,88	60,02	+	4h+ Ø	0 H	**P**	/	/	PA	PA	/
a+	GL245	White asparagus	se	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	24,87	59,70	+	4h- Ø	4 Ø	+ (L. se)	+ (L. se)	**P**	25,00	59,39	+	17,91	59,58	+	4h- Ø	4 Ø	**P**	/	/	PD	PD	/
a+	GL 347	White asparagus	nc	4h+ Ø	4 Ø	4h+ Ø	4 Ø	+ (L. m)	**P**	24,54	53,12	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	**P**	23,81	53,37	+	20,83	53,37	+	4h+ Ø	4 Ø	**P**	/	/	PA	PA	/
a+	GL 348	Green asparagus	nc	4h+ Ø	4 Ø	4h+ Ø	4 Ø	+ (L. m)	**P**	24,18	53,38	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	**P**	23,70	53,40	+	20,2	53,47	+	4h+ Ø	4 Ø	**P**	/	/	PA	PA	/
a+	GL 356	Chive	nc	1h- L	0 H	0 M	0 H	+ (L. se)	**P**	34,05	53,46	+	0 H	0 H	/	/	**P**	34,09	53,20	+	33,73	53,17	+	1h- H	0 H	**P**	/	/	PA	PA	/
													⇨ conf. + with Fraser																		
a+	GL 357	Laurel	nc	1h+ H	0 H	4h+ L	0 H	+ (L. m)	**P**	29,28	53,37	+	0 H	0 H	/	/	**P**	29,72	53,30	+	29,46	53,39	+	0 H	1 H	**P**	/	/	PA	PA	/
													⇨ conf. + with Fraser																		
a+	GL 358	Cherry tomatoes	se	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	26,09	53,45	+	4h+ Ø	2 H	+ (L. m)	+ (L. m)	**P**	26,19	53,28	+	24,05	53,4	+	4h+ L	3 H	**P**	/	/	PD	PD	/

Type	Sample N°	Sample	Contamination	RM: NF EN ISO 11290-1						AM: GENE UP								AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage 3 days at 5°C						Confirmation ISO 16140-2 :2016 on MA negative samples		Concordance RM /AM		
				Half Fraser		Fraser		Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf . 3	Final result	Final result	After a 3-day storage at 5°C	vs suppl. conf.
				ALOA	Palcam	ALOA	Palcam						ALOA	PALCAM										ALOA	PALCAM						
b-	GL183	Radish	nc	0 Ø	0 L	0 Ø	0 Ø	-	A	0,00	0,00	! / -	0 M	0 H	/	/	A	0,00	0,00	-	0,00	0,00	-	0 M	0 H	A	-	A	NA	NA	NA
b-	GL184	Un seasoned grated carrots	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 Ø	0 Ø	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
b-	GL185	Sliced cucumber	nc	0 Ø	0 L	0 Ø	0 Ø	-	A	0,00	0,00	-	0 M	0 M	/	/	A	0,00	0,00	-	0,00	0,00	-	0 L	0 M	A	-	A	NA	NA	NA
b-	GL188	Packaged batavia salad	se	0 Ø	0 Ø	0 Ø	0 M	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
b-	GL195	Soy packed	se	0 L	0 L	0 L	0 H	-	A	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
b-	GL202	Packaged lettuce	se	0 M	0 M	0 L	0 H	-	A	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
b-	GL207	Radish	nc	0 M	0 H	0 M	0 H	-	A	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
b-	GL208	Pre-cooked cauliflower	nc	0 L	0 L	0 Ø	0 Ø	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
b-	GL209	Pre-cooked potatoes	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 Ø	0 Ø	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
b-	GL210	Pre-cooked lentils	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 Ø	0 Ø	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
b-	GL215	Grated seasoned carrots	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 Ø	0 Ø	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
b-	GL216	Seasoned cucumber	nc	0 L	0 Ø	0 Ø	0 L	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
b-	GL217	Soup mix	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 L	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
b-	GL218	Packaged soybeans	nc	0 L	0 M	0 M	0 H	-	A	0,00	0,00	-	0 M	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
b-	GL219	Packaged cauliflower	nc	0 L	0 L	0 Ø	0 H	-	A	0,00	0,00	-	0 M	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
b-	GL220	Packaged broccoli	nc	0 M	0 H	0 L	0 H	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
b-	GL221	Packaged batavia salad	nc	0 L	0 L	0 Ø	0 H	-	A	0,00	0,00	-	0 Ø	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
b-	GL222	Packaged lettuce	nc	0 M	0 H	0 L	0 H	-	A	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
b+	GL186	Packaged cauliflower	se	0 Ø	0 Ø	0 Ø	0 M	-	A	24,91	57,74	+	4h- Ø	3 H	+ (L. in)	+ (L. in)	P	23,93	57,79	+	20,11	57,99	+	4h- Ø	4 M	P	/	/	PD	PD	/
b+	GL187	Packaged broccoli	se	0 M	0 L	0 L	0 H	-	A	21,69	56,67	+	4h- Ø	3 H	+ (L. in)	+ (L. in)	P	21,94	57,90	+	19,84	57,94	+	4h- Ø	3 H	P	/	/	PD	PD	/
b+	GL190	Pre-cooked lentils	se	3h+ Ø	3 Ø	4h+ Ø	4 Ø	+ (L. m)	P	22,85	53,35	+	4h+ Ø	4 L	+ (L. m)	+ (L. m)	P	22,57	53,17	+	18,93	53,42	+	4h+ Ø	4 Ø	P	/	/	PA	PA	/
b+	GL194	Pre-cooked potatoes	se	4h+ Ø	2 Ø	4h+ Ø	4 Ø	+ (L. m)	P	24,80	53,44	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	P	24,89	53,14	+	19,69	53,35	+	4h+ Ø	4 Ø	P	/	/	PA	PA	/
b+	GL196	Soup mix	se	2h+ Ø	2 Ø	4h+ Ø	3 L	+ (L. m)	P	31,81	53,18	+	3h+ Ø	0 H	+ (L. m)	+ (L. m)	P	31,89	52,87	+	28,33	53,24	+	3h+ Ø	0 H	P	/	/	PA	PA	/
b+	GL197	Packaged white cabbage -red cabbage	se	2h+ Ø	1 M	4h+ Ø	4 L	+ (L. m)	P	24,67	53,16	+	4h+ L	0 H	+ (L. m)	+ (L. m)	P	24,86	52,85	+	20,83	53,31	+	4h+ Ø	0 H	P	/	/	PA	PA	/
b+	GL201	Pre-cooked cauliflower	se	0 Ø	0 Ø	0 Ø	0 Ø	-	A	29,36	53,24	+	3h+ Ø	3 Ø	+ (L. m)	+ (L. m)	P	29,56	53,06	+	24,19	53,34	+	4h+ Ø	4 Ø	P	/	/	PD	PD	/
b+	GL223	Frozen peeled beans 1	nc	2h+ M	2 M	4h+ Ø	3 M	+ (L. m)	P	30,12	53,27	+	4h+ Ø	2 H	+ (L. m)	+ (L. m)	P	29,02	53,08	+	28,03	53,51	+	4h+ Ø	3 M	P	/	/	PA	PA	/
b+	GL224	Frozen peeled beans 2	nc	2h+ L	2 M	4h+ Ø	3 M	+ (L. m)	P	30,79	53,13	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	P	29,68	53,13	+	28,46	53,47	+	4h+ Ø	2 H	P	/	/	PA	PA	/
b+	GL227	Grated carrot and potatoes salad	nc	3h+ Ø	2 L	4h+ Ø	3 M	+ (L. m)	P	27,32	53,32	+	4h+ M	2 H	+ (L. m)	+ (L. m)	P	26,52	53,21	+	23,45	53,50	+	4h+ Ø	4 L	P	/	/	PA	PA	/
b+	GL 345	Poêlée vendéenne	nc	4h+ Ø	4 Ø	4h+ Ø	4 Ø	+ (L. m)	P	24,58	52,59	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	P	23,32	53,20	+	20,06	53,42	+	4h+ Ø	4 L	P	/	/	PA	PA	/
c-	GL211	Celery puree	nc	0 Ø	0 Ø	0 L	0 H	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
c-	GL212	Split pea puree	nc	0 Ø	0 L	0 L	0 H	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
c-	GL213	Zucchini puree	nc	0 Ø	0 Ø	0 L	0 H	-	A	0,00	0,00	-	0 Ø	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
c-	GL233	Carrot coulis	nc	0 Ø	0 Ø	0 Ø	0 L	-	A	0,00	0,00	-	0 Ø	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
c-	GL234	Vegetable soup	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 L	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
c-	GL 338	Herb croutons	nc	0 L	0 L	0 L	0 L	-	A	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
c-	GL 339	Garlic and parsley croutons	nc	0 L	0 L	0 M	0 H	-	A	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
c-	GL 361	Zucchini cooked in Provencal	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 M	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/	NA
c+	GL191	Zucchini puree	se	2h+ Ø	3 L	4h+ L	4 L	+ (L. m)	P	22,84	53,39	+	4h+ Ø	3 M	+ (L. m)	+ (L. m)	P	22,83	53,10	+	18,61	53,43	+	4h+ Ø	4 L	P	/	/	PA	PA	/
c+	GL192	Celery puree	se	2h+ Ø	3 Ø	4h+ Ø	4 Ø	+ (L. m)	P	24,66	53,31	+	4h+ Ø	3 M	+ (L. m)	+ (L. m)	P	24,36	53,02	+	20,49	53,35	+	4h+ Ø	4 M	P	/	/	PA	PA	/
c+	GL193	Split pea puree	se	1h+ Ø	2 L	4h+ Ø	3 L	+ (L. m)	P	23,61	53,39	+	3h+ L	3 H	+ (L. m)	+ (L. m)	P	23,26	53,03	+	20,82	53,49	+	4h+ Ø	4 M	P	/	/	PA	PA	/
c+	GL235	Mixed Vegetable Macedonia	nc	2h+ Ø	2 L	4h+ Ø	2 H	+ (L. m)	P	23,52	53,20	+	3h+ H	2 H	+ (L. m)	+ (L. m)	P	23,14	53,32	+	21,06	53,57	+	4h+ M	1 H	P	/	/	PA	PA	/
c+	GL238	Pumpkin soup	se	2h- Ø	2 Ø	3h- Ø	4 Ø	+ (L. in)	P	23,30	59,92	+	4h- Ø	4 Ø	+ (L. in)	+ (L. in)	P	23,70	59,81	+	19,66	60,14	+	4h- Ø	4 Ø	P	/	/	PA	PA	/

Type	Sample N°	Sample	Contamination	RM: NF EN ISO 11290-1						AM: GENE UP								AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage 3 days at 5°C						Confirmation ISO 16140-2 :2016 on MA negative samples		Concordance RM /AM		
				Half Fraser		Fraser		Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf . 3	Final result	Final result	After a 3-day storage at 5°C	vs suppl. conf.
				ALOA	Palcam	ALOA	Palcam						ALOA	PALCAM										ALOA	PALCAM						
c+	GL239	Vegetable soup	se	3h- Ø	3 Ø	4h- Ø	4 Ø	+ (L. in)	P	21,90	59,95	+	4h- Ø	4 Ø	+ (L. in)	+ (L. in)	P	22,49	59,83	+	19,01	59,99	+	4h- Ø	4 Ø	P	/	/	PA	PA	/
c+	GL240	Tomato soup	se	2h- Ø	2 Ø	3h- Ø	4 Ø	+ (L. in)	P	21,74	59,98	+	4h- Ø	4 Ø	+ (L. in)	+ (L. in)	P	22,51	59,97	+	18,43	59,99	+	4h- Ø	4 Ø	P	/	/	PA	PA	/
c+	GL248	Chestnuts	se	3h- Ø	3 Ø	0 Ø	0 Ø	+ (L. w)	P	23,84	60,69	+	4h- Ø	4 Ø	+ (L. w)	+ (L. w)	P	23,66	60,62	+	17,94	60,89	+	4h- Ø	4 Ø	P	/	/	PA	PA	/
c+	GL249	Vegetable Macedonia	se	3h- Ø	3 Ø	3h- Ø	4 Ø	+ (L. w)	P	23,97	60,72	+	4h- Ø	4 Ø	+ (L. w)	+ (L. w)	P	24,01	60,67	+	18,88	60,96	+	4h- Ø	4 Ø	P	/	/	PA	PA	/
c+	GL250	Ratatouille	nc	3h- Ø	3 Ø	3h- Ø	4 Ø	+ (L. w)	P	22,62	60,50	+	4h- Ø	4 Ø	+ (L. w)	+ (L. w)	P	23,07	60,53	+	19,05	60,93	+	4h- Ø	4 Ø	P	/	/	PA	PA	/
c+	GL251	Zucchini confit	nc	4h- Ø	4 Ø	3h- Ø	4 Ø	+ (L. w)	P	18,18	60,67	+	4h- Ø	4 Ø	+ (L. w)	+ (L. w)	P	18,52	59,75	+	18,01	60,72	+	4h- Ø	4 Ø	P	/	/	PA	PA	/
c+	GL252	Ratatouille confit	nc	4h- Ø	3 Ø	3h- Ø	4 Ø	+ (L. w)	P	19,04	61,09	+	4h- Ø	4 Ø	+ (L. w)	+ (L. w)	P	19,67	60,93	+	18,09	60,97	+	4h- Ø	4 Ø	P	/	/	PA	PA	/
c+	GL253	Vegetable tagine	nc	4h- Ø	4 Ø	3h- Ø	4 Ø	+ (L. w)	P	18,76	60,91	+	4h- Ø	4 Ø	+ (L. w)	+ (L. w)	P	19,45	60,85	+	18,06	60,70	+	4h- Ø	4 Ø	P	/	/	PA	PA	/
c+	GL 343	Basil sauce	nc	4h+ Ø	4 Ø	4h+ Ø	4 Ø	+ (L. m)	P	26,49	53,47	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	P	25,95	53,21	+	22,23	53,36	+	4h+ Ø	4 Ø	P	/	/	PA	PA	/
c+	GL 344	Provencal sauce	nc	4h+ Ø	4 Ø	4h+ Ø	4 Ø	+ (L. m)	P	28,99	53,29	+	4h+ Ø	4 L	+ (L. m)	+ (L. m)	P	28,24	53,02	+	24,46	53,27	+	4h+ Ø	4 L	P	/	/	PA	PA	/
c+	GL 346	Fresh Basil Pesto	nc	2h+ Ø	3 L	4h+ Ø	4 Ø	+ (L. m)	P	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	0	0	-	/	/	A	-	A	ND	ND	ND
c+	GL 349	Ratatouille	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	25,84	53,52	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	P	25,72	53,35	+	23,03	53,39	+	4h+ Ø	4 Ø	P	/	/	PD	PD	/
c+	GL 350	Ratatouille cooked in Provencal	nc	4h+ Ø	4 Ø	4h+ Ø	4 Ø	+ (L. m)	P	25,97	53,48	+	4h+ Ø	2 H	+ (L. m)	+ (L. m)	P	25,78	53,38	+	22,7	53,21	+	4h+ Ø	2 H	P	/	/	PA	PA	/
c+	GL 351	Cooked vegetables with sweet and sour sauce	nc	4h+ Ø	4 Ø	4h+ Ø	4 Ø	+ (L. m)	P	30,74	53,45	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	P	30,92	53,33	+	28,04	53,33	+	4h+ Ø	4 Ø	P	/	/	PA	PA	/
c+	GL 352	Tagine of grilled vegetables	nc	4h+ Ø	4 Ø	4h+ Ø	4 Ø	+ (L. m)	P	27,82	52,75	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	P	27,49	53,33	+	24,01	53,43	+	4h+ Ø	4 Ø	P	/	/	PA	PA	/
c+	GL 353	Carrot puree	nc	4h+ Ø	4 Ø	3h+ Ø	4 Ø	+ (L. m)	P	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	0	0	-	/	/	A	-	A	ND	ND	ND

COMPOSITE FOODS

Type	Sample N°	Sample	Confirmation	RM: NF EN ISO 11290-1						AM: GENE UP							AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage 3 days at 5°C						Confirmation ISO 16140-2 :2016 on MA negative samples		Concordance RM /AM	
				Half Fraser		Fraser		Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf . 3	Final result	Final result	After a 3-day storage at 5°C
				ALOA	Palcam	ALOA	Palcam						ALOA	PALCAM										ALOA	PALCAM					
a-	GL275	Torti surimi	/	0 L	0 L	0 M	0 M	-	A	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL276	Piemontaise ham	/	0 Ø	0 L	0 L	0 H	-	A	0,00	0,00	-	0 M	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL278	Chicken salad, raw vegetables	/	0 M	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 H	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL279	Tuna salad, pasta, raw vegetables	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 H	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL280	Ham, raw vegetables, emmental salad	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 M	0 Ø	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL287	Rosette sandwich	/	0 Ø	0 H	0 Ø	0 L	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL288	Emmental ham sandwich	/	0 L	0 H	0 Ø	0 Ø	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL289	chicken kebab raw vegetables sandwich	/	0 M	0 M	0 L	0 H	-	A	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL290	Raw vegetables Tuna Sandwich	/	0 L	0 L	0 L	0 H	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL291	Ham and Butter Sandwich	/	0 Ø	0 Ø	0 Ø	0 L	-	A	0,00	0,00	-	0 Ø	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
a-	GL292	Raw vegetables Roast Chicken Sandwich	/	0 Ø	0 L	0 L	0 H	-	A	0,00	0,00	-	4h- Ø	0 H	+ (L. se)	+ (L. se)	A (FN)	0,00	0,00	-	/	/	/	/	/	/	-	A	NA (FN)	/
a-	GL318	Cabbage, ham and Comté trio	se	0 Ø	0 L	0 L	0 Ø	-	A	0,00	0,00	-	0 M	0 M	/	/	A (FN)	0,00	0,00	-	/	/	/	/	/	/	+ (L. m)	P	NA	/
a+	GL260	Ham, raw vegetables, emmental salad	se	2h+ L	2 M	2h+ H	0 H	+ (L. m)	P	23,56	53,01	+	4h+ L	2 H	+ (L. m)	+ (L. m)	P	23,93	53,11	+	23,03	53,03	+	4h+ L	2 H	P	/	/	PA	PA
a+	GL261	Tuna salad, pasta, raw vegetables	se	2h+ M	2 L	3h+ Ø	4 Ø	+ (L. m)	P	24,21	53,21	+	4h+ L	2 H	+ (L. m)	+ (L. m)	P	24,31	53,30	+	23,82	53,18	+	4h+ Ø	4 L	P	/	/	PA	PA
a+	GL262	Chicken salad, raw vegetables	se	3h+ L	2 H	4h+ Ø	4 Ø	+ (L. m)	P	0	0	-	0 H	0 H	/	/	A	0,00	0,00	-	0	0,00	-	/	/	A	-	A	ND	ND
a+	GL263	Chicken tabbouleh	se	4h+ Ø	2 H	3h+ Ø	4 L	+ (L. m)	P	28,00	53,18	+	1h-3h+ M	1 H	+ (L. w + L. m)	+ (L. w + L. m)	P	28,48	52,97	+	26,57	52,70	+	1h-3h+ M	1 H	P	/	/	PA	PA
a+	GL264	Torti surimi	se	3h+ Ø	2 H	3h+ Ø	3 M	+ (L. m)	P	23,84	53,35	+	4h+ L	1 H	+ (L. m)	+ (L. m)	P	23,94	53,28	+	19,93	53,39	+	4h+ L	3 M	P	/	/	PA	PA
a+	GL265	Piemontaise ham	se	3h+ Ø	3 L	4h+ Ø	3 L	+ (L. m)	P	23,74	53,5	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	P	24,89	53,30	+	20,20	53,37	+	4h+ Ø	3 M	P	/	/	PA	PA
a+	GL277	Oriental tabbouleh	nc	2h- L	0 M	4h- Ø	3 M	+ (L. w)	P	31,50	60,30	+	2h- M	1 H	+ (L. w)	+ (L. w)	P	31,64	60,36	+	25,53	60,69	+	3h- M	0 H	P	/	/	PA	PA
a+	GL303	Thalissini (cod roe, cottage cheese, salmon, chives) (ML 9833)	nc	0 L	0 L	1h-2h+ Ø	1 H	+ (L. m)	P	32,64	53,31	+	4h-1h+ L	0 H	+ (L. m)	+ (L. m)	P	32,01	53,11	+	30,59	52,76	+	4h+ Ø	2 M	P	/	/	PA	PA
a+	GL300	Salmon tartar, eggs, onions (ST 555)	nc	4h+ L	0 H	3h+ L	0 H	+ (L. m)	P	20,92	53,22	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	P	20,05	53,31	+	20,68	53,33	+	4h+ Ø	1 H	P	/	/	PA	PA
a+	GL319	Pineapple, carrot and surimi duo	se	0 Ø	0 L	0 Ø	0 M	-	A	29,15	53,16	+	3h+ Ø	2 L	+ (L. m)	+ (L. m)	P	29,23	53,08	+	26,91	53,28	+	2h+ Ø	3 L	P	/	/	PD	PD
a+	GL320	Tangerine prawn salad	se	1h+ L	1 L	3h+ Ø	3 M	+ (L. m)	P	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	0,00	0,00	-	/	/	A	-	A	ND	ND
a+	GL322	Poultry tabbouleh	se	0 Ø	0 Ø	0 M	0 H	-	A	27,31	53,5	+	2h+ L	1 M	+ (L. m)	+ (L. m)	P	27,29	53,28	+	26,12	53,32	+	2h+ L	2 H	P	/	/	PD	PD
a+	GL324	Chicken Mayonnaise Sandwich	nc	4h- Ø	4 L	4h- Ø	4 Ø	+ (L. in)	P	23,00	59,91	+	4h- Ø	2 H	+ (L. in)	+ (L. in)	P	21,70	59,77	+	19,44	60,04	+	4h- Ø	4 L	P	/	/	PA	PA
a+	GL325	Roasted chicken, tomatoes, caesar sauce Wrap	nc	4h- L	3 L	3h- Ø	4 Ø	+ (L. in)	P	23,01	59,86	+	4h- Ø	2 H	+ (L. in)	+ (L. in)	P	22,15	59,91	+	21,00	60,01	+	4h- Ø	4 L	P	/	/	PA	PA
a+	GL326	Chicken Caesar Wrap	nc	0 L	0 L	0 L	0 M	-	A	20,57	59,86	+	4h- L	3 H	+ (L. in)	+ (L. in)	P	19,97	59,94	+	19,31	59,80	+	4h- Ø	4 L	P	/	/	PD	PD
a+	GL327	Sheep ham wrap	nc	0 M	0 M	0 Ø	0 Ø	-	A	22,49	60,04	+	4h- Ø	2 H	+ (L. in)	+ (L. in)	P	21,93	60,05	+	20,65	59,98	+	4h- Ø	3 M	P	/	/	PD	PD
a+	GL328	Swedish Salmon Sandwich	nc	1h+ L	0 M	4h+ Ø	3 L	+ (L. iv)	P	23,66	60,92	+	2h- M	0 H	+ (L. w)	+ (L. w)	P	23,02	60,98	+	21,06	60,88	+	4h- L	1 H	P	/	/	PA	PA
a+	GL329	Swedish Bacon Sandwich	nc	3h+ L	0 H	4h+ Ø	3 M	+ (L. iv)	P	31,18	59,64	+	1h+ H	0 H	+ (L. iv)	+ (L. iv)	P	30,33	59,14	+	29,10	59,13	+	1h- H	0 H	P	/	/	PA	PA
a+	GL331	Tangerine prawn salad	nc	0 H	0 H	3h+ H	2 H	+ (L. iv)	P	29,14	59,29	+	1h+ H	0 H	+ (L. iv)	+ (L. iv)	P	30,55	59,35	+	29,13	59,33	+	1h- H	0 H	P	/	/	PA	PA
a+	GL332	Surimi , carrots, pineapple salad	nc	1h+ M	0 H	1h+ H	0 H	+ (L. iv)	P	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	0,00	0,00	-	/	/	A	-	A	ND	ND
a+	GL333	Piemontaise	nc	0 L	0 L	0 H	0 H	-	A	32,03	59,63	+	0 H	0 H	/	/	P	30,99	58,97	+	29,69	59,10	+	0 H	0 H	P			PD	PD
													⇨ conf. positive with Fraser										⇨ + with Fraser						
b-	GL267	Emmental ham pizza	se	0 M	0 M	0 L	0 L	-	A	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b-	GL272	Chicken Pizza	/	1h- Ø	0 L	0 L	0 H	-	A	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b-	GL281	Carbonara Fusilli	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b-	GL282	Fusilli with cheese	/	0 Ø	0 Ø	0 L	0 H	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b-	GL283	Penne Bolognese	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b-	GL284	Chicken and vegetable noodles	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 Ø	0 Ø	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/

Type	Sample N°	Sample	Confirmation	RM: NF EN ISO 11290-1						AM: GENE UP							AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage 3 days at 5°C						Confirmation ISO 16140-2 :2016 on MA negative samples		Concordance RM /AM	
				Half Fraser		Fraser		Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf . 3	Final result	Final result	After a 3-day storage at 5°C
				ALOA	Palcam	ALOA	Palcam						ALOA	PALCAM										ALOA	PALCAM					
b-	GL293	Cheese burger	/	0 L	0 M	0 L	0 H	-	A	0,00	0,00	-	0 H	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	+ (L. se)	P	NA (FN)	/
b-	GL301	Nem chua (M 97162)	nc	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	1h- L	0 H	-	-	A	0,00	0,00	-	0,00	0,00	-	0 Ø	0 L	A	-	A	NA	NA
b-	GL321	Potatoes and sausage salad	se	0 Ø	0 Ø	0 M	0 H	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
b+	GL266	4 cheese pizza	se	0 L	0 L	0 L	0 H	-	A	25,61	53,33	+	4h+ Ø	0 H	+ (L. m)	+ (L. m)	P	26,57	53,33	+	24,16	53,11	+	4h+ Ø	0 H	P	/	/	PD	PD
b+	GL268	Carbonara Fusilli	se	4h+ Ø	2 M	4h+ Ø	4 Ø	+ (L. m)	P	24,00	53,27	+	4h+ Ø	0 H	+ (L. m)	+ (L. m)	P	24,87	53,21	+	20,82	53,34	+	4h+ Ø	3 H	P	/	/	PA	PA
b+	GL269	Fusilli with cheese	se	3h+ Ø	2 L	3h+ L	0 H	+ (L. m)	P	22,38	53,48	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	P	23,15	53,53	+	20,59	53,25	+	4h+ Ø	3 H	P	/	/	PA	PA
b+	GL270	Chicken and vegetable noodles	se	4h+ Ø	4 Ø	4h+ Ø	3 Ø	+ (L. m)	P	20,19	53,48	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	P	21,42	53,46	+	19,49	53,42	+	4h+ Ø	4 Ø	P	/	/	PA	PA
b+	GL271	Penne Bolognese	se	4h+ Ø	4 Ø	4h+ Ø	4 Ø	+ (L. m)	P	22,16	53,46	+	4h+ Ø	2 M	+ (L. m)	+ (L. m)	P	22,89	53,41	+	19,68	53,35	+	4h+ Ø	4 L	P	/	/	PA	PA
b+	GL285	Scrambled Eggs with Herbs (MY2761)	nc	4h+ Ø	3 L	4h+ Ø	3 M	+ (L. m)	P	20,74	52,47	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	P	21,18	52,25	+	18,91	52,32	+	4h+ Ø	4 Ø	P	/	/	PA	PA
b+	GL286	Lemon sauce fish, Creole rice (ML9690)	nc	4h+ Ø	3 L	4h+ Ø	4 L	+ (L. m)	P	21,9	52,25	+	4h+ Ø	4 L	+ (L. m)	+ (L. m)	P	22,28	52,04	+	21,85	52,35	+	4h+ Ø	4 Ø	P	/	/	PA	PA
b+	GL294	Chicken burger	nc	0 L	0 M	0 L	0 H	-	A	28,86	53,09	+	1h-3h+ M	1 H	+ (L. se + L. m)	+ (L. se + L. m)	P	28,26	53,26	+	25,62	63,46	+	4h+ L	4 M	P	/	/	PD	PD
b+	GL295	Spinach goat pie	nc	3h+ Ø	3 L	4h+ L	2 H	+ (L. m)	P	25,60	53,22	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	P	25,28	53,35	+	19,51	53,13	+	4h+ Ø	4 M	P	/	/	PA	PA
b+	GL296	Quiche lorraine	nc	3h+ Ø	3 L	3h+ Ø	2 M	+ (L. m)	P	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	0,00	0,00	-	/	/	A	-	A	ND	ND
b+	GL297	Chorizo tomato pie	nc	3h+ Ø	3 Ø	4h+ Ø	4 Ø	+ (L. m)	P	0,00	0,00	-	4h+ Ø	0 H	+ (L. m)	+ (L. m)	A (FN)	0,00	0,00	-	/	/	/	/	/	/	+ (L. m)	P	ND	/
b+	GL302	Minced steak sandwich (ST 1489)	nc	0 Ø	0 H	0 L	0 L	-	A	26,71	53,03	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	P	26,22	53,32	+	23,94	53,20	+	4h+ Ø	3 H	P	/	/	PD	PD
b+	GL323	Chicken Cheddar Fajitas	nc	1h- H	2 H	3h- M	3 M	+ (L. in)	P	22,00	60,21	+	4h- Ø	1 H	+ (L. in)	+ (L. in)	P	21,02	59,96	+	19,74	60,28	+	4h- L	4 L	P	/	/	PA	PA
c-	GL254	Pear Pie	se	0 Ø	0 L	0 Ø	0 Ø	-	A	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL256	Cherry Clafoutis Pie	se	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL273	plum pie	/	0 Ø	0 L	0 L	0 H	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL274	Apricot Pie	/	0 Ø	0 L	0 Ø	0 H	-	A	0,00	0,00	-	0 L	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL305	Cherry flan	/	0 Ø	0 Ø	0 Ø	0 L	-	A	0,00	0,00	-	1h- Ø	0 M	-	-	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL306	Vanilla Salambo	/	0 Ø	0 Ø	0 Ø	0 L	-	A	0,00	0,00	-	0 Ø	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL307	Vanilla Eclair	/	0 L	0 Ø	0 M	0 M	-	A	0,00	0,00	-	1h- Ø	0 H	-	-	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL308	Strawberry pie	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL309	Vanilla pancakes	/	0 Ø	0 L	0 L	0 M	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL310	Fruit pie	/	0 Ø	0 L	0 L	0 M	-	A	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL311	Paris-Brest	/	0 Ø	0 L	0 M	0 M	-	A	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL312	Chocolate eclair	/	0 Ø	0 Ø	0 Ø	0 L	-	A	0,00	0,00	-	0 L	0 M	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL313	Raspberry pie	/	0 L	0 L	0 L	0 H	-	A	0,00	0,00	-	0 M	0 L	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c-	GL316	Cookie	se	0 L	0 L	0 L	0 M	-	A	0,00	0,00	-	0 M	0 H	/	/	A	0,00	0,00	-	/	/	/	/	/	/	-	A	NA	/
c+	GL255	Apricot Pie	se	1h+ Ø	1 Ø	4h+ Ø	4 Ø	+ (L. m)	P	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	0,00	0,00	-	/	/	A	-	A	ND	ND
c+	GL257	Apple pie	se	2h+ Ø	2 Ø	3h+ Ø	4 Ø	+ (L. m)	P	0,00	0,00	-	0 Ø	0 H	/	/	A	0,00	0,00	-	0,00	0,00	-	/	/	A	-	A	ND	ND
c+	GL258	Flan	se	3h+ Ø	3 Ø	3h+ Ø	4 Ø	+ (L. m)	P	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	0,00	0,00	-	/	/	A	-	A	ND	ND
c+	GL259	Plum pie	se	0 Ø	0 Ø	0 L	0 M	-	A	31,64	53,11	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	P	29,23	53,10	+	28,04	53,22	+	4h+ Ø	3 M	P	/	/	PD	PD
c+	GL298	Chocolate cake	nc	2h+ Ø	0 M	4h+ Ø	1 H	+ (L. m)	P	0,00	0,00	-	0 L	0 H	/	/	A	0,00	0,00	-	0,00	0,00	-	/	/	A	-	A	ND	ND
c+	GL299	Lemon pie	nc	3h+ Ø	3 L	4h+ Ø	4 Ø	+ (L. m)	P	26,00	52,33	+	4h+ Ø	4 L	+ (L. m)	+ (L. m)	P	25,93	52,49	+	23,35	52,50	+	4h+ Ø	4 Ø	P	/	/	PA	PA
c+	GL304	Coconut pearl (Q 4256)	nc	4h+ Ø	0 H	1h-2h+ Ø	2 H	+ (L. w + L. m)	P	19,08	52,61	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	P	18,95	52,65	+	18,88	52,69	+	4h+ Ø	1 H	P	/	/	PA	PA
c+	GL314	Coconut flan	se	2h+ Ø	2 Ø	3h+ Ø	3 Ø	+ (L. m)	P	25,81	53,18	+	3h+ Ø	2 Ø	+ (L. m)	+ (L. m)	P	25,69	53,29	+	22,31	53,60	+	4h+ Ø	4 Ø	P	/	/	PA	PA
c+	GL315	Coffee eclair	se	2h+ Ø	2 Ø	3h+ Ø	3 Ø	+ (L. m)	P	27,85	53,29	+	3h+ Ø	0 M	+ (L. m)	+ (L. m)	P	27,74	53,40	+	23,52	53,27	+	3h+ Ø	4 L	P	/	/	PA	PA
c+	GL317	Grape flan	se	1h+ Ø	1 Ø	3h+ Ø	2 H	+ (L. m)	P	27,62	53,2	+	3h+ Ø	2 H	+ (L. m)	+ (L. m)	P	27,60	53,33	+	23,09	53,32	+	3h+ Ø	4 H	P	/	/	PA	PA
c+	GL330	Potato omelette	nc	3h+ Ø	3 Ø	4h+ Ø	4 Ø	+ (L. iv)	P	31,32	59,32	+	1h+ H	0 H	+ (L. iv)	+ (L. iv)	P	30,57	59,31	+	28,99	60,02	+	1h- H	3 L	P	/	/	PA	PA

ENVIRONMENTAL SAMPLES

Type	Sample N°	Sample	Contamination	RM: NF EN ISO 11290-1						AM: GENE UP								AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage 3 days at 5°C						Confirmation ISO 16140-2 :2016 on MA negative samples		Concordance RM /AM	
				Half Fraser		Fraser		Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf . 3	Final result	Final result	After a 3-day storage at 5°C
				ALOA	Palcam	ALOA	Palcam						ALOA	PALCAM										ALOA	PALCAM					
a-	GL474	Process water 11	se	0Ø	0Ø	0Ø	0Ø	/	**A**	0,00	0,00	-	0L	0M	/	/	**A**	0	0	-	0,00	0,00	-	0M	0M	A	-	A	NA	/
a-	GL480	Process water 16	se	0Ø	0Ø	0Ø	0Ø	/	**A**	0,00	0,00	-	0L	0Ø	/	/	**A**	0	0	-	0,00	0,00	-	0L	0M	**A**	-	A	NA	/
a-	GL481	Process water 17	/	0Ø	0Ø	0Ø	0Ø	/	**A**	0,00	0,00	-	0Ø	0Ø	/	/	**A**	0	0	-	0,00	0,00	-	0Ø	0Ø	**A**	-	A	NA	/
a-	GL485	Process water 21	/	0Ø	0Ø	0Ø	0Ø	/	**A**	0,00	0,00	-	0L	0L	/	/	**A**	0	0	-	0,00	0,00	-	0L	0M	**A**	-	A	NA	/
a-	GL486	Process water 22	/	0Ø	0Ø	0Ø	0Ø	/	**A**	0,00	0,00	-	0Ø	0Ø	/	/	**A**	0	0	-	0,00	0,00	-	0Ø	0Ø	**A**	-	A	NA	/
a-	GL487	Process water 23	/	0Ø	0Ø	0Ø	0Ø	/	**A**	0,00	0,00	-	0Ø	0Ø	/	/	**A**	0	0	-	0,00	0,00	-	0Ø	0Ø	**A**	-	A	NA	/
a-	GL488	Process water 24	/	0Ø	0Ø	0Ø	0Ø	/	**A**	0,00	0,00	-	0Ø	0Ø	/	/	**A**	0	0	-	0,00	0,00	-	0Ø	0Ø	**A**	-	A	NA	/
a-	GL489	Process water 25	/	0Ø	0Ø	0Ø	0Ø	/	**A**	0,00	0,00	-	0Ø	0Ø	/	/	**A**	0	0	-	0,00	0,00	-	0Ø	0Ø	**A**	-	A	NA	/
a-	GL490	Process water 26	/	0Ø	0Ø	0Ø	0Ø	/	**A**	0,00	0,00	-	0L	0Ø	/	/	**A**	0	0	-	0,00	0,00	-	0Ø	0L	**A**	-	A	NA	/
a-	GL491	Process water 27	/	0Ø	0Ø	0Ø	0Ø	/	**A**	0,00	0,00	-	0Ø	0Ø	/	/	**A**	0	0	-	0,00	0,00	-	0Ø	0Ø	**A**	-	A	NA	/
a-	GL492	Process water 28	/	0Ø	0Ø	0Ø	0Ø	/	**A**	0,00	0,00	-	0L	0Ø	/	/	**A**	0	0	-	0,00	0,00	-	0Ø	0M	**A**	-	A	NA	/
a+	GL466	Process water 3	se	2h+Ø	4Ø	4h+Ø	4Ø	+ (L.m)	**P**	20,32	52,94	+	4h+Ø	4Ø	+ (L.m)	+ (L.m)	**P**	20,32	52,94	+	19,52	52,78	+	4h+Ø	4H	P	/	/	PA	PA
a+	GL467	Process water 4	se	3h+Ø	2Ø	4h+Ø	4Ø	+ (L.m)	**P**	0,00	0,00	-	0Ø	0Ø	/	/	**A**	0	0	-	0,00	0,00	-	0Ø	0Ø	A	-	A	ND	ND
a+	GL470	Process water 7	se	2h+Ø	2Ø	4h+Ø	4Ø	+ (L.m)	**P**	29,3	53,5	+	1h+M	0H	+ (L.m)	+ (L.m)	**P**	29,30	53,50	+	29,07	53,42	+	1L	2M	P	/	/	PA	PA
a+	GL471	Process water 8	se	3h+Ø	3Ø	4h+Ø	4Ø	+ (L.m)	**P**	22,7	53,75	+	4h+Ø	4Ø	+ (L.m)	+ (L.m)	**P**	22,70	53,75	+	20,48	53,59	+	4h+Ø	4H	P	/	/	PA	PA
a+	GL472	Process water 9	se	2h+Ø	2Ø	4h+Ø	4Ø	+ (L.m)	**P**	20,93	53,70	+	4h+Ø	4Ø	+ (L.m)	+ (L.m)	**P**	20,93	53,70	+	18,99	53,65	+	4h+Ø	4Ø	P	/	/	PA	PA
a+	GL473	Process water 10	se	2h+Ø	2Ø	4h+Ø	4Ø	+ (L.m)	**P**	22,08	52,9	+	4h+Ø	4Ø	+ (L.m)	+ (L.m)	**P**	22,08	52,90	+	19,29	53,84	+	4h+Ø	4Ø	P	/	/	PA	PA
a+	GL476	Process water 12	se	2h-Ø	2Ø	3h-Ø	3Ø	+ (L.w)	**P**	0,00	0,00	-	0Ø	0Ø	/	/	**A**	0	0	-	0,00	0,00	-	0Ø	0Ø	**A**	+ (L.w)	P	ND	ND
a+	GL477	Process water 13	se	0Ø	0Ø	0Ø	0Ø	/	**A**	28,014	59,78	+	3h-Ø	3Ø	+(L.w)	+(L.w)	**P**	27,97	59,64	+	22,0	60,01	+	3h-Ø	4Ø	**P**	/	/	PD	PD
a+	GL478	Process water 14	se	2h-Ø	2Ø	2h-Ø	3Ø	+ (L.w)	**P**	29,79	59,8	+	2h-Ø	2Ø	+(L.w)	+(L.w)	**P**	29,53	59,36	+	24,03	60,02	+	4h-Ø	4Ø	**P**	/	/	PA	PA
a+	GL479	Process water 15	se	2h-Ø	2Ø	3h-Ø	3Ø	+ (L.w)	**P**	28,84	59,77	+	2h-Ø	1Ø	+(L.w)	+(L.w)	**P**	28,67	59,65	+	23,14	59,97	+	4h-Ø	4Ø	**P**	/	/	PA	PA
a+	GL535	Process water 32	se	1h+Ø	1Ø	3h+Ø	4Ø	+(L.iv)	**P**	28,97	55,36	+	3h+Ø	3Ø	+(L.iv)	+(L.iv)	**P**	29,19	55,38	+	25,04	55,44	+	4h+Ø	4Ø	**P**	+	P	PA	PA
a+	GL536	Process water 33	se	1h+Ø	1Ø	3h+Ø	4Ø	+(L.iv)	**P**	29,74	55,44	+	2h+L	3L	+(L.iv)	+(L.iv)	**P**	29,86	55,45	+	25,9	55,49	+	3h+Ø	3L	**P**	+	P	PA	PA
a+	GL537	Process water 34	se	1h+Ø	1Ø	3h+Ø	4Ø	+(L.iv)	**P**	0,00	0,00	-	0L	0H	/	/	**A**	0	0	-	0,00	0,00	-	0M	0H	**A**	-	A	ND	ND
b-	GL493	Dust 1	/	0M	0M	0M	0M	/	**A**	0,00	0,00	-	0H	0M	/	/	**A**	0	0	-	0,00	0,00	-	0M	0M	**A**	-	A	NA	/
b-	GL495	Dust 3	/	0M	0L	0Ø	0Ø	/	**A**	0,00	0,00	-	0H	0M	/	/	**A**	0	0	-	0,00	0,00	-	0M	0M	**A**	-	A	NA	/
b-	GL496	Dust 4	se	0L	0L	0Ø	0Ø	/	**A**	0,00	0,00	-	0H	0M	/	/	**A**	0	0	-	0,00	0,00	-	0M	0M	**A**	-	A	NA	/
b-	GL497	Dust 5	se	0L	0L	0Ø	0Ø	/	**A**	0,00	0,00	-	0H	0M	/	/	**A**	0	0	-	0,00	0,00	-	0M	0M	**A**	-	A	NA	/
b-	GL501	Dust 9	/	0L	0L	0H	0H	/	**A**	0,00	0,00	-	0M	0M	/	/	**A**	0	0	-	0,00	0,00	-	0L	0L	**A**	-	A	NA	/
b-	GL502	Dust 10	/	0Ø	0Ø	0Ø	0L	/	**A**	0,00	0,00	-	0L	0L	/	/	**A**	0	0	-	0,00	0,00	-	0L	0M	**A**	-	A	NA	/
b-	GL503	Dust 11	se	0H	0L	0H	0H	/	**A**	0,00	0,00	-	0H	0L	/	/	**A**	0	0	-	0,00	0,00	-	0L	0M	**A**	-	A	NA	/
b-	GL504	Dust 12	se	0H	0L	0H	0H	/	**A**	0,00	0,00	-	0H	0L	/	/	**A**	0	0	-	0,00	0,00	-	0M	0L	**A**	-	A	NA	/
b-	GL505	Dust 13	se	0H	0H	0H	0H	/	**A**	0,00	0,00	-	0H	0M	/	/	**A**	0	0	-	0,00	0,00	-	0H	0M	**A**	-	A	NA	/
b-	GL506	Dust 14	se	0H	0L	0M	0H	/	**A**	0,00	0,00	-	0H	0M	/	/	**A**	0	0	-	0,00	0,00	-	0L	0M	**A**	-	A	NA	/
b-	GL507	Dust 15	se	0Ø	0Ø	0Ø	0Ø	/	**A**	0,00	0,00	-	0H	0M	/	/	**A**	0	0	-	0,00	0,00	-	0L	0M	**A**	-	A	NA	/
b-	GL538	Dust 20	/	0L	0M	0L	0L	/	**A**	0,00	0,00	-	0H	0H	/	/	**A**	0	0	-	/	/	/	/	/	***I***	-	A	NA	/
b-	GL539	Dust 21	/	0Ø	0Ø	0Ø	0Ø	/	**A**	0,00	0,00	-	0H	0H	/	/	**A**	0	0	-	/	/	/	/	/	***I***	-	A	NA	/
b-	GL540	Dust 22	/	0M	0L	0L	0L	/	**A**	0,00	0,00	-	0H	0M	/	/	**A**	0	0	-	/	/	/	/	/	***I***	-	A	NA	/
b-	GL541	Dust 23	/	0M	0M	0M	0L	/	**A**	0,00	0,00	-	0H	0M	/	/	**A**	0	0	-	/	/	/	/	/	***I***	-	A	NA	/
b+	GL494	Dust 2	nc	1h-M	1Ø	3h-Ø	3Ø	+(L.iv)	**P**	0,00	0,00	-	0M	0H	/	/	**A**	0	0	-	0,00	0,00	-	0M	0M	**A**	-	A	ND	ND

Type	Sample N°	Sample	Contamination	RM: NF EN ISO 11290-1						AM: GENE UP							AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage 3 days at 5°C						Confirmation ISO 16140-2 :2016 on MA negative samples		Concordance RM /AM	
				Half Fraser		Fraser		Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf . 3	Final result	Final result	After a 3-day storage at 5°C
				ALOA	Palcam	ALOA	Palcam						ALOA	PALCAM										ALOA	PALCAM					
b+	GL498	Dust 6	nc	0L	0L	0Ø	0Ø	/	**A**	32,97	52,35	+	4h+Ø	3Ø	+ (L.m)	+ (L.m)	**P**	32,18	52,42	+	29,61	52,39	+	4h+Ø	4L	**P**	/	/	PD	PD
b+	GL499	Dust 7	nc	4h+Ø	4Ø	4h+Ø	4Ø	+(L.m)	**P**	0,00	0,00	-	0L	0L	/	/	**A**	0	0	-	0,00	0,00	-	0L	0M	**A**	-	A	ND	ND
b+	GL500	Dust 8	nc	0Ø	0L	0L	0M	/	**A**	24,14	52,46	+	3h+Ø	2Ø	+ (L.m)	+ (L.m)	**P**	24,52	52,46	+	20,53	52,2	+	4h+Ø	4M	**P**	/	/	PD	PD
b+	GL508	Dust 16	nc	4h+Ø	4Ø	3h+Ø	4Ø	+(L.m)	**P**	0,00	51,61	+	2h+Ø	0H	+ (L.m)	+ (L.m)	**P**	0	51,4	+	0,00	51,49	+	3h+L	3L	**P**	/	/	PA	PA
b+	GL533	Dust 17	se	1h+Ø	1Ø	3h+Ø	4Ø	+(L.iv)	**P**	32,73	55,37	+	1h+L	0H	+(L.iv)	+(L.iv)	**P**	33,08	55,31	+	32,84	54,62	+	1h+L	0M	**P**	/	/	PA	PA
b+	GL534	Dust 18	se	1h+Ø	1Ø	3h+Ø	4h+Ø	+(L.iv)	**P**	31,96	55,38	+	2h+Ø	2Ø	+(L.iv)	+(L.iv)	**P**	32,68	55,31	+	30,13	55,31	+	3h+Ø	3Ø	**P**	+	P	PA	PA

Type	Sample N°	Sample	Contamination	RM: NF EN ISO 11290-1						AM: GENE UP							AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage 3 days at 5°C						Confirmation ISO 16140-2 :2016 on MA negative samples		Concordance RM /AM	
				Half Fraser		Fraser		Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf . 3	Final result	Final result	After a 3-day storage at 5°C
				ALOA	Palcam	ALOA	Palcam						ALOA	PALCAM										ALOA	PALCAM					
c-	GL445	Swab 1	se	3h+ Ø	3Ø	0Ø	0Ø	/	A	0	0	-	0Ø	0Ø	/	/	A				0	0	-	0Ø	0Ø	A	-	A	NA	NA
c-	GL516	Swab 23	/	0Ø	0Ø	0Ø	0Ø	/	A	0	0	-	0L	0M	/	/	A	0	0	-	0	0	-	0L	0H	A	-	A	NA	NA
c-	GL517	Swab 24	/	0Ø	0Ø	0Ø	0M	/	A	0	0	-	0Ø	0L	/	/	A	0	0	-	0	0	-	0Ø	0L	A	-	A	NA	NA
c-	GL518	Swab 25	/	0Ø	0Ø	0Ø	0Ø	/	A	0	0	-	0Ø	0Ø	/	/	A	0	52,71	+	0	0	-	0Ø	0Ø	A	-	A	NA	NA
c-	GL519	Swab 26	/	0Ø	0Ø	0Ø	0Ø	/	A	0	0	-	0Ø	0Ø	/	/	A	0	0	-	0	0	-	0Ø	0Ø	A	-	A	NA	NA
c-	GL520	Swab 27	/	0Ø	0M	0M	0H	/	A	0	0	-	0L	0M	/	/	A	0	0	-	0	0	-	0M	0M	A	-	A	NA	NA
c-	GL521	Swab 28	/	0Ø	0Ø	0Ø	0Ø	/	A	0	0	-	0Ø	0Ø	/	/	A	0	0	-	0	0	-	0Ø	0L	A	-	A	NA	NA
c-	GL522	Swab 29	/	0Ø	0Ø	0L	0M	/	A	0	0	-	0Ø	0L	/	/	A	0	0	-	0	52,45	+	0Ø	0L	A	-	A	NA	NA
c-	GL523	Swab 30	/	0Ø	0Ø	0Ø	0Ø	/	A	0	0	-	0M	0M	/	/	A	0	0	-	0	0	-	0M	0M	A	-	A	NA	NA
c-	GL529	Sponge 12	/	0Ø	0L	0M	0H	/	A	0	0	-	0M	0M	/	/	A	0	0	-	0	0	-	0H	0H	A	-	A	NA	NA
c-	GL530	Sponge 13	/	0M	0M	0M	0H	/	A	0	0	-	0M	0M	/	/	A	0	0	-	0	0	-	0H	0M	A	-	A	NA	NA
c-	GL531	Sponge 14	/	0Ø	0Ø	0Ø	0Ø	/	A	0	0	-	0Ø	0Ø	/	/	A	0	0	-	0	0	-	0Ø	0Ø	A	-	A	NA	NA
c-	GL532	Sponge 15	/	0Ø	0L	0L	0M	/	A	0	0	-	0L	0M	/	/	A	0	0	-	0	0	-	0L	0M	A	-	A	NA	NA
c-	GL542	Swab 32	/	0Ø	0Ø	0Ø	0Ø	/	A	0	0	-	0Ø	0Ø	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL543	Swab 33	/	0Ø	0Ø	0Ø	0Ø	/	A	0	0	-	0Ø	0Ø	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL544	Swab 34	/	0Ø	0Ø	0Ø	0Ø	/	A	7,55	0	-	0L	0H	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL545	Swab 35	/	0L	0L	0L	0L	/	A	0	0	-	0M	0M	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL546	Swab 36	/	0Ø	0Ø	0Ø	0Ø	/	A	0	0	-	0Ø	0Ø	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL547	Swab 37	/	0Ø	0Ø	0Ø	0Ø	/	A	0	0	-	0L	0M	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL548	Swab 38	/	0Ø	0L	0Ø	0Ø	/	A	0	0	-	0Ø	0Ø	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL549	Swab 39	/	0Ø	0Ø	0Ø	0Ø	/	A	0	0	-	0Ø	0Ø	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL550	Swab 40	/	0L	0M	0L	0M	/	A	0	0	-	0L	0L	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL551	Swab 41	/	0Ø	0Ø	0Ø	0Ø	/	A	0	0	-	0Ø	0Ø	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL552	Sponge 17	/	0Ø	0Ø	0Ø	0Ø	/	A	0	0	-	0M	0M	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL554	Sponge 19	/	0L	0L	0M	0M	/	A	0	0	-	0M	0M	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL555	Sponge 20	/	0M	0M	0M	0M	/	A	0	0	-	0M	0H	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL556	Sponge 21	/	0L	0M	0L	0L	/	A	0	0	-	0M	0H	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL557	Sponge 22	/	0L	0L	0Ø	0L	/	A	0	0	-	0M	0H	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL558	Sponge 23	/	0M	0M	0L	0M	/	A	0	0	-	0M	0H	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL559	Sponge 24	/	0M	0M	0L	0M	/	A	0	0	-	0L	0M	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL560	Sponge 25	/	0L	0Ø	0Ø	0Ø	/	A	0	0	-	0L	0H	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL561	Sponge 26	/	0Ø	0Ø	0Ø	0Ø	/	A	0	0	-	0Ø	0Ø	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL562	Wipe 1	/	0L	0M	0L	0L	/	A	0	0	-	1h-M	0H	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL563	Wipe 2	/	0Ø	0Ø	0Ø	0Ø	/	A	0	0	-	0Ø	0Ø	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL564	Wipe 3	/	0L	0M	0L	0L	/	A	0	0	-	0Ø	0Ø	/	/	A				/	/	/	/	/	/	-	A	NA	/
c-	GL565	Wipe 4	/	0Ø	0Ø	0Ø	0Ø	/	A	0	0	-	0L	0M	/	/	A				/	/	/	/	/	/	-	A	NA	/

Type	Sample N°	Sample	Contamination	RM: NF EN ISO 11290-1						AM: GENE UP							AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage 3 days at 5°C						Confirmation ISO 16140-2 :2016 on MA negative samples		Concordance RM /AM	
				Half Fraser		Fraser		Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result	CP	MP	GENE UP	CP	MP	GENE UP result	Conf. 1		Final result	Conf . 3	Final result	Final result	After a 3-day storage at 5°C
				ALOA	Palcam	ALOA	Palcam						ALOA	PALCAM										ALOA	PALCAM					
c+	GL446	Swab 2	se	0Ø	2Ø	4h+Ø	4Ø	+ (L.in)	P	26,25	59,8	+	2h-Ø	3Ø	+ (L.in)	+ (L.in)	P				23,6	60,03	+	4h-Ø	4Ø	P	/	/	PA	PA
c+	GL447	Swab 3	se	2h-Ø	2L	3h-Ø	4Ø	+ (L.in)	P	0	0	-	0M	0H	/	/	A				0	0	-	0M	0H	A	-	A	ND	ND
c+	GL448	Swab 4	se	3h-Ø	3Ø	4h-Ø	4Ø	+ (L.in)	P	23,64	59,95	+	3h-Ø	4Ø	+ (L.in)	+ (L.in)	P				20,51	60,06	+	4h-Ø	4Ø	P	/	/	PA	PA
c+	GL449	Swab 5	se	3h- Ø	2Ø	3h-Ø	3Ø	+ (L.in)	P	22,89	60,05	+	3h-Ø	4Ø	+ (L.in)	+ (L.in)	P				20,07	60,18	+	4h-Ø	4Ø	P	/	/	PA	PA
c+	GL450	Swab 6	se	1h-Ø	2Ø	3h-Ø	4Ø	+ (L.in)	P	28,25	59,89	+	2h-Ø	3Ø	+ (L.in)	+ (L.in)	P				25,49	60,15	+	4h-Ø	4Ø	P	/	/	PA	PA
c+	GL451	Swab 7	se	2h-Ø	3Ø	3h-Ø	4Ø	+ (L.in)	P	28,85	59,86	+	3h- Ø	4Ø	+ (L.in)	+ (L.in)	P				19,36	60,02	+	4h-Ø	4Ø	P	/	/	PA	PA
c+	GL452	Swab 8	se	3h-Ø	3Ø	4h-Ø	4Ø	+ (L.in)	P	23,56	59,76	+	3h- Ø	4Ø	+ (L.in)	+ (L.in)	P				20,57	60,27	+	4h-Ø	4Ø	P	/	/	PA	PA
c+	GL453	Swab 9	se	2h-Ø	2Ø	2h-Ø	4Ø	+ (L.se)	P	29,29	59,64	+	3h- Ø	3Ø	+ (L.se)	+ (L.se)	P				24,87	60,07	+	4h-Ø	4Ø	P	/	/	PA	PA
c+	GL454	Swab 10	se	0Ø	0Ø	0Ø	0Ø	/	A	22,83	59,85	+	3h-Ø	4Ø	+ (L.se)	+ (L.se)	P				19,08	59,86	+	4h-Ø	4Ø	P	/	/	PD	PD
c+	GL455	Swab 11	se	3h-Ø	3Ø	3h-Ø	4Ø	+ (L.se)	P	28,33	59,82	+	3h-Ø	3Ø	+ (L.se)	+ (L.se)	P				20,34	60,02	+	3h-Ø	3Ø	P	/	/	PA	PA
c+	GL456	Swab 12	se	2h-Ø	2Ø	3h-Ø	3Ø	+ (L.se)	P	31,32	59,27	+	2h- Ø	3Ø	+ (L.se)	+ (L.se)	P				27,78	59,78	+	3h-Ø	3Ø	P	/	/	PA	PA
c+	GL457	Swab 13	se	2h+Ø	1L	3h+Ø	3M	+ (L.m)	P	27,13	53,58	+	3h+ Ø	3Ø	+ (L.m)	+ (L.m)	P				23,1	53,56	+	4h+Ø	4Ø	P	/	/	PA	PA
c+	GL458	Sponge 1	se	2h+L	2M	3h+Ø	4Ø	+ (L.m)	P	25,29	53,37	+	3h+Ø	0H	+ (L.m)	+ (L.m)	P				24,44	53,63	+	4h+Ø	4H	P	/	/	PA	PA
c+	GL459	Sponge 2	se	2h+Ø	1L	3h+Ø	3m	+ (L.m)	P	28,62	53,35	+	3h+Ø	1H	+ (L.m)	+ (L.m)	P				24,13	53,34	+	3h+Ø	3L	P	/	/	PA	PA
c+	GL460	Sponge 3	se	2h+Ø	3Ø	4h+Ø	4Ø	+ (L.m)	P	24,74	53,54	+	4h+Ø	3M	+ (L.m)	+ (L.m)	P				21,07	53,54	+	4h+Ø	4L	P	/	/	PA	PA
c+	GL461	Sponge 4	se	3h+Ø	3M	3h+Ø	4Ø	+ (L.m)	P	23,85	53,75	+	4h+Ø	3H	+ (L.m)	+ (L.m)	P				19,88	53,7	+	4h+Ø	4H	P	/	/	PA	PA
c+	GL462	Sponge 5	se	3h+Ø	3Ø	4h+Ø	4Ø	+ (L.m)	P	0	0	-	0H	0H	/	/	A				0	0	-	0M	0H	A	-	A	ND	ND
c+	GL463	Sponge 6	se	3h+Ø	3L	4h+Ø	4Ø	+ (L.m)	P	26,9	53,63	+	3M	3M	+ (L.m)	+ (L.m)	P				25,25	53,45	+	3h+Ø	3H	P	/	/	PA	PA
c+	GL475	Swab 14	se	2h+Ø	1L	4h+Ø	3L	+ (L.m)	P	30,48	53,53	+	3h+Ø	3Ø	+ (L.m)	+ (L.m)	p				29,33	53,54	+	3h+Ø	3Ø	P	/	/	PA	PA
c+	GL509	Swab 16	nc	4h+Ø	4Ø	3h+Ø	4Ø	+(L.m)	P	0	51,52	+	3h+Ø	4Ø	+ (L.m)	+ (L.m)	P	24,4	51,52	+	0	51,47	+	4h+Ø	4Ø	p	/	/	PA	PA
c+	GL510	Swab 17	nc	4h+Ø	4Ø	4h+Ø	4Ø	+(L.m)	P	0	51,61	+	3h+Ø	4Ø	+ (L.m)	+ (L.m)	P	27,73	51,65	+	23,58	51,58	+	3h+Ø	4Ø	p	/	/	PA	PA
c+	GL511	Swab 18	nc	4h+Ø	4Ø	3h+Ø	4Ø	+(L.m)	P	26,9	51,57	+	3h+Ø	4Ø	+ (L.m)	+ (L.m)	P	27,13	51,71	+	22,17	51,49	+	4h+Ø	4Ø	p	/	/	PA	PA
c+	GL512	Swab 19	nc	3h+Ø	4Ø	3h+Ø	3h+Ø	+(L.m)	P	25,65	51,68	+	2h+Ø	3H	+ (L.m)	+ (L.m)	P	25,74	51,8	+	21,39	51,6	+	4h+L	3H	P	/	/	PA	PA
c+	GL513	Swab 20	nc	0M	0H	0H	0H	/	A	25,69	51,65	+	3h+Ø	0H	+ (L.m)	+ (L.m)	P	25,83	51,82	+	23,70	51,65	+	3h+Ø	0H	P	/	/	PD	PD
c+	GL514	Swab 21	nc	3h+Ø	3M	4h+Ø	4M	+(L.m)	P	24,07	51,45	+	3h+Ø	4L	+ (L.m)	+ (L.m)	P	24,24	51,62	+	22,36	51,45	+	4h+Ø	4L	P	/	/	PA	PA
c+	GL515	Swab 22	nc	3h+Ø	4L	4h+Ø	4M	+(L.m)	P	23,03	51,54	+	3h+Ø	3H	+ (L.m)	+ (L.m)	P	23,01	51,78	+	0	51,48	+	4h+L	3H	P	/	/	PA	PA
c+	GL524	Sponge 7	nc	3h+L	3M	3h+Ø	4H	+(L.m)	P	23,77	52,71	+	4h+M	4M	+ (L.m)	+ (L.m)	P	23,9	52,7	+	21,46	52,64	+	4h+H	4M	P	+	P	PA	PA
c+	GL525	Sponge 8	nc	2h+Ø	3Ø	3h+Ø	4Ø	+(L.m)	P	0	0	-	0L	0H	/	/	A	0	0	-	34,46	52,41	+	0M	0H	A	-	A	ND	ND
c+	GL526	Sponge 9	nc	3h+L	3H	3h+L	4M	+(L.m)	P	24,89	52,53	+	2h+M	1H	+ (L.m)	+ (L.m)	P	28,77	52,61	+	26,81	52,51	+	3h+H	1H	P	+	P	PA	PA
c+	GL527	Sponge 10	nc	3h+L	3Ø	3h+Ø	4Ø	+(L.m)	P	22,54	52,56	+	3h+Ø	4M	+ (L.m)	+ (L.m)	P	23,26	52,67	+	19,69	52,44	+	4h+Ø	4M	P	+	P	PA	PA
c+	GL528	Sponge 11	nc	3h+Ø	4Ø	4h+Ø	4Ø	+(L.m)	P	22,66	52,57	+	4h+Ø	4Ø	+ (L.m)	+ (L.m)	P	22,76	52,65	+	19,96	52,45	+	4h+Ø	4M	P	+	P	PA	PA

APPENDIX 4b

Samples excluded : RAW DATA

Sample N°	Sample	Contamination strain or serovar, type (nc,sp,se or cm) and level (CFU/25 g)			RM: NF EN ISO 11290-1						AM: GENE UP								AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP after storage of the broths 3 days at 5°C						Confirmation ISO 16140-2 on MA negative samples		Concordance RM /AM	
					Half Fraser		Fraser		Confirmation	Final result	CP	MP	GENE UP result	Conf. 1		Conf. 2	Conf. 3	Final result							Conf. 1		Final result				
					ALOA	PALCAM	ALOA	PALCAM						ALOA	PALCAM				CP	MP	GENE UP	CP	MP	GENE UP result	ALOA	PALCAM		ALOA	Final result	Final result	After a 3-day storage at 5°C
GL25	Leg of lamb without bones (raw)	LIS.2.2	se/nc	0,3	1h+ Ø	1 Ø	4h+ Ø	4 M	+ (L. m)	P	30,14	56,71	+	2h+/1h- Ø	3 L	+ (L. in + L. m)	+ (L. in + L. m)	P	31,18	58,53	+	28,18	57,54	+	2h+/2h- Ø	3 Ø	**P**	/	**/**	PA	PA
GL160	Turkey filet mignon (raw)	LIS.4.11	se	1,6	2h+/1h- Ø	3 Ø	1h+/2h- Ø	3 Ø	+ (L. m)	P	22,76	59,43	+	4h+ 1h- Ø	4 L	+ (L. m)	+ (L. m)	P	21,80	59,55	+	21,18	58,30	+	4h+ Ø	3 M	**P**	/	**/**	PA	PA
GL161	Block of smoked veal	LIS.4.11	se	1,6	0 Ø	0 L	1h+/2h- Ø	3 Ø	+ (L. m)	P	26,28	59,70	+	2h- L	4 L	+ (L. in)	+ (L. in)	P	25,68	59,85	+	23,70	59,59	+	4h- L	**4 L**	P	**/**	/	PA	PA
GL164	Block of smoked veal	LIS.4.26	se	2,8	1h+/1h- Ø	1 Ø	3h+ Ø	3 Ø	+ (L. m)	P	23,54	53,42	+	4h+ Ø	4 L	+ (L. m)	+ (L. m)	P	23,69	53,37	+	19,54	53,22	+	4h+ Ø	3 M	**P**	/	**/**	PA	PA
GL123	cheese - raw - goat	LIS.4.23	se	3,3	1h+ Ø	1 L	2h+ Ø	2 Ø	+ (L. m)	P	33,71	53,34	+	1h+ L	0 M	+ (L. m)	+ (L. m)	P	33,84	53,25	+	32,58	52,98	+	1h+ L	1 L	**P**	/	**/**	PA	PA
GL134	Fermented ribot milk	LIS.4.7	se	3,0	1h+ Ø	1 L	3h+ Ø	4 Ø	+ (L. m)	P	26,20	53,45	+	4h+ Ø	2 H	+ (L. m)	+ (L. m)	P	25,71	53,14	+	21,53	53,22	+	4h+ Ø	3 M	**P**	/	**/**	PA	PA
GL165	Pistachio ice cream	LIS.4.56	se	2,8	2h+ Ø	1 L	3h+ Ø	3 L	+ (L. m)	P	24,28	53,15	+	3h+ L	2 H	+ (L. m)	+ (L. m)	P	24,28	53,31	+	21,96	53,19	+	4h+ Ø	2 H	**P**	/	**/**	PA	PA
GL166	Coffee ice cream	LIS.4.56	se	2,8	2h+ Ø	1 L	3h+ L	3 L	+ (L. m)	P	33,12	53,32	+	2h+ L	0 H	+ (L. m)	+ (L. m)	P	33,70	53,33	+	33,08	52,90	+	2h+ Ø	0 H	**P**	/	**/**	PA	PA
GL380	Merlan fillet	LIS.4.12	se	1.6	3h+ L	3 L	4h+ Ø	4 Ø	+ (L. m)	P	28.95	53.16	+	2h+ H	0 H	+ (L. m)	+ (L. m)	P	27,86	52,97	+	23.74	53.13	+	2h+ H	0 H	**P**	/	/	PA	PA
GL381	Swordfish	LIS.4.15	se	0.8	0 M	0 H	2h+ Ø	2 L	+ (L. m)	P	26.03	53.11	+	4h+ Ø	0 H	+ (L. m)	+ (L. m)	P	25,02	53,12	+	23.08	53.14	+	3h+ M	3 M	**P**	/	/	PA	PA
GL389	Smoked salmon bacon	LIS.4.25	se	0.4	4h+ L	2 H	3h+ H	0 H	+ (L. m)	P	27.62	53.04	+	4h+ Ø	4 L	+ (L. m)	+ (L. m)	P	26,02	53,26	+	22.78	53.26	+	4h+ Ø	4 L	**P**	/	/	PA	PA
GL395	Parisian tuna salad	LIS.4.42	se	0,2	4h+ Ø	3 Ø	4h+ Ø	4 L	+ (L. m)	P	27.79	53.37	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	P	26,96	52,87	+	22.83	53.27	+	4h+ Ø	4 Ø	**P**	/	/	PA	PA
GL203	Parsley	LIS.4.17	se	1,4	2h+ M	0 H	4h+ Ø	2 M	+ (L. m)	P	29,07	53,13	+	3h+ L	2 H	+ (L. m)	+ (L. m)	P	28,97	52,86	+	27,43	53,16	+	4h+ Ø	2 H	**P**	/	**/**	PA	PA
GL197	Packaged white cabbage -red cabbage	LIS.4.10	se	2,4	2h+ Ø	1 M	4h+ Ø	4 L	+ (L. m)	P	24,67	53,16	+	4h+ L	0 H	+ (L. m)	+ (L. m)	P	24,86	52,85	+	20,83	53,31	+	4h+ Ø	0 H	**P**	/	/	PA	PA
GL192	Celery puree	LIS.4.5	se	2,0	2h+ Ø	3 Ø	4h+ Ø	4 Ø	+ (L. m)	P	24,66	53,31	+	4h+ Ø	3 M	+ (L. m)	+ (L. m)	P	24,36	53,02	+	20,49	53,35	+	4h+ Ø	4 M	**P**	/	**/**	PA	PA
GL193	Split pea puree	LIS.4.5	se	2,0	1h+ Ø	2 L	4h+ Ø	3 L	+ (L. m)	P	23,61	53,39	+	3h+ L	3 H	+ (L. m)	+ (L. m)	P	23,26	53,03	+	20,82	53,49	+	4h+ Ø	4 M	**P**	/	**/**	PA	PA
GL264	Torti surimi	LIS.4.42	se	7	3h+ Ø	2 H	3h+ Ø	3 M	+ (L. m)	P	23,84	53,35	+	4h+ L	1 H	+ (L. m)	+ (L. m)	P	23,94	53,28	+	19,93	53,39	+	4h+ L	3 M	**P**	/	**/**	PA	PA
GL265	Piemontaise ham	LIS.4.42	se	7	3h+ Ø	3 L	4h+ Ø	3 L	+ (L. m)	P	23,74	53,5	+	4h+ Ø	1 H	+ (L. m)	+ (L. m)	P	24,89	53,30	+	20,20	53,37	+	4h+ Ø	3 M	**P**	/	**/**	PA	PA
GL271	Penne Bolognese	LIS.4.77	se	7	4h+ Ø	4 Ø	4h+ Ø	4 Ø	+ (L. m)	P	22,16	53,46	+	4h+ Ø	2 M	+ (L. m)	+ (L. m)	P	22,89	53,41	+	19,68	53,35	+	4h+ Ø	4 L	**P**	/	**/**	PA	PA
GL317	Grape flan	LIS.4.7	se	0.6	1h+ Ø	1 Ø	3h+ Ø	2 H	+ (L. m)	P	27,62	53,2	+	3h+ Ø	2 H	+ (L. m)	+ (L. m)	P	27,60	53,33	+	23,09	53,32	+	3h+ Ø	4 H	**P**	/	**/**	PA	PA
GL473	Process water 10	LIS.4.57	se	3,0	2h+Ø	2Ø	4h+Ø	4Ø	+ (L.m)	P	22,08	52,9	+	4h+Ø	4Ø	+ (L.m)	+ (L.m)	P	22,08	52,90	+	19,29	53,84	+	4h+Ø	4Ø	P	/	/	PA	PA
GL461	Sponge 4	LIS.4.16	se	1,7	3h+Ø	3M	3h+Ø	4Ø	+ (L.m)	P	23,85	53,75	+	4h+Ø	3H	+ (L.m)	+ (L.m)	P	/	/	/	19,88	53,7	+	4h+Ø	4H	P	**/**	/	PA	PA
GL463	Sponge 6	LIS.4.16	se	1,7	3h+Ø	3L	4h+Ø	4Ø	+ (L.m)	P	26,9	53,63	+	3M	3M	+ (L.m)	+ (L.m)	P	/	/	/	25,25	53,45	+	3h+Ø	3H	P	**/**	/	PA	PA
GL475	Swab 14	LIS.4.2	se	2,7	2h+Ø	1L	4h+Ø	3L	+ (L.m)	P	30,48	53,53	+	3h+Ø	3Ø	+ (L.m)	+ (L.m)	p	/	/	/	29,33	53,54	+	3h+Ø	3Ø	P	**/**	/	PA	PA
13	Raw milk cheese	AFNL 83	se	3,0	+ (h+)	+	+ (h+)	+	L.mono	P	33,52	52,52	+	+ (h+)	+	L.mono	+	p	33,23	52,68	+	32,8	52,74	+	+ (h+)	/	P	**/**	/	PA	PA
27	Raw cow's milk yogurt	AFNL 181	se	3,0	+ (h+)	+	+ (h+)	+	L.mono	P	32,82	52,76	+	+ (h+)	+	L.mono	+	p	32,73	52,58	+	29,23	52,78	+	+	/	P	**/**	/	PA	PA
28	Cottage cheese	AFNL 181	se	3,0	+ (h+)	+	+ (h+)	+	L.mono	P	28,92	52,95	+	+ (h+)	+	L.mono	+	p	28,72	52,79	+	24,91	52,87	+	+	/	P	**/**	/	PA	PA
63	Raw ewe milk	AFNL 180	se	2,8	+	+	+	+	L.mono	P	21,86	52,82	+	+ (h+)	+	L.mono	+	p	21,29	52,66	+	21,3	52,69	+	+ (h+)	/	P	**/**	/	PA	PA

APPENDIX 5

RELATIVE LEVEL OF DETECTION : RAW DATA

Caption:
/ : test not realized
Ø : absence of colonies
FP : false positive result
A : absence
P : presence
0 / 1 / 2 / 3 / 4 : level of typical flora, from absence to high
Ø / L / M / H : level of annex flora, from absence to high
L.m : Listeria monocytogenes
Confirmation : streaking on selective medium + ISO 11290-1 confirmation
Conf. 1 : streaking on selective medium + visual reading
Conf. 2 : streaking on selective medium + API Listeria
Conf. 3 : streaking on selective medium + RAPIDEC L-mono
Conf. 4 : streaking on selective medium + Fast Rhamnose
Conf. 5 : streaking on selective medium + ISO 11290-1 confirmation (case n°1)
chromID L. mono: w=white colonies / b=blue colonies

Meat products

TVC before inoculation : 1.2x10^4 CFU/g / TVC after cold storage: 9.9x10^3 CFU/g

Matrix	Contamination level (CFU/25 g)	Sample ID	RM: NF EN ISO 11290-1						AM: GENE UP							Number of positive results per method
			Half Fraser		Fraser		Confirmation	Final result	GENE-UP			Conf. 1		Conf. 2	Conf. 3	Final result	
			ALOA	PALCAM	ALOA	PALCAM			**CP**	**MP**	Result	ALOA	PALCAM				
Rillettes	/	GLSR01	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	+	0 Ø	0 L	/	/	A (FP)	RM = 0/5 AM = 0/5
		GLSR02	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 M	0 M	/	/	A	
		GLSR03	0 Ø	0 Ø	0 M	0 Ø	-	**A**	0,00	0,00	-	0 M	0 H	/	/	A	
		GLSR04	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 M	0 H	/	/	A	
		GLSR05	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 M	0 H	/	/	A	
	0.6	GLSRL1	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 L	0 H	/	/	A	RM = 7/20 AM = 8/20
		GLSRL2	0 Ø	0 Ø	0 M	0 M	-	**A**	0,00	0,00	-	0 L	0 L	/	/	A	
		GLSRL3	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 M	0 L	/	/	A	
		GLSRL4	3h+ Ø	2 Ø	4h+ Ø	3 L	+ (L. m)	**P**	22,94	52,75	+	4h+ Ø	3 H	+ (L. m)	+ (L. m)	P	
		GLSRL5	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 M	0 H	/	/	A	
		GLSRL6	3h+ Ø	3 Ø	3h+ Ø	3 Ø	+ (L. m)	**P**	20,69	52,98	+	4h+ Ø	3 H	+ (L. m)	+ (L. m)	P	
		GLSRL7	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 M	0 H	/	/	A	
		GLSRL8	0 Ø	0 Ø	0 M	0 M	-	**A**	21,21	53,12	+	4h+ Ø	3 H	+ (L. m)	+ (L. m)	P	
		GLSRL9	3h+ Ø	3 Ø	4h+ Ø	2 M	+ (L. m)	**P**	23,22	53,43	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	P	
		GLSRL10	0 Ø	0 Ø	0 L	0 M	-	**A**	29,48	53,20	+	4h+ Ø	0 H	+ (L. m)	+ (L. m)	P	
		GLSRL11	3h+ Ø	3 Ø	3h+ Ø	4 L	+ (L. m)	**P**	0,00	0,00	-	0 M	0 H	/	/	A	
		GLSRL12	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 M	0 H	/	/	A	
		GLSRL13	0 Ø	0 Ø	0 M	0 H	-	**A**	0,00	0,00	-	0 Ø	0 Ø	/	/	A	
		GLSRL14	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	22,51	53,41	+	4h+ Ø	2 H	+ (L. m)	+ (L. m)	P	
		GLSRL15	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 Ø	0 Ø	/	/	A	
		GLSRL16	0 Ø	0 Ø	0 Ø	0 Ø	-	**A**	0,00	0,00	-	0 Ø	0 H	/	/	A	
		GLSRL17	2h+ Ø	2 Ø	4h+ Ø	2 M	+ (L. m)	**P**	0,00	0,00	-	0 Ø	0 Ø	/	/	A	
		GLSRL18	0 Ø	0 L	0 M	0 M	-	**A**	24,24	53,31	+	4h+ Ø	4 L	+ (L. m)	+ (L. m)	P	
		GLSRL19	3h+ Ø	3 Ø	3h+ Ø	2 H	+ (L. m)	**P**	23,17	53,52	+	4h+ Ø	4 Ø	+ (L. m)	+ (L. m)	P	
		GLSRL20	2h+ Ø	3 Ø	3h+ Ø	2 M	+ (L. m)	**P**	0,00	0,00	-	0 M	0 H	/	/	A	
	1.8	GLSRH1	0 M	0 L	0 Ø	0 Ø	-	**A**	21,77	53,57	+	4h+ M	3 M	+ (L. m)	+ (L. m)	**P**	RM = 4/5 AM = 5/5
		GLSRH2	2h+ M	4 Ø	3h+ Ø	2 M	+ (L. m)	**P**	22,45	53,42	+	4h+ H	4 M	+ (L. m)	+ (L. m)	**P**	
		GLSRH3	3h+ M	4 Ø	4h+ Ø	1 H	+ (L. m)	**P**	20,27	53,43	+	4h+ H	4 M	+ (L. m)	+ (L. m)	**P**	
		GLSRH4	2h+ M	2 Ø	3h+ Ø	1 H	+ (L. m)	**P**	22,57	53,53	+	4h+ M	3 H	+ (L. m)	+ (L. m)	**P**	
		GLSRH5	3h+ M	3 Ø	3h+ Ø	4 Ø	+ (L. m)	**P**	21,94	53,24	+	4h+ H	4 M	+ (L. m)	+ (L. m)	**P**	

Dairy products

TVC before inoculation : 2.5x10^4 CFU/mL / TVC after cold storage: 5.0x10^5 CFU/mL

Matrix	Contamination level (CFU/25 g)	Sample ID	RM: NF EN ISO 11290-1						AM: GENE UP								Number of positive results per method
			Half Fraser		Fraser		Confirmation	Final result	GENE-UP			Conf. 1		Conf. 2	Conf. 3	Final result	
			ALOA	PALCAM	ALOA	PALCAM			CP	MP	Result	ALOA	PALCAM				
Raw milk	/	GLSRM01	0 L	0 L	0 Ø	0 Ø	/	**A**	0,00	0,00	-	0 L	0 H	/	/	A	RM = 0/5 AM = 0/5
		GLSRM02	0 L	0 L	0 L	0 L	/	**A**	0,00	0,00	-	0 L	0 M	/	/	A	
		GLSRM03	0 Ø	0 L	0 Ø	0 L	/	**A**	0,00	0,00	-	0 L	0 M	/	/	A	
		GLSRM04	0 Ø	0 L	0 L	0 L	/	**A**	0,00	0,00	-	0 L	0 H	/	/	A	
		GLSRM05	0 Ø	0 L	0 L	0 H	/	**A**	0,00	0,00	-	0 L	0 M	/	/	A	
	0.8	GLSRML1	2h- Ø	2 Ø	4h- Ø	4 Ø	+ (L. in)	**P**	0,00	0,00	-	0 L	0 L	/	/	A	RM = 7/20 AM = 6/20
		GLSRML2	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	0,00	0,00	-	0 L	0 H	/	/	A	
		GLSRML3	0 Ø	0 L	0 Ø	0 L	/	**A**	0,00	0,00	-	0 Ø	0 L	/	/	A	
		GLSRML4	0 Ø	0 L	0 Ø	0 L	/	**A**	30,75	59,25	+	3h- Ø	3 Ø	+ (L. in)	+ (L. in)	P	
		GLSRML5	0 Ø	0 L	0 Ø	0 L	/	**A**	0,00	0,00	-	0 L	0 H	/	/	A	
		GLSRML6	3h- Ø	3 Ø	3h- Ø	4 Ø	+ (L. in)	**P**	0,00	0,00	-	0 L	0 H	/	/	A	
		GLSRML7	2h- Ø	2 Ø	4h- Ø	4 Ø	+ (L. in)	**P**	0,00	0,00	-	0 L	0 L	/	/	A	
		GLSRML8	2h- Ø	2 Ø	3h- Ø	4 Ø	+ (L. in)	**P**	32,76	58,99	+	3h- Ø	3 M	+ (L. in)	+ (L. in)	P	
		GLSRML9	0 Ø	0 Ø	0 Ø	0 L	/	**A**	0,00	0,00	-	0 Ø	0 M	/	/	A	
		GLSRML10	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	0,00	0,00	-	0 Ø	0 H	/	/	A	
		GLSRML11	3h- Ø	2 Ø	4h- Ø	4 Ø	+ (L. in)	**P**	0,00	0,00	-	0 L	0 H	/	/	A	
		GLSRML12	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	0,00	0,00	-	0 L	0 M	/	/	A	
		GLSRML13	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	0,00	0,00	-	1h- L	0 M	-	-	A	
		GLSRML14	0 Ø	0 L	0 Ø	0 Ø	/	**A**	32,73	52,68	+	1h- L	1 M	+ (L. in)	+ (L. in)	P	
		GLSRML15	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	34,20	60,49	+	1h- L	2 L	+ (L. in)	+ (L. in)	P	
		GLSRML16	0 Ø	0 Ø	0 Ø	0 L	/	**A**	31,09	59,23	+	3h- Ø	3 L	+ (L. in)	+ (L. in)	P	
		GLSRML17	2h- Ø	2 Ø	4h- Ø	4 Ø	+ (L. in)	**P**	0,00	0,00	-	0 Ø	0 L	/	/	A	
		GLSRML18	0 Ø	0 L	0 Ø	0 Ø	/	**A**	0,00	0,00	-	0 L	0 M	/	/	A	
		GLSRML19	1h- Ø	1 Ø	3h- Ø	4 Ø	+ (L. in)	**P**	28,58	59,46	+	3h- Ø	4 L	+ (L. in)	+ (L. in)	P	
		GLSRML20	0 Ø	0 L	0 Ø	0 L	/	**A**	0,00	0,00	-	0 Ø	0 M	/	/	A	
	2.4	GLSRMH1	3h- Ø	3 Ø	4h- Ø	4 Ø	+ (L. in)	**P**	29,43	59,41	+	3h- Ø	3 Ø	+ (L. in)	+ (L. in)	**P**	RM = 5/5 AM = 5/5
		GLSRMH2	1h- Ø	1 Ø	4h- Ø	4 Ø	+ (L. in)	**P**	27,78	59,51	+	4h- Ø	3 M	+ (L. in)	+ (L. in)	**P**	
		GLSRMH3	2h- Ø	2 Ø	4h- Ø	4 Ø	+ (L. in)	**P**	27,03	59,49	+	3h- Ø	3 M	+ (L. in)	+ (L. in)	**P**	
		GLSRMH4	1h- Ø	1 Ø	3h- Ø	4 Ø	+ (L. in)	**P**	32,09	59,21	+	2h- Ø	2 L	+ (L. in)	+ (L. in)	**P**	
		GLSRMH5	1h- Ø	1 Ø	3h- Ø	3 Ø	+ (L. in)	**P**	29,65	59,39	+	3h- Ø	3 L	+ (L. in)	+ (L. in)	**P**	

Sea food products

TVC: 5,4 . 10^2 CFU / g

#	Matrix	Contamination level (CFU/25 g)	Sample ID	RM: NF EN ISO 11290-1						AM: GENE UP								Number of positive results per method
				Half Fraser		Fraser		Confir-mation	Final result	GENE UP result			Conf. 1		Conf. 2	Conf. 3	Final result	
				ALOA	PALCAM	ALOA	PALCAM			Result	CP	MP	ALOA	PALCAM				
1	Salmon offcuts	/	GLSSO1	0 Ø	0 Ø	0 L	0 H	/	A	-	0,00	0,00	0 M	0 M	/	/	A	RM = 0/5 AM = 0/5
2			GLSSO2	0 Ø	0 Ø	0 L	0 L	/	**A**	-	0,00	0,00	0 M	0 H	/	/	A	
3			GLSSO3	0 Ø	0 Ø	0 M	0 H	/	**A**	-	0,00	0,00	0 L	0 M	/	/	A	
4			GLSSO4	0 Ø	0 L	0 L	0 M	/	**A**	-	0,00	0,00	0 M	0 H	/	/	A	
5			GLSSO5	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	-	0,00	0,00	0 M	0 H	/	/	A	
1		0,9	GLSSO6	2h+ L	2L	3h+ L	2M	+ (L.m)	P	-	0,00	0,00	0L	0H	/	/	A	RM = 16/20 AM = 13/20
2			GLSSO7	2h+ L	2L	3h+ L	2M	+ (L.m)	P	-	0,00	0,00	0M	0H	/	/	A	
3			GLSSO8	3h+ L	2M	3h+ L	2H	+ (L.m)	P	+	22,98	53,18	4h+ Ø	4H	+ (L.m)	+ (L.m)	P	
4			GLSSO9	0 L	0L	0L	0L	/	**A**	+	26,16	52,54	4h+ Ø	3H	+ (L.m)	+ (L.m)	P	
5			GLSSO10	1h+ Ø	1L	3h+Ø	3L	+ (L.m)	P	-	0,00	0,00	0L	0M	/	/	A	
6			GLSSO11	1h+ M	1L	3h+ L	3H	+ (L.m)	P	+	28,93	52,53	4h+ Ø	3M	+ (L.m)	+ (L.m)	P	
7			GLSSO12	1h+ L	1L	3h+ Ø	3L	+ (L.m)	P	+	26,98	52,42	4h+ Ø	4h	+ (L.m)	+ (L.m)	P	
8			GLSSO13	1h+ Ø	1M	3h+Ø	3L	+ (L.m)	P	-	0,00	0,00	0Ø	0L	/	/	A	
9			GLSSO14	2h+ L	2L	3h+ Ø	3L	+ (L.m)	P	+	27,05	52,59	3h+ Ø	3M	+ (L.m)	+ (L.m)	P	
10			GLSSO15	2h+ Ø	2L	3h+ Ø	3L	+ (L.m)	P	+	26,57	52,55	3h+ Ø	3M	+ (L.m)	+ (L.m)	P	
11			GLSSO16	0L	0M	0H	0H	/	**A**	+	27,71	52,61	4h+ Ø	4L	+ (L.m)	+ (L.m)	P	
12			GLSSO17	0L	0M	0H	0H	/	**A**	+	22,87	53,50	4h+ Ø	3M	+ (L.m)	+ (L.m)	P	
13			GLSSO18	2h+ Ø	2L	3h Ø	3M	+ (L.m)	P	+	27,55	52,70	4h+ Ø	4M	+ (L.m)	+ (L.m)	P	
14			GLSSO19	0L	0H	0H	0H	/	**A**	-	0,00	0,00	0Ø	0H	/	/	A	
15			GLSSO20	2h+ Ø	2L	3h+ Ø	3M	+ (L.m)	P	+	26,03	52,48	4h+ Ø	4M	+ (L.m)	+ (L.m)	P	
16			GLSSO21	1h+ L	1H	3h+ Ø	3L	+ (L.m)	P	+	24,50	52,68	3h+ Ø	3M	+ (L.m)	+ (L.m)	P	
17			GLSSO22	3h+ L	2M	3h+ L	3M	+ (L.m)	P	+	23,65	52,76	3h+ Ø	3M	+ (L.m)	+ (L.m)	P	
18			GLSSO23	3h+ Ø	3L	3h+ Ø	3M	+ (L.m)	P	+	25,24	52,72	3h+ Ø	4M	+ (L.m)	+ (L.m)	P	
19			GLSSO24	3h+ L	3H	3h+ L	2H	+ (L.m)	P	-	0,00	0,00	0Ø	0H	/	/	A	
20			GLSSO25	3h+ L	3L	3h+ L	3H	+ (L.m)	P	-	0,00	0,00	0Ø	0H	/	/	A	
1		2,8	GLSSO26	3h+ Ø	3L	3h+ Ø	3L	+ (L.m)	**P**	+	24,93	52,70	4h+ Ø	4M	+ (L.m)	+ (L.m)	**P**	RM = 5/5 AM = 5/5
2			GLSSO27	2h+ L	2L	3h+ Ø	3L	+ (L.m)	**P**	+	24,01	52,78	4h+ Ø	4M	+ (L.m)	+ (L.m)	**P**	
3			GLSSO28	4h+ Ø	3L	3h+ Ø	3L	+ (L.m)	**P**	+	24,85	52,62	4h+ Ø	3M	+ (L.m)	+ (L.m)	**P**	
4			GLSSO29	3h+ Ø	3L	3h+ Ø	3L	+ (L.m)	**P**	+	22,72	52,67	4h+ Ø	4M	+ (L.m)	+ (L.m)	**P**	
5			GLSSO30	3h+ Ø	3L	3h+ Ø	3L	+ (L.m)	**P**	+	23,61	52,79	4h+ Ø	3M	+ (L.m)	+ (L.m)	**P**	

Vegetal products

TVC: <4,0 .10^1 CFU / g

#	Matrix	Contamination level (CFU/25 g)	Sample ID	RM: NF EN ISO 11290-1						AM: GENE UP								Number of positive results per method
				Half Fraser		Fraser		Confir-mation	**Final result**	GENE UP result			Conf. 1		Conf. 2	Conf. 3	Final result	
				ALOA	PALCAM	ALOA	PALCAM			Result	CP	MP	ALOA	PALCAM				
1	Mix of precooked vegetables	/	GLSMPV1	0 Ø	0 Ø	0 Ø	0 Ø	/	A	-	0,00	0,00	0 Ø	0 Ø	/	/	A	RM = 0/5 AM = 0/5
2			GLSMPV2	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	-	0,00	0,00	0 Ø	0 Ø	/	/	A	
3			GLSMPV3	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	-	0,00	0,00	0 Ø	0 Ø	/	/	A	
4			GLSMPV4	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	-	0,00	0,00	0 Ø	0 Ø	/	/	A	
5			GLSMPV5	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	-	0,00	0,00	0 Ø	0 Ø	/	/	A	
6		0.9	GLSMPV6	3h- Ø	3 Ø	4h- Ø	4 Ø	+ (L. se)	P	+	20,78	52,57	4h- Ø	4 Ø	+ (L. se)	+ (L. se)	P	RM = 13/20 AM = 12/20
7			GLSMPV7	0 Ø	0 Ø	0 Ø	0 H	/	A	+	26,93	52,37	4h- Ø	1 H	+ (L. se)	+ (L. se)	P	
8			GLSMPV8	0 Ø	0 L	0 L	0 M	/	A	+	20,71	52,50	4h- Ø	2 H	+ (L. se)	+ (L. se)	P	
9			GLSMPV9	4h- Ø	3 L	4h- Ø	3 Ø	+ (L. se)	P	+	23,98	52,62	4h- Ø	2 H	+ (L. se)	+ (L. se)	P	
10			GLSMPV10	0 Ø	0 L	0 Ø	0 M	/	A	+	28,99	52,48	3h- Ø	0 H	+ (L. se)	+ (L. se)	P	
11			GLSMPV11	3h- Ø	3 L	3h- Ø	3 Ø	+ (L. se)	P	+	23,64	52,67	4h- Ø	0 H	+ (L. se)	+ (L. se)	P	
12			GLSMPV12	3h- Ø	3 L	4h- Ø	4 Ø	+ (L. se)	P	-	0,00	0,00	0 M	0 H	/	/	A	
13			GLSMPV13	3h- Ø	3 Ø	3h- Ø	4 Ø	+ (L. se)	P	-	0,00	0,00	0 M	0 H	/	/	A	
14			GLSMPV14	3h- Ø	3 L	4h- Ø	3 L	+ (L. se)	P	+	22,90	52,64	4h- Ø	3 M	+ (L. se)	+ (L. se)	P	
15			GLSMPV15	0 Ø	0 L	0 L	0 L	/	A	-	0,00	0,00	0 L	0 Ø	/	/	A	
16			GLSMPV16	0 Ø	0 Ø	0 L	0 L	/	A	-	0,00	0,00	0 M	0 H	/	/	A	
17			GLSMPV17	3h- Ø	3 L	4h- Ø	4 Ø	+ (L. se)	P	-	0,00	0,00	0 M	0 H	/	/	A	
18			GLSMPV18	3h- Ø	3 Ø	4h- Ø	4 Ø	+ (L. se)	P	+	22,06	52,62	4h- Ø	3 M	+ (L. se)	+ (L. se)	P	
19			GLSMPV19	3h- Ø	4 L	4h- Ø	4 Ø	+ (L. se)	P	+	22,10	52,63	4h- Ø	1 H	+ (L. se)	+ (L. se)	P	
20			GLSMPV20	2h- Ø	2 Ø	4h- Ø	4 Ø	+ (L. se)	P	+	23,35	52,48	4h- Ø	1 H	+ (L. se)	+ (L. se)	P	
21			GLSMPV21	0 Ø	0 Ø	0 Ø	0 Ø	/	A	-	0,00	0,00	0 L	0 Ø	/	/	A	
22			GLSMPV22	3h- Ø	3 L	4h- Ø	4 L	+ (L. se)	P	-	0,00	0,00	0 L	0 H	/	/	A	
23			GLSMPV23	4h- Ø	4 L	4h- Ø	4 Ø	+ (L. se)	P	-	0,00	0,00	0 M	0 H	/	/	A	
24			GLSMPV24	0 Ø	0 Ø	0 Ø	0 Ø	/	A	+	22,94	52,55	4h- Ø	3 M	+ (L. se)	+ (L. se)	P	
25			GLSMPV25	4h- Ø	4 L	4h- Ø	4 Ø	+ (L. se)	P	+	30,70	52,52	3h- Ø	0 H	+ (L. se)	+ (L. se)	P	
26		1.6	GLSMPV26	3h- Ø	3 Ø	4h- Ø	4 Ø	+ (L. se)	**P**	-	0,00	0,00	0 Ø	0 Ø	/	/	**A**	RM = 4/5 AM = 3/5
27			GLSMPV27	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	+	24,04	52,74	4h- Ø	4 L	+ (L. se)	+ (L. se)	**P**	
28			GLSMPV28	3h- Ø	3 Ø	4h- Ø	4 Ø	+ (L. se)	**P**	-	0,00	0,00	0 Ø	0 Ø	/	/	**A**	
29			GLSMPV29	3h- Ø	3 L	4h- Ø	4 Ø	+ (L. se)	**P**	+	23,00	52,71	4h- Ø	4 Ø	+ (L. se)	+ (L. se)	**P**	
30			GLSMPV30	3h- Ø	3 Ø	4h- Ø	4 Ø	+ (L. se)	**P**	+	23,54	52,74	4h- Ø	4 Ø	+ (L. se)	+ (L. se)	**P**	

Composite foods

TVC: 7,4 . 10^2 CFU / g

#	Matrix	Contamination level (CFU/25 g)	Sample ID	RM: NF EN ISO 11290-1						AM: GENE UP								Number of positive results per method
				Half Fraser		Fraser		Confir-mation	**Final result**	GENE UP result			Conf. 1		Conf. 2	Conf. 3	Final result	
				ALOA	PALCAM	ALOA	PALCAM			Result	CP	MP	ALOA	PALCAM				
1	Mixed salad	/	GLSMS1	0 Ø	0 Ø	0 L	0 H	/	A	-	0,00	0,00	0 M	0 M	/	/	A	RM = 0/5 AM = 0/5
2			GLSMS2	0 Ø	0 Ø	0 L	0 L	/	**A**	-	0,00	0,00	0 M	0 H	/	/	A	
3			GLSMS3	0 Ø	0 Ø	0 M	0 H	/	**A**	-	0,00	0,00	0 L	0 M	/	/	A	
4			GLSMS4	0 Ø	0 L	0 L	0 M	/	**A**	-	0,00	0,00	0 M	0 H	/	/	A	
5			GLSMS5	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	-	0,00	0,00	0 M	0 H	/	/	A	
6		0,6	GLSMS6	2h- Ø	2 Ø	3h- Ø	4 Ø	+ (L. w)	P	-	0,00	0,00	0 L	0 H	/	/	A	RM = 5/20 AM = 8/20
7			GLSMS7	0 Ø	0 L	0 L	0 L	/	A	-	0,00	0,00	0 L	0 M	/	/	A	
8			GLSMS8	0 Ø	0 L	0 Ø	0 Ø	/	A	+	26,58	60,95	2h- M	0 H	+ (L. w)	+ (L. w)	P	
9			GLSMS9	0 Ø	0 L	0 L	0 M	/	A	-	0,00	0,00	0 M	0 M	/	/	A	
10			GLSMS10	0 Ø	0 L	0 Ø	0 Ø	/	A	-	0,00	0,00	0 H	0 H	/	/	A	
11			GLSMS11	0 Ø	0 L	0 L	0 L	/	A	+	24,32	60,94	4h- L	4 L	+ (L. w)	+ (L. w)	P	
12			GLSMS12	0 L	0 L	0 M	0 H	/	A	+	24,77	60,75	3h- L	3 H	+ (L. w)	+ (L. w)	P	
13			GLSMS13	0 Ø	0 L	0 L	0 M	/	A	-	0,00	0,00	0 M	0 H	/	/	A	
14			GLSMS14	0 Ø	0 L	0 L	0 H	/	A	-	0,00	0,00	0 L	0 M	/	/	A	
15			GLSMS15	0 Ø	0 L	0 L	0 M	/	A	+	30,75	60,25	1h- H	0 H	+ (L. w)	+ (L. w)	P	
16			GLSMS16	0 Ø	0 L	0 L	0 H	/	A	+	23,75	60,90	3h- H	3 H	+ (L. w)	+ (L. w)	P	
17			GLSMS17	2h- Ø	2 L	4h- Ø	4 Ø	+ (L. w)	P	-	0,00	0,00	0 L	0 M	/	/	A	
18			GLSMS18	0 Ø	0 L	0 L	0 H	/	A	-	0,00	0,00	0 M	0 H	/	/	A	
19			GLSMS19	0 L	0 L	0 L	0 M	/	A	+	23,97	60,96	3h- M	2 H	+ (L. w)	+ (L. w)	P	
20			GLSMS20	1h- Ø	1 Ø	3h- Ø	4 Ø	+ (L. w)	P	+	28,55	60,45	2h- M	0 H	+ (L. w)	+ (L. w)	P	
21			GLSMS21	0 Ø	0 L	0 Ø	0 Ø	/	A	+	24,67	60,83	3h- H	3 M	+ (L. w)	+ (L. w)	P	
22			GLSMS22	0 Ø	0 Ø	0 L	0 H	/	A	-	0,00	0,00	0 M	0 H	/	/	A	
23			GLSMS23	1h- L	1 L	3h- Ø	4 L	+ (L. w)	P	-	0,00	0,00	0 H	0 H	/	/	A	
24			GLSMS24	1h- Ø	1 L	3h- Ø	4 L	+ (L. w)	P	-	0,00	0,00	0 L	0 H	/	/	A	
25			GLSMS25	0 Ø	0 Ø	0 Ø	0 Ø	/	A	-	0,00	0,00	0 H	0 H	/	/	A	
26		1,6	GLSMS26	1h- Ø	1 L	3h- Ø	3 Ø	+ (L. w)	**P**	+	22,93	60,82	4h- Ø	3 M	+ (L. w)	+ (L. w)	**P**	RM = 4/5 AM = 4/5
27			GLSMS27	2h- Ø	1 Ø	3h- Ø	4 Ø	+ (L. w)	**P**	+	23,10	60,90	4h- Ø	3 H	+ (L. w)	+ (L. w)	**P**	
28			GLSMS28	0 Ø	1 L	0 M	0 M	-	**A**	+	30,84	60,41	2h- L	0 H	+ (L. w)	+ (L. w)	**P**	
29			GLSMS29	2h- Ø	2 Ø	3h- Ø	3 M	+ (L. w)	**P**	+	23,93	60,91	4h- L	3 M	+ (L. w)	+ (L. w)	**P**	
30			GLSMS30	1h- M	0 M	3h- Ø	3 M	+ (L. w)	**P**	-	0,00	0,00	0 H	0 H	/	/	**A**	

Environmental samples (specific protocol)

TVC: <10 CFU / g

#	Matrix	Contamination level (CFU/25 g)	Sample ID	RM: NF EN ISO 11290-1						AM: GENE UP								Number of positive results per method
				Half Fraser		Fraser		Confir-mation	Final result	GENE UP result			Conf. 1		Conf. 2	Conf. 3	Final result	
				ALOA	PALCAM	ALOA	PALCAM			Result	CP	MP	ALOA	PALCAM				
1	Swab	/	GLSSSO1	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	-	0,00	0,00	0Ø	0Ø	/	/	**A**	RM = 0/5 AM = 0/5
2			GLSSSO2	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	-	0,00	0,00	0Ø	0Ø	/	/	**A**	
3			GLSSSO3	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	-	0,00	0,00	0Ø	0Ø	/	/	**A**	
4			GLSSSO4	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	-	0,00	0,00	0Ø	0Ø	/	/	**A**	
5			GLSSSO5	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	-	0,00	0,00	0Ø	0Ø	/	/	**A**	
1		1,1	GLSSSO6	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	+	30,86	60,66	2h+Ø	2Ø	+ (L. iv)	+ (L. iv)	**P**	RM = 10/20 AM = 13/20
2			GLSSSO7	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	+	33,79	60,57	1h+Ø	1Ø	+ (L. iv)	+ (L. iv)	**P**	
3			GLSSSO8	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	+	32,71	60,63	2h+Ø	2Ø	+ (L. iv)	+ (L. iv)	**P**	
4			GLSSSO9	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	-	0,00	0,00	0Ø	0Ø	/	/	**A**	
5			GLSSSO10	2h+Ø	2Ø	3h+Ø	3Ø	+ (L. iv)	**P**	+	26,06	61,13	3h+Ø	3Ø	+ (L. iv)	+ (L. iv)	**P**	
6			GLSSSO11	0Ø	0Ø	0Ø	0Ø	/	**A**	-	0,00	0,00	0Ø	0Ø	/	/	**A**	
7			GLSSSO12	0Ø	0Ø	0Ø	0Ø	/	**A**	+	26,27	60,91	3h+Ø	3h+Ø	+ (L. iv)	+ (L. iv)	**P**	
8			GLSSSO13	0Ø	0Ø	0Ø	0Ø	/	**A**	+	29,54	60,79	3h+Ø	3h+Ø	+ (L. iv)	+ (L. iv)	**P**	
9			GLSSSO14	2h+Ø	3Ø	3h+Ø	4Ø	+ (L. iv)	**P**	+	24,54	60,92	4h+Ø	4h+Ø	+ (L. iv)	+ (L. iv)	**P**	
10			GLSSSO15	3h+Ø	2Ø	4h+Ø	3Ø	+ (L. iv)	**P**	+	27,18	60,67	3h+Ø	3h+Ø	+ (L. iv)	+ (L. iv)	**P**	
11			GLSSSO16	2h+Ø	2Ø	3h+Ø	3Ø	+ (L. iv)	**P**	-	0,00	0,00	0Ø	0Ø	/	/	**A**	
12			GLSSSO17	0Ø	0Ø	0Ø	0Ø	/	**A**	-	0,00	0,00	0Ø	0Ø	/	/	**A**	
13			GLSSSO18	2h+Ø	2Ø	3h+Ø	3Ø	+ (L. iv)	**P**	+	25,96	60,83	4h+Ø	4Ø	+ (L. iv)	+ (L. iv)	**P**	
14			GLSSSO19	3h-Ø	3Ø	3h+Ø	3Ø	+ (L. iv)	**P**	+	27,45	60,81	3h+Ø	4Ø	+ (L. iv)	+ (L. iv)	**P**	
15			GLSSSO20	2h-Ø	2Ø	3h+Ø	4Ø	+ (L. iv)	**P**	+	27,43	60,69	3h+Ø	3Ø	+ (L. iv)	+ (L. iv)	**P**	
16			GLSSSO21	1h-Ø	1Ø	3h+Ø	4Ø	+ (L. iv)	**P**	-	0,00	0,00	0Ø	0Ø	/	/	**A**	
17			GLSSSO22	0Ø	0Ø	0Ø	0Ø	/	**A**	+	25,71	61,09	3h+Ø	3h+Ø	+ (L. iv)	+ (L. iv)	**P**	
18			GLSSSO23	0Ø	0Ø	0Ø	□0Ø	/	**A**	-	0,00	0,00	0Ø	0Ø	/	/	**A**	
19			GLSSSO24	3h+Ø	3Ø	3h+Ø	3Ø	+ (L. iv)	**P**	-	0,00	0,00	0Ø	0Ø	/	/	**A**	
20			GLSSSO25	2h+Ø	2Ø	3h+Ø	4Ø	+ (L. iv)	**P**	+	29,64	60,64	3h+Ø	3Ø	+ (L. iv)	+ (L. iv)	**P**	
1		3	GLSSSO26	2h+Ø	2Ø	3h+Ø	3Ø	+ (L. iv)	**P**	+	24,91	60,96	3h+Ø	4Ø	+ (L. iv)	+ (L. iv)	**P**	RM = 5/5 AM = 5/5
2			GLSSSO27	2h+Ø	2Ø	3h+Ø	4Ø	+ (L. iv)	**P**	+	25,18	61,08	3h+Ø	3Ø	+ (L. iv)	+ (L. iv)	**P**	
3			GLSSSO28	2h+Ø	2Ø	3h+Ø	4Ø	+ (L. iv)	**P**	+	24,93	60,90	4h+Ø	4Ø	+ (L. iv)	+ (L. iv)	**P**	
4			GLSSSO29	2h+Ø	3Ø	3h+Ø	3Ø	+ (L. iv)	**P**	+	25,59	61,03	3h+Ø	4Ø	+ (L. iv)	+ (L. iv)	**P**	
5			GLSSSO30	1h+Ø	1Ø	3h+Ø	4Ø	+ (L. iv)	**P**	+	29,45	60,79	3h+Ø	3Ø	+ (L. iv)	+ (L. iv)	**P**	

Environmental samples (general protocol)

TVC: 5,4 . 10^2 CFU / g

#	Matrix	Contamination level (CFU/25 g)	Sample ID	RM: NF EN ISO 11290-1						AM: GENE UP								Number of positive results per method
				Half Fraser		Fraser		Confir-mation	**Final result**	GENE UP result			Conf. 1		Conf. 2	Conf. 3	Final result	
				ALOA	PALCAM	ALOA	PALCAM			Result	CP	MP	ALOA	PALCAM				
1	Process water	/	GLSPSO1	0 Ø	0 Ø	0 L	0 H	/	A	-	0,00	0,00	0 M	0 M	/	/	A	RM = 0/5 AM = 0/5
2			GLSPSO2	0 Ø	0 Ø	0 L	0 L	/	**A**	-	0,00	0,00	0 L	0 H	/	/	A	
3			GLSPSO3	0 Ø	0 Ø	0 M	0 H	/	**A**	-	0,00	0,00	0 L	0 M	/	/	A	
4			GLSPSO4	0 Ø	0 L	0 L	0 M	/	**A**	-	0,00	0,00	0 M	0 H	/	/	A	
5			GLSPSO5	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	-	0,00	0,00	0 L	0 H	/	/	A	
1		1,6	GLSPSO6	0 Ø	0 Ø	0 Ø	0 Ø	/	A	-	0,00	0,00	0L	0H	/	/	A	RM = 6/20 AM = 8/20
2			GLSPSO7	0 Ø	0 Ø	0 Ø	0 Ø	/	A	+	21,01	53,49	4h+Ø	4M	+ (L.m)	+ (L.m)	P	
3			GLSPSO8	0 Ø	0 Ø	0 Ø	0 Ø	/	A	-	0,00	0,00	0L	0H	/	/	A	
4			GLSPSO9	0 Ø	0 Ø	0 Ø	0 Ø	/	A	+	21,61	53,46	4h+Ø	4M	+ (L.m)	+ (L.m)	P	
5			GLSPSO10	3h+Ø	3Ø	4h+Ø	4Ø	+ (L.m)	**P**	-	0,00	0,00	0M	0H	/	/	A	
6			GLSPSO11	0Ø	0Ø	0Ø	0Ø	/	A	-	0,00	0,00	0M	0M	/	/	A	
7			GLSPSO12	4h+Ø	4Ø	4h+Ø	4Ø	+ (L.m)	**P**	-	0,00	0,00	0M	0H	/	/	A	
8			GLSPSO13	0Ø	0Ø	0Ø	0Ø	/	A	-	0,00	0,00	0L	0M	/	/	A	
9			GLSPSO14	3h+Ø	3Ø	3h+Ø	3Ø	+ (L.m)	**P**	+	19,89	53,57	4h+Ø	4M	+ (L.m)	+ (L.m)	P	
10			GLSPSO15	0Ø	0Ø	0Ø	0Ø	/	A	-	0,00	0,00	0L	0H	/	/	A	
11			GLSPSO16	3h+Ø	3Ø	3h+Ø	3Ø	+ (L.m)	**P**	+	22,74	53,58	4h+Ø	3M	+ (L.m)	+ (L.m)	P	
12			GLSPSO17	0 Ø	0 Ø	0 Ø	0 Ø	/	A	+	20,55	53,62	4h+Ø	4M	+ (L.m)	+ (L.m)	P	
13			GLSPSO18	0 Ø	0 Ø	0 Ø	0 Ø	/	A	-	0,00	0,00	0M	0H	/	/	A	
14			GLSPSO19	0 Ø	0 Ø	0 Ø	0 Ø	/	A	-	0,00	0,00	0M	0H	/	/	A	
15			GLSPSO20	3h+Ø	3Ø	3h+Ø	4Ø	+ (L.m)	**P**	+	27,13	53,35	3h+L	3H	+ (L.m)	+ (L.m)	P	
16			GLSPSO21	0 Ø	0 Ø	0 Ø	0 Ø	/	A	-	0,00	0,00	0L	0H	/	/	A	
17			GLSPSO22	3h+Ø	3Ø	0Ø	3Ø	+ (L.m)	**P**	-	0,00	0,00	0M	0H	/	/	A	
18			GLSPSO23	0 Ø	0 Ø	0 Ø	0 Ø	/	A	+	23,62	53,59	4h+Ø	3M	+ (L.m)	+ (L.m)	P	
19			GLSPSO24	0 Ø	0 Ø	0 Ø	0 Ø	/	A	+	19,65	53,67	4h+Ø	4M	+ (L.m)	+ (L.m)	P	
20			GLSPSO25	0 Ø	0 Ø	0 Ø	0 Ø	/	A	-	0,00	0,00	0H	0M	/	/	A	
1		4,4	GLSPSO26	3h+ Ø	4Ø	3h+ Ø	4Ø	+ (L.m)	**P**	-	0,00	0,00	0L	0H	/	/	**A**	RM = 2/5 AM = 2/5
2			GLSPSO27	0 Ø	0 Ø	0 Ø	0 Ø	/	**A**	-	0,00	0,00	0M	0H	/	/	**A**	
3			GLSPSO28	3h+Ø	4Ø	2h+Ø	0Ø	+ (L.m)	**P**	+	28,07	53,45	3h+Ø	1M	+ (L.m)	+ (L.m)	P	
4			GLSPSO29	0Ø	0Ø	0Ø	0Ø	/	**A**	+	23,79	53,57	4h+Ø	3M	+ (L.m)	+ (L.m)	P	
5			GLSPSO30	0Ø	0Ø	0Ø	0Ø	/	**A**	-	0,00	0,00	0M	0H	/	/	**A**	

Dairy products (Protocole ③)

Matrix : Raw cow milk

Strain : *Listeria monocytogenes* AFNL 102

Total viable count : 3800 CFU / mL

Contamination level (CFU/25 mL)	Sample ID	RM: NF EN ISO 11290-1 (#)						AM: GENE-UP LIS2					Number of positive results per method
		Half Fraser		Fraser		Confirmation	Final result	GENE UP result			Conf. 1	Final result	
		ALOA	PALCAM	ALOA	PALCAM			CP	MP	Result	ALOA		
0	1	-	-	-	-	/	-	-	-	-	-	-	RM = 0/5 AM = 0/5
	2	-	-	-	-	/	-	-	-	-	-	-	
	3	-	-	-	-	/	-	-	-	-	-	-	
	4	-	-	-	-	/	-	-	-	-	-	-	
	5	-	-	-	-	/	-	-	-	-	-	-	
1,3	6	+	-	+	+	+	+	32,67	52,89	+	+	+	11/20 RM 17/20 AM
	7	-	-	-	-	/	-	33,59	52,88	+	+	+	
	8	+	+	+	+	+	+	33,75	52,69	+	+	+	
	9	-	-	-	-	/	-	/	/	-	-	-	
	10	-	-	+	+	+	+	30,68	52,93	+	+	+	
	11	-	-	-	-	/	-	34,62	52,93	+	+	+	
	12	-	-	-	-	/	-	/	/	-	-	-	
	13	-	-	-	-	/	-	34,48	53,39	+	+	+	
	14	+	+	+	+	+	+	31,99	53,05	+	+	+	
	15	-	-	-	-	/	-	34,84	52,92	+	+	+	
	16	+	+	+	+	+	+	/	/	-	-	-	
	17	+	+	+	+	+	+	33,26	52,92	+	+	+	
	18	-	-	-	-	/	-	33,26	52,92	+	+	+	
	19	-	-	+	+	+	+	33,33	53,01	+	+	+	
	20	-	-	-	-	/	-	33,01	52,92	+	+	+	
	21	+	+	+	+	+	+	35,54	52,91	+	+	+	
	22	+	+	+	+	+	+	33,11	52,82	+	+	+	
	23	-	-	-	-	/	-	33,92	52,78	+	+	+	
	24	-	-	+	+	+	+	31,76	52,92	+	+	+	
	25	+	+	+	+	+	+	33,01	52,87	+	+	+	
3,6	26	+	+	+	+	+	+	33,95	52,97	+	+	+	4/5 RM 5/5 AM
	27	+	+	+	+	+	+	33,54	52,96	+	+	+	
	28	-	-	-	-	/	-	32,61	52,93	+	+	+	
	29	+	+	+	+	+	+	31,62	52,88	+	+	+	
	30	-	-	+	+	+	+	35,11	53,05	+	+	+	

APPENDIX 6

INCLUSIVITY/EXCLUSIVITY : RAW DATA

INCLUSIVITY (Enrichment in LPT broth)

INCLUSIVITY - *Listeria monocytogenes*

Number	Code	Microorganism	Origin	CP	MP	Result	Confirmation
1	LIS.4.12	*Listeria monocytogenes 1/2a*	smoked salmon	20,98	53,31	+	Positive
2	LIS.4.15	*Listeria monocytogenes 1/2a*	salmon tartare	21,17	53,51	+	Positive
3	LIS.4.16	*Listeria monocytogenes 1/2a*	swab	21,49	53,42	+	Positive
4	LIS.4.17	*Listeria monocytogenes 1/2a*	raw vegetables	21,36	53,51	+	Positive
5	LIS.4.20	*Listeria monocytogenes 1/2a*	bacon vegetables sandwich	20,88	53,21	+	Positive
6	LIS.4.29	*Listeria monocytogenes 1/2b*	Praliné	23,44	52,62	+	Positive
7	LIS.4.30	*Listeria monocytogenes 1/2b*	Raw turkey	20,65	52,58	+	Positive
8	LIS.4.31	*Listeria monocytogenes 1/2b*	Rollmops	19,62	53,56	+	Positive
9	LIS.4.32	*Listeria monocytogenes 1/2b*	Raw milk	24,02	52,51	+	Positive
10	LIS.4.33	*Listeria monocytogenes 1/2c*	Minced meat	22,85	53,53	+	Positive
11	LIS.4.34	*Listeria monocytogenes 1/2c*	Gouda	24,29	53,57	+	Positive
12	LIS.4.37	*Listeria monocytogenes 1/2c*	Duck foie gras	22,06	53,62	+	Positive
13	LIS.4.39	*Listeria monocytogenes 1/2c*	Salmon tartare	23,11	53,67	+	Positive
14	LIS.4.42	*Listeria monocytogenes 3a*	Smoked salmon	19,97	53,69	+	Positive
15	LIS.4.43	*Listeria monocytogenes 3a*	Sliced bacon	19,83	53,54	+	Positive
16	LIS.4.44	*Listeria monocytogenes 3a*	Swab	21,76	53,63	+	Positive
17	LIS.4.46	*Listeria monocytogenes 3a*	Goat cheese sandwich	21,93	53,51	+	Positive
18	LIS.4.47	*Listeria monocytogenes 4b*	Salmon slices	21,76	53,59	+	Positive
19	LIS.4.50	*Listeria monocytogenes 4b*	Salmon swab	22,10	53,00	+	Positive
20	LIS.4.51	*Listeria monocytogenes 4c*	CIP 7839	21,30	51,60	+	Positive

INCLUSIVITY - *Listeria* spp other than *Listeria monocytogenes*

Number	Code	Microorganism	Origin	CP	MP	Result	Confirmation
1	LIS.2.1	*Listeria innocua*	Vegetables sandwich	17,33	64,70	+	Positive
2	LIS.2.2	*Listeria innocua*	Bacon vegetables sandwich	19,35	64,35	+	Positive
3	LIS.2.3	*Listeria innocua*	Door swab	27,85	64,62	+	Positive
4	LIS.2.6	*Listeria innocua*	Pork	29,70	64,39	+	Positive
5	LIS.2.7	*Listeria innocua*	Chicken bacon sandwich	21,77	59,85	+	Positive
6	LIS.2.8	*Listeria innocua*	Beef tongue	26,21	59,90	+	Positive
7	LIS.2.9	*Listeria innocua*	Minced meat	21,78	60,04	+	Positive
8	LIS.2.11	*Listeria innocua*	milk filter	19,84	59,91	+	Positive
9	LIS.2.12	*Listeria innocua*	Raw milk	19,98	59,99	+	Positive
10	LIS.3.1	*Listeria ivanovii*	Raw milk	24,68	64,85	+	Positive
11	LIS.3.2	*Listeria ivanovii*	CTSCCV	28,83	55,22	+	Positive
12	LIS.3.3	*Listeria ivanovii*	CIP 78.42	20,60	59,87	+	Positive
13	LIS.3.4	*L. ivanovii subsp. Londoniensis*	CIP 103505	28,50	59,50	+	Positive
14	LIS.3.5	*Listeria ivanovii*	Sheep milk	23,09	60,95	+	Positive
15	LIS.3.6	*Listeria ivanovii*	Cheese	30,01	55,05	+	Positive
16	LIS.3.7	*Listeria ivanovii*	Lardons	21,14	59,19	+	Positive
17	LIS.3.8	*Listeria ivanovii*	Slices of pasteurized milk cheese	20,13	58,96	+	Positive
18	LIS.5.1	*Listeria seeligeri*	CIP 79.46	30,33	59,72	+	Positive
19	LIS.5.2	*Listeria seeligeri*	CTSCCV	24,22	59,88	+	Positive
20	LIS.5.3	*Listeria seeligeri*	Goat milk filter	26,67	59,76	+	Positive
21	LIS.5.5	*Listeria seeligeri*	Smoked salmon	19,75	59,99	+	Positive
22	LIS.5.6	*Listeria seeligeri*	Smoked halibut	23,41	58,76	+	Positive
23	LIS.5.7	*Listeria seeligeri*	Swordfish	21,58	58,82	+	Positive
24	LIS.5.8	*Listeria seeligeri*	Seafood terrine	23,46	59,18	+	Positive
25	LIS.5.4	*Listeria seeligeri*	Crème pâtissière	25,67	58,53	+	Positive
26	LIS.6.1	*Listeria welshimeri*	CIP 81.48	26,83	59,75	+	Positive
27	LIS.6.2	*Listeria welshimeri*	CIP 81.94 T	26,86	60,84	+	Positive
28	LIS.6.3	*Listeria welshimeri*	CTSCCV	22,69	60,81	+	Positive
29	LIS.6.4	*Listeria welshimeri*	Dairy product	24,64	59,83	+	Positive
30	LIS.6.6	*Listeria welshimeri*	Nem chua	23,54	60,79	+	Positive

EXCLUSIVITY

Number	Code	Microorganism	Origin	CP	MP	Result
1	BAC.1.1	*Bacillus cereus*	Dairy industry	0,00	0,00	-
2	BAC.1.12	*Bacillus cereus*	Viande sous vide	0,00	0,00	-
3	BAC.2.1	*Bacillus circulans*	Dairy industry	0,00	0,00	-
4	BAC.4.1	*Bacillus subtilis*	Pudding	0,00	0,00	-
5	BAC.5.2	*Bacillus licheniformis*	Meat product	0,00	0,00	-
6	BAC.6.1	*Bacillus megaterium*	Ham sandwich	0,00	0,00	-
7	BAC.7.1	*Bacillus mycoides*	Fermented milk	0,00	0,00	-
8	BAC.8.1	*Bacillus pumilus*	Fermented milk	0,00	0,00	-
9	BRE.1.1	*Brevibacterium casei*	Dairy product	0,00	0,00	-
10	BRO.1.1	*Brochotrix campestris*	CIP 102420	0,00	0,00	-
11	BRO.2.1	*Brochotrix thermosphacta*	CIP 103251	0,00	0,00	-
12	COR.1.1	*Corynaebacterium spp*	Spinach	0,00	0,00	-
13	CAR.1.1	*Carnobacterium divergens*	Rump of beef	0,00	0,00	-
14	CAR.1.2	*Carnobacterium maltaromaticum*	Pork scallop	0,00	0,00	-
15	ENTC.1.2	*Enterococcus faecalis*	ATCC 33186	0,00	0,00	-
16	ENTC.2.1	*Enterococcus faecium*	Dairy industry	0,00	0,00	-
17	LACB.1.1	*Lactobacillus casei*	Dairy product	0,00	0,00	-
18	LACB.3.1	*Lactobacillus leishmanii*	CIP 53.61	0,00	0,00	-
19	LACT.1.1	*Lactococcus lactis*	Raw milk cheese	0,00	0,00	-
20	LEU.1.1	*Leuconostoc spp*	Beef meat	0,00	0,00	-
21	MIC.1.1	*Micrococcus luteus*	Dairy industry	0,00	0,00	-
22	PED.1.1	*Pediococcus pentosaceus*	Unknown	0,00	0,00	-
23	RHO.1.1	*Rhodococcus equi*	CIP 58.69	0,00	0,00	-
24	STA.1.7	*Staphylococcus aureus*	Environnement biscuiterie	0,00	0,00	-
25	STA.1.10	*Staphylococcus aureus*	Cookie dough	0,00	0,00	-
26	STA.7.1	*Staphylococcus hiycus*	Cookie dough	0,00	0,00	-
27	STA.2.1	*Staphylococcus epidermidis*	Dairy product	0,00	0,00	-
28	STA.3.1	*Staphylococcus haemolyticus*	Contact Petri dish	0,00	0,00	-
29	STR.1.1	*Streptococcus bovis*	Milk	0,00	0,00	-
30	LIS.1.1	*Listeria grayi*	CIP 105447T	0,00	0,00	-

INCLUSIVITY 2021 (Enrichment in LX broth)

INCLUSIVITY										
N°	Reference		Strain	Serovar	Origin	Inoculation level (CFU/225mL)	GENE-UP result with protocol ③			
							CP	MP	Result	Confirmation
1	AFNL	83	*L. monocytogenes*	IIc	goat cheese	47	19	53,26	+	+ (H+)
2	AFNL	84	*L. monocytogenes*	Ivb	garlic sausage	61	18,7	52,69	+	+ (H+)
3	AFNL	85	*L. monocytogenes*	IIa	sausage	55	18,58	53,13	+	+ (H+)
4	AFNL	86	*L. monocytogenes*	IIa	chicken fillet	40	19,17	53,25	+	+ (H+)
5	AFNL	87	*L. monocytogenes*	IIa	goat milk	46	19,1	53,35	+	+ (H+)
6	AFNL	88	*L. monocytogenes*	IIa	Valençay (goat cheese)	84	18,02	53,03	+	+ (H+)
7	AFNL	89	*L. monocytogenes*	IIa	Pork filet mignon	51	18,3	53	+	+ (H+)
8	AFNL	90	*L. monocytogenes*	IIa	ground steak	61	18,93	53,3	+	+ (H+)
9	AFNL	91	*L. monocytogenes*	Ivb	Duck rilettes	44	/	52,73	+	+ (H+)
10	AFNL	92	*L. monocytogenes*	IIa	Pork terrine	36	18,94	53,19	+	+ (H+)
11	AFNL	93	*L. monocytogenes*	Ivb	pastry	52	20,33	52,56	+	+ (H+)
12	AFNL	94	*L. monocytogenes*	IIa	Sushi shrimp	26	18,86	53,16	+	+ (H+)
13	AFNL	95	*L. monocytogenes*	IIa	Potato / salmon	46	18,81	53,14	+	+ (H+)
14	AFNL	96	*L. monocytogenes*	IIa	Tuna endive salad	48	18,43	52,72	+	+ (H+)
15	AFNL	97	*L. monocytogenes*	Ivb	Beet	56	15,57	52,51	+	+ (H+)
16	AFNL	98	*L. monocytogenes*	IIa	pastry	53	18,53	53,23	+	+ (H+)
17	AFNL	99	*L. monocytogenes*	IIa	process water	39	/	52,89	+	+ (H+)
18	AFNL	100	*L. monocytogenes*	Ivb	Tailandaise salad	43	19,17	5309	+	+ (H+)
19	AFNL	101	*L. monocytogenes*	IIa	Minestrone	34	18,77	53,38	+	+ (H+)
20	AFNL	102	*L. monocytogenes*	IIa	Milk	32	19,33	53,25	+	+ (H+)
21	AFNL	133	*L. innocua*		cloth	44	18,28	58,36	+	+
22	AFNL	134	*L. innocua*		goat milk	36	18,47	59,88	+	+
23	AFNL	135	*L. ivanovii*		Beef	38	22,1	55,35	+	+ (H+)
24	AFNL	136	*L. ivanovii*		goat milk	29	22,53	55,1	+	+ (H+)
25	AFNL	137	*L. ivanovii*		goat milk	22	/	53,91	+	+ (H+)
26	AFNL	138	*L. innocua*		goat milk	48	18,45	60,02	+	+
27	AFNL	139	*L. innocua*		cloth	24	18,66	59,88	+	+
28	AFNL	140	*L. ivanovii*		lamb	11	26,85	55,21	+	+ (H+)
29	AFNL	141	*L. ivanovii*		Halal meat	23	25,89	55,25	+	+ (H+)
30	AFNL	142	*L. welshimeri*		cloth	35	18,97	60,8	+	+
31	AFNL	143	*L. ivanovii*		Merguez	25	25,14	55,07	+	+ (H+)
32	AFNL	144	*L. innocua*		cloth	31	19,3	59,1	+	+
33	AFNL	145	*L. innocua*		Compost	54	18,61	59,9	+	+
34	AFNL	146	*L. welshimeri*		cloth	57	17,92	60,94	+	+
35	AFNL	147	*L. ivanovii*		lamb	28	20,62	54,94	+	+ (H+)
36	AFNL	148	*L. ivanovii*		lamb	10	25,02	55,26	+	+ (H+)
37	AFNL	149	*L. ivanovii*		Veal	12	25,18	55,15	+	+ (H+)
38	AFNL	150	*L. ivanovii*		Veal stuffing	17	25,25	55,07	+	+ (H+)
39	AFNL	151	*L. welshimeri*		Fich	30	18,99	60,78	+	+
40	AFNL	152	*L. welshimeri*		Ground beef	33	18,11	60,67	+	+
41	AFNL	153	*L. welshimeri*		Beef	32	22,28	60,64	+	+
42	AFNL	154	*L. welshimeri*		Tartar	43	18,48	60,96	+	+
43	AFNL	155	*L. welshimeri*		Soubressade	45	18,99	60,81	+	+
44	AFNL	156	*L. innocua*		Offal	28	18,48	59,88	+	+

INCLUSIVITY											
N°	Reference		Strain	Serovar	Origin	Inoculation level (CFU/225mL)	GENE-UP result with protocol ③			
							CP	MP	Result	Confirmation
45	AFNL	157	*L. welshimeri*		Ground beef	31	23,43	60,94	+	+
46	AFNL	158	*L. seeligeri*		Beef	34	21,18	59,64	+	+
47	AFNL	159	*L. seeligeri*		Hay	39	21,68	59,63	+	+
48	AFNL	160	*L. ivanovii*		goat milk	21	23,46	55,16	+	+ (H+)
49	AFNL	161	*L. ivanovii*		Environment	18	24,35	59,64	+	+ (H+)
50	AFNL	162	*L. seeligeri*		milk	32	19,75	59,59	+	+

APPENDIX 7

PERFORMANCE OF THE UNIT DOSE KIT

Caption :

CP:	Crossing point
MP:	Melting point
I:	Inhibition
-:	Negative result
+:	Positive result
-(1/3):	Negative result after dilution 1/3
+ (1/3):	Positive result after dilution 1/3
ST:	Sample Type
SN:	Sample number

MEAT PRODUCTS			Previous validation study			Extension study 2018						Comparison between 1) and 2)
ST	SN	Sample	AM: GENE UP after storage of the lysates 3 days at 5°C			1) AM: GENE UP Current kit/software 2.0			2) AM: GENE UP New kit/software 3.0			
			CP	MP	GENE UP result	CP	MP	GENE UP result	CP	MP	GENE UP result	
b+	GL1	Chair à saucisse	29,04	52,92	+	29.10	53,40	+	29.03	51.08	+	=
b+	GL2	Canard laqué (cuit)	23,53	52,46	+	23.19	52.88/60.88	+	23.35	51.18	+	=
b+	GL3	Nem Chua (préparation crue)	32,10	52,95	+	32.55	51.74	+	33.51	51.37	+	=
b+	GL4	Canard pipa (cuit)	21,03	60,73	+	20.5	60,70	+	21.56	60.70	I/+ (1/3)	=
a+	GL5	Cuisse de poulet sans os ni peau (cru/surgelé)	22,10	53,22	+	21.86	52.37	+	20.96	51.62	+	=
b+	GL6	Canard laqué (cru)	23,59	60,29	+	23.31	60.08	+	23.09	59.52	+	=
c+	GL7	Jambon avec couenne	21,36	52,10	+	19.94	51.79	+	19.76	58.88	+	=
a+	GL8	Ailes de canard (cru)	20,80	52,81	+	20.86	52.92	+	20.31	51.69	+	=
b+	GL9	Canard laqué (cuit)	20,44	52,38	+	19.9	52.25	+	20.23	51.08	+	=
b+	GL10	Canard laqué (cru)	25,18	60,62	+	25.18	60.7	+	25.20	59.50	+	=
b+	GL11	Rillettes de porc	20,55	52,65	+	19.82	52.62	+	20.03	51.58	+	=
a+	GL12	Cartilage de porc (cru)	25,79	52,92	+	24.9	53.11	+	25.46	51.92	+	=
b+	GL13	Saucisse fraîche sous vide	27,68	53,32	+	26.82	53.43	+	26.92	52.48	+	=
c+	GL14	Volaille fumée tranchée	20,56	53,25	+	20.54	53.5	+	20.44	52.03	+	=
c-	GL15	Jambon supérieur avec couenne	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL16	Poulet (cru)	19,92	53,19	+	20.26	53.56	+	19.76	52.33	+	=
c+	GL17	Bloc de veau fumé	33,99	53,37	+	0.00	0.00	-	0.00	0.00	-	=
b+	GL18	Steak hâché bœuf haricots verts	26,67	59,59	+	25.91	59.13	+	28.11	57.55	+	=
c+	GL19	Saucisson à l'ail sec	33,84	52,36	+	32.18	52.6	+	34.02	52.02	+	=
b+	GL20	Bouchée au poulet (cru)	24,50	52,89	+	23.79	53.19	+	23.79	57.88	+	=
b+	GL21	Veau vallée d'ange mixé (cuit)	20,57	52,56	+	20.15	52.77	+	19.81	52.21	+	=
a-	GL22	Pieds de porc (cuits)	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL23	Pâté au poulet (transformé cru)	24,32	52,72	+	23.80	53.10	+	24.33	51.75	+	=
b+	GL24	Steak hâché aux oignons (surgelé)	30,97	60,13	+	30.07	60.76	+	33.44	58.91	+	=
a+	GL25	Gigot d'agneau sans os (cru)	31,18	58,53	+	32.06	58.66	+	31.98	56.30	+	=
a+	GL26	Escalope de veau (cru)	27,49	59,49	+	29.56	60.08	+	29.49	58.09	+	=
a+	GL27	Côte d'échine de porc (cru)	25,58	59,64	+	26.45	59.68	+	26.42	58.27	+	=
a+	GL28	Filet de porc sans os (cru)	29,93	59,36	+	30.20	59.88	+	30.76	58.26	+	=
c+	GL29	Lardons fumés	25,71	59,43	+	26.25	59.62	+	26.83	58.28	+	=
c+	GL30	Bacon fumé	26,57	52,87	+	26.84	52.92	+	26.69	51.47	+	=
c-	GL31	Jambon sec fumé	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL32	Saucisses de Montbéliard (à cuire)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL39	Escalope marinée de dinde (cru)	27,26	60,85	+	27.57	60.89	+	26.77	60.22	+	=
c-	GL40	Jambon supérieur sans couenne	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL41	Jambon supérieur avec couenne	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL42	Blanc de poulet	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL43	Blanc de dinde	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL44	Rôti de porc (cuit)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL45	Mousse de canard au porto	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL46	Rillettes de poulet rôti	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL47	Escalope de dinde (cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL48	Escalope de poulet (cru)	27,93	59,25	+	27.16	59.11	+	27.73	58.32	+	=

MEAT PRODUCTS

ST	SN	Sample	Previous validation study			Extension study 2018						Comparison between 1) and 2)
			AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP Current kit/software 2.0			AM: GENE UP New kit/software 3.0			
			CP	MP	GENE UP result	CP	MP	GENE UP result	CP	MP	GENE UP result	
b+	GL49	Agneau sans os à griller (cru)	33,19	55,10	+	32.96	55.36	+	34.60	54.87	+	=
a+	GL50	Gigot d'agneau (cru)	34,03	35,03	+	32.96	55.30	+	34.74	54.75	+	=
b-	GL51	Steak hâché pur bœuf	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL52	Filet de porc sans os (cru)	32,88	60,27	+	32.51	60.47	+	33.28	60.06	+	=
a-	GL53	Bavette de bœuf (cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL54	Rumsteak de cheval (cru)	30,14	52,33	+	29.55	52.4	+	29.98	52.3	+	=
b+	GL55	Médaillon de filet mignon dinde	29,86	59,91	+	29.92	60.26	+	29.84	59.83	+	=
c+	GL56	Saucisses fumées	28,19	59,45	+	28.18	59.40	+	27.73	59.20	+	=
c-	GL57	Lardons allumettes fumées	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL58	Terrine de campagne (porc)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL59	Salami fumé (porc)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL60	Filet de bacon fumé	32,27	60,26	+	31.77	60.48	+	40.00	58.41	+	=
b-	GL61	Mini knacks pur porc	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL62	Rillettes du Mans pur porc	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL135	Bœuf cru mariné (huile de noix)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL136	Bœuf cru mariné (huile d'olive)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL137	Bœuf cru mariné (parmesan)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL138	Filet mignon de dinde (cru)	21,21	59,50	+	22.05	60.00	+	21.76	59.74	+	=
a+	GL139	Escalope de dinde (cru)	25,98	60,54	+	27.72	61.02	+	27.47	60.75	+	=
a-	GL140	Filet de poulet (cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL141	Escalope de poulet (cru)	23,47	52,44	+	24.18	59.82	+	23.90	59.11	+	=
a+	GL142	Filet de tournedos (cru)	28,47	60,62	+	29.47	61.11	+	29.82	60.53	+	=
a-	GL143	Bavette d'aloyau (cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL144	Collier d'agneau (cru)	29,20	53,03	+	29.90	53.14	+	29.91	59.49	+	=
a-	GL145	Filet de bœuf (cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL146	Viande de bœuf (cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL147	Rumsteak de bœuf (cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL148	Faux filet de cheval (cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL149	Cheval tranché (cru)	28,46	59,65	+	28.2	59.73	+	28.11	59.08	+	=
a+	GL150	Epaule d'agneau (cru)	30,47	52,88	+	31.21	53.68	+	31.05	59.52	+	=
a+	GL151	Pavé de veau (cru)	27,46	60,49	+	28.68	61.36	+	28.50	60.75	+	=
a-	GL152	Entrecôte de bœuf (cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL153	Viande de porc (cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL154	Côte d'échine de porc (cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL155	Côtes d'agneau (cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL156	Côte de veau (cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL157	Côte de porc (cru)	32,04	60,11	+	33.03	60.69	+	33.83	60.02	+	=
a+	GL158	Travers de porc (cru)	29,65	60,32	+	30.59	60.96	+	30.52	60.56	+	=
a+	GL159	Tournedos de bœuf (cru)	26,45	53,15	+	28.14	53.59	+	27.77	52.34	+	=
a+	GL160	Filet mignon de dinde (cru)	21,80	59,55	+	22.51	59.87	+	21.98	59.04	+	=
c+	GL161	Speck	25,68	59,85	+	26.21	59.78	+	24.64	59.53	+	=
c-	GL162	Salami fumé (porc)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL163	Jambon supérieur sans couenne	27,65	53,33	+	27.76	53.66	+	27.99	52.62	+	=
c+	GL164	Jambon supérieur avec couenne	23,69	53,37	+	24.19	53.78	+	24.02	52.38	+	=

DAIRY PRODUCTS

ST	SN	Sample	Previous validation study			Extension study 2018						Comparison between 1) and 2)
			AM: GENE UP after storage of the lysates 3 days at 5°C			1) AM: GENE UP Current kit/software 2.0			2) AM: GENE UP New kit/software 3.0			
			CP	MP	GENE UP result	CP	MP	GENE UP result	CP	MP	GENE UP result	
a+	GL33	Fromage au lait cru 1	0,00	0,00	-	0.00	53,40	-	0.00	0.00	-	=
a-	GL34	Fromage au lait cru 2	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL35	Fromage au lait cru 3	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL36	Fromage au lait cru 4	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL37	Beurre de baratte	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL38	Lait pasteurisé	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL63	Glace vanille 1	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL64	Glace caramel	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL65	Glace chocolat 1	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL66	Fromage à tartiner (lait pasteurisé)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL67	Montagnolo (fromage - pasteurisé - vache)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL68	Tomme de Savoie (fromage - cru - vache)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL69	Comté (fromage - cru- vache)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL70	Cœur de chèvre (fromage - cru chèvre)	0,00	0,00	-	I/0.00	I/0.00	I/- (1/3)	I/0.00	I/0.00	I/- (1/3)	=
a-	GL71	L a croseta (fromage - cru - chèvre)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL72	Tzatziki	29,85	59,58	+	30.11	59.28	+	29.73	59.05	+	=
c-	GL73	Fromage à tartiner ail et fines herbes	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL74	Truite et carré frais	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL75	Boisson au lait (fraise)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL76	Boisson au lait (chocolat)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL77	Yaourt nature	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL78	Emmental bio 1 (fromage - cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL79	Salers (lait cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL80	Brie de Meaux (lait cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL81	Neuchâtel fermier (fromage - cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL82	Petit camembert (fromage - cru - vache)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL83	Beurre doux (lait pasteurisé)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL84	Crème dessert aux œufs et caramel	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL85	Cabécou bio 1 (fromage - cru - chèvre)	0,00	0,00	-	I/0.00	I/0.00	I/- (1/3)	0.00	0.00	-	=
b-	GL86	Lait ribot fermenté	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL87	Lait fermenté ribot maigre 1	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL88	Lait fermenté ribot maigre 2	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL89	Lait microfiltré 1	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL90	Lait microfiltré 2	28,64	59,72	+	28.85	59.71	+	28.51	59.48	+	=
b-	GL91	Lait cru de vache jersiaise	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL92	Beurre cru de vache jersiaise	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL93	Beurre de baratte cru doux	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL94	Beurre de baratte cru demi-sel	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL95	Glace nougat	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL96	Glace vanille 2	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL97	Glace chocolat 2	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL98	Tzatziki	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL99	Fromage à tartiner ail et fines herbes	21,82	53,70	+	21.86	53.87	+	21.59	53.51	+	=

DAIRY PRODUCTS			Previous validation study			Extension study 2018						Comparison between 1) and 2)
ST	SN	Sample	AM: GENE UP after storage of the lysates 3 days at 5°C			1) AM: GENE UP Current kit/software 2.0			2) AM: GENE UP New kit/software 3.0			
			CP	MP	GENE UP result	CP	MP	GENE UP result	CP	MP	GENE UP result	
c+	GL100	Fromage à tartiner (lait pasteurisé)	23,09	53,70	+	31.00	53.41	+	22.81	53.36	+	=
c+	GL101	Yaourt nature (lait pasteurisé)	22,31	53,58	+	24.99	53.63	+	21.32	53.76	+	=
c+	GL102	Montagnolo (fromage - pasteurisé - vache)	21,32	53,57	+	22.89	53.85	+	22.19	53.64	+	=
a+	GL103	Emmental bio 2 (fromage - cru)	22,26	53,68	+	23.56	54.07	+	21.85	53.37	+	=
a+	GL104	Tomme de Savoie (fromage - cru - vache)	28,31	53,28	+	27.89	53.76	+	28.43	52.75	+	=
a+	GL105	Comté (fromage - cru- vache)	20,91	53,64	+	20.96	54.09	+	20.53	53.27	+	=
a+	GL106	Cœur de chèvre (fromage - cru chèvre)	25,85	53,60	+	26.03	53.99	+	27.80	53.22	+	=
a+	GL107	La croseta (fromage - cru - chèvre)	31,80	53,48	+	33.45	53.81	+	34.24	53.04	+	=
a+	GL108	Neuchâtel fermier (fromage - cru)	31,08	53,24	+	0.00/35.62/ 34.88	0.00/53.56/ 53.89	-	30.59	53.42	+	≠/=/=
a+	GL109	Petit camembert (fromage - cru - vache)	34,49	53,44	+	25.86	52.15	+	24.87	53.44	+	=
b+	GL110	Lait fermenté ribot	25,68	53,54	+	25.95	53.05	+	25.05	53.19	+	=
c+	GL111	Saveur du maquis (fromage - pasteurisé- brebis)	29,91	59,37	+	31.45	59.81	+	31.14	59.46	+	=
a+	GL112	Cantal (fromage - cru - vache)	29,94	59,34	+	29.60	59.59	+	29.75	59.45	+	=
a+	GL113	Abondance fermier (fromage - cru vache)	25,24	59,71	+	25.33	59.85	+	24.73	59.44	+	=
c+	GL114	Corsica (fromage - pasteurisé - brebis)	33.46	60.46	+	0,00	0,00	-	0,00	0,00	-	=
c+	GL115	Fromage blanc nature (pasteurisé - vache)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL116	Munster (fromage - pasteurisé - vache)	34,29	53,19	-	0.00	0.00	-	0,00	0,00	+	=
c+	GL117	Lingot d'or (fromage - pasteurisé- vache)	32,78	54,84	+	32.08	55.59	+	33.68	54.91	+	=
a+	GL118	Emmental Savoie (fromage - cru- vache)	32,47	55,06	+	31.99	55.72	+	32.69	55.26	+	=
a-	GL119	Le rondin (fromage - cru - chèvre)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL120	Rocamadour (fromage - cru - chèvre)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL121	Moulis artisanal (fromage - cru- vache)	35,88	59,17	+	0.00/38.56/ 38.96	0.00/59.65/ 59.24	-	36.43	59.11	+	≠/=/=
a-	GL122	Cabri de touraine (fromage - cru - chèvre)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL123	Cabri de touraine cendré (fromage - cru - chèvre)	33,84	53,25	+	33.70	53.40	+	34.79	52.65	+	=
b+	GL124	Beurre cru jersiaise (lait cru)	26,64	53,37	+	28.11	53.43	+	27.03	52.52	+	=
b+	GL125	Beurre de baratte doux (lait cru)	28,82	53,30	+	29.30	53.50	+	28.58	52.80	+	=
b+	GL126	Beurre de baratte demi-sel (lait cru)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL127	Mascarpone	22,15	53,39	+	25.82	53.50	+	22.99	52.99	+	=
b+	GL128	Lait ribot maigre fermenté	26,58	52,92	+	28.54	53.03	+	26.29	50.36	+	=
c+	GL129	Lait demi-écrémé (pasteurisé)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL130	Lait demi-écrémé microfiltré	29,15	53,00	+	29.83	53.49	+	29.59	52.45	+	=
b+	GL131	Lait frais bio microfiltré	26,67	53,29	+	27.75	53.72	+	26.72	52.85	+	=
c+	GL132	Lait frais de vache jersiaise	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL133	Lait ribot fermenté	27,78	53,23	+	28.99	53.79	+	28.00	52.81	+	=
b+	GL134	Lait ribot fermenté	25,71	53,14	+	27.03	53.94	+	26.75	52.68	+	=
c+	GL165	Glace pistache	24,28	53,31	+	24.74	53.89	+	24.35	52.60	+	=
c+	GL166	Glace café	33,70	53,33	+	32.89	53.96	+	34.91	52.65	+	=

DAIRY PRODUCTS			Previous validation study			Extension study 2018						Comparison between 1) and 2)
ST	SN	Sample	AM: GENE UP after storage of the lysates 3 days at 5°C			1) AM: GENE UP Current kit/software 2.0			2) AM: GENE UP New kit/software 3.0			
			CP	MP	GENE UP result	CP	MP	GENE UP result	CP	MP	GENE UP result	
a+	GL167	Emmental (fromage - cru-vache)	29,36	53,17	+	29.98	54.10	+	30.01	52.60	+	=
a-	GL168	Camembert (fromage - cru-vache)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL169	Lingot d'or (fromage - pasteurisé- vache)	33,63	59,01	+	34.71	58.99	+	35.67	58.68	+	=
c+	GL170	Fromage blanc nature (pasteurisé - vache)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL171	Fromage au lait de chèvre cru	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL172	Fromage au lait de vache cru 1	30,65	53,30	+	29.89	53.53	+	30.70	52.55	+	=
c+	GL173	Fromage au lait de brebis pasteurisé	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL174	Fromage au lait de vache cru 2	25,58	53,33	+	25.88	53.89	+	25.75	52.47	+	=
c-	GL175	Fromage au lait pasteurisé de vache	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL176	Fromage au lait de chèvre cru bio	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL177	Mascarpone	29,62	53,41	+	29.78	53.14	+	29.88	52.70	+	=
b+	GL178	Beurre cru (lait cru)	33,46	53,32	+	32.63	53.35	+	34.55	52.57	+	=
c+	GL179	Flan aux œufs	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL180	Saveur du maquis (fromage - pasteurisé- brebis)	33,34	59,19	+	33.25	59.63	+	34.45	58.89	+	=
c+	GL181	Lait demi-écrémé (pasteurisé)	29,48	59,32	+	29.28	59.62	+	29.57	58.79	+	=
b-	GL182	Lait ribot fermenté	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=

SEA FOOD PRODUCTS			Previous validation study			Extension study 2018						Comparison between 1) and 2)
ST	SN	Sample	AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP Current kit/software 2.0			AM: GENE UP New kit/software 3.0			
			CP	MP	GENE UP result	CP	MP	GENE UP result	CP	MP	GENE UP result	
c-	GL362	Saumon fumé. crème	0,00	0,00	-	0.00	53,40	-	0.00	0.00	-	=
a+	GL363	Cœur de filet de Norvège	28,94	53,26	+	29.51	52.75	+	29.50	52.24	+	=
a+	GL364	Crevettes	22,45	59,74	+	23.18	59.29	+	22.78	58.91	+	=
a+	GL365	Longe d'espadon	22,66	53,48	+	23.46	52.88	+	22.58	52.96	+	=
b+	GL366	Saumon fumé	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL367	Croquette de crevette	23,93	53,07	+	25.36	53.33	+	24.43	59.14	+	=
c+	GL368	Appareil à fricassée	33,97	52,33	+	0.00	52.91	+	35.07	51.89	+	=
a+	GL369	Filet de saumon cru	24,79	53,22	+	25.01	53.22	+	25.10	51.51	+	=
a+	GL370	Tartare de saumon	25,49	53,22	+	26.23	53.93	+	26.47	52.76	+	=
b+	GL371	Saumon fumé	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL372	Saumon fumé	32,52	53,00	+	34.14	53.60	+	34.64	52.48	+	=
b+	GL373	Saumon fumé (Ecosse)	31,15	53,10	+	30.64	53.88	+	31.92	52.76	+	=
b+	GL374	Chutes de saumon fumé	28,61	53,23	+	28.46	54.03	+	28.52	52.32	+	=
b+	GL375	Carpaccio de thon mariné	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL376	Anchois et câpres au vinaigre d'alcool	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL377	Rollmops au vinaigre d'alcool	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL378	Filet de lotte	30,97	52,89	+	30.91	53.22	+	31.87	52.39	+	=
a-	GL379	Filet de rouget	32,20	57,39	+	35.32	57.81	+	35.73	57.25	+	=
a+	GL380	Filet de merlan	27,86	52,97	+	28.42	53.44	+	28.32	51.83	+	=
a+	GL381	Espadon	25,02	53,12	+	25.34	53.46	+	25.55	52.58	+	=
a+	GL382	Filet de cabillaud	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL383	Filet de plie	26,13	53,03	+	26.46	53.67	+	26.78	52.24	+	=
a+	GL384	Filet de lieu noir	24,60	53,27	+	24.59	53.61	+	24.53	52.58	+	=
a+	GL385	Dos de cabillaud	22,62	53,12	+	22.25	53.25	+	23.06	52.50	+	=
a+	GL386	Filet de truite	31,84	52,99	+	32.34	51.60	+	32.86	52.57	+	=
b+	GL387	Truite fumée d'Aquitaine	31,26	60,31	+	32.59	59.12	+	33.11	59.99	+	=
b+	GL388	Lardons de truite fumée au bois de hêtre	24,61	53,27	+	24.93	52.56	+	25.10	52.59	+	=
b+	GL389	Lardons de saumon fumé	26,02	53,26	+	26.55	52.98	+	25.32	52.51	+	=
b+	GL390	Queues de crevettes marinées ail et persil	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL391	Filets de harengs fumés au bois de hêtre	31,89	53,29	+	34.11	52.73	+	33.52	52.53	+	=
b+	GL392	Filets de harengs fumés doux	31,06	53,21	+	31.7	53.22	+	32.86	52.42	+	=
c+	GL393	Thon à la catalane	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL394	Rillettes de saumon	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL395	Salade de thon parisienne	26,96	52,87	+	27.03	53.62	+	27.55	52.34	+	=
c+	GL396	Colin d'Alaska sauce citron et riz safrané	23,04	53,28	+	22.61	53.84	+	22.82	52.72	+	=
c+	GL397	Thon à la provençale et blé	20,70	53,07	+	20.16	53.68	+	20.71	52.30	+	=
c+	GL398	Parmentier de poisson à la ciboulette	22,61	53,13	+	23.77	52.51	+	22.24	52.11	+	=
b-	GL399	Carpaccio de thon mariné	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL400	Lardons de truite fumée	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL401	Dos de cabillaud	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=

SEA FOOD PRODUCTS

ST	SN	Sample	Previous validation study			Extension study 2018						Comparison between 1) and 2)
			AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP Current kit/software 2.0			AM: GENE UP New kit/software 3.0			
			CP	MP	GENE UP result	CP	MP	GENE UP result	CP	MP	GENE UP result	
a+	GL402	Filet de truite	32,00	52,91	+	33.11	52.98	+	33.52	52.42	+	=
a-	GL403	Filet de lieu noir	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL404	Filet de plie saumurée	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL405	Filet de cabillaud	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL406	Espadon	26,49	52,75	+	27.15	53.64	+	27.03	52.22	+	=
a-	GL407	Filet de merlan	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL408	Filet de lotte	20,45	59,60	+	21.18	58.90	+	20.62	58.94	+	=
b-	GL409	Queues de crevettes marinées ail et persil	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL410	Lardons de saumon fumé	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL411	Colin d'Alaska sauce citron et riz safrané	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL412	Parmentier de poisson à la ciboulette	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL413	Thon à la provençale et blé	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL414	Rillettes de saumon	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL415	Thon à la catalane	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL416	Anchois marinés à l'orientale	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL417	Anchois marinés à l'ail	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL418	Anchois marinés à l'huile	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL419	Filet de loup de mer	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL420	Dos de cabillaud	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL421	Filet de merlan	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL422	Baron saumon	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL423	Rillettes de sardines aux tomates séchées	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL424	Rillettes au crabe	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL425	Miettes de thon à la tomate	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL426	Emietté de maquereau citron et poivre	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL427	Foie de morue au citron	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL428	Saumon sauce citron	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL429	Cabillaud	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL430	Filet de truite	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL431	Filets de sardines sauce citron-basilic	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL432	Sardines pimentées	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL433	Filets de sardines tomates et petits légumes	23,53	59,64	+	23.92	59.72	+	25.82	57.96	+	=
c+	GL434	Filets de maquereaux tomates-basilic	25,80	57,89	+	25.91	57.67	+	26.12	57.19	+	=
c+	GL435	Sardines et tapenade d'olives	22,86	57,79	+	22.77	58.05	+	23.79	57.05	+	=
c+	GL436	Saumon sauce oseille et pâtes	31,52	57,40	+	30.69	57.70	+	32.58	56.84	+	=
a+	GL437	Filet de perche du nil (surgelé)	28,80	59,56	+	28.67	59.38	+	29.28	59.05	+	=
a+	GL438	Filet de sabre	26,05	59,72	+	25.78	59.45	+	25.95	59.10	+	=
a+	GL439	Tranche de thon (surgelé)	23,69	59,64	+	24.20	59.51	+	24.55	59.33	+	=
a+	GL440	Espadon	24,95	60,55	+	25.50	60,51	+	25.54	60.03	+	=
a+	GL441	Crevettes géantes (surgelé)	33,67	60,24	+	36,29	59,85	+	36,41	59,55	+	=
a+	GL442	Noix de saint-jacques (surgelé)	24,46	60,66	+	25.28	60.77	+	26.09	59.82	+	=

VEGETAL PRODUCTS			Previous validation study			Extension study 2018						Comparison between 1) and 2)
ST	SN	Sample	AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP Current kit/software 2.0			AM: GENE UP New kit/software 3.0			
			CP	MP	GENE UP result	CP	MP	GENE UP result	CP	MP	GENE UP result	
b-	GL183	Radis	0,00	0,00	-	0.00	53,40	-	0.00	0.00	-	=
b-	GL184	Carottes râpées non assaisonnées	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL185	Concombre tranché	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL186	Choux fleur emballé	23,93	57,79	+	25.44	58.17	+	24.87	57.54	+	=
b+	GL187	Brocolis emballé	21,94	57,90	+	23.73	58.26	+	23.13	57.55	+	=
b-	GL188	Salade batavia emballée	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL189	Marolles entières surgelées	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL190	Lentilles pré-cuites	22,57	53,17	+	25.14	53.88	+	24.52	52.61	+	=
c+	GL191	Purée de courgettes	22,83	53,10	+	22.44	53.81	+	23.22	52.32	+	=
c+	GL192	Purée de céleri	24,36	53,02	+	25.06	52.58	+	25.47	52.38	+	=
c+	GL193	Purée de pois cassés	23,26	53,03	+	24.26	52.74	+	23.81	52.31	+	=
b+	GL194	Pommes de terre pré-cuites	24,89	53,14	+	26.80	53.13	+	26.32	52.49	+	=
b-	GL195	Soja emballé	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL196	Mélange pour soupe	31,89	52,87	+	31.9	53.22	+	33.73	52.31	+	=
b+	GL197	Chou blanc - chou rouge emballés	24,86	52,85	+	26.61	53.55	+	26.72	52.51	+	=
a-	GL198	Girolles entières surgelées	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL199	Cèpes entiers surgelés	35,53	58,93	+	0.00	0.00	+	36.64	51.91	+	=
a-	GL200	Fraises	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL201	Choux-fleurs pré-cuits	29,56	53,06	+	30.46	53.75	+	31.10	52.39	+	=
b-	GL202	Mâche emballée	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL203	Persil plat	28,97	52,86	+	30.54	51.98	+	30.46	52.43	+	=
a+	GL204	Basilic	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL205	Estragon	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL206	Ciboulette	25,83	53,31	+	31.73	53.32	+	31.96	52.13	+	=
b-	GL207	Radis	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL208	Choux-fleurs pré-cuits	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL209	Pommes de terre pré-cuites	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL210	Lentilles pré-cuites	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL211	Purée de céleri	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL212	Purée de pois cassés	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL213	Purée de courgettes	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL214	Fraises	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL215	Carottes râpées assaisonnées	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL216	Concombre assaisonné	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL217	Mélange pour soupe	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL218	Soja emballé	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL219	Choux fleur emballé	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL220	Brocolis emballé	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL221	Salade batavia emballée	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL222	Mâche emballée	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL223	Fèves pelées surgelées 1	29,02	53,08	+	29.81	53.74	+	30.22	52.50	+	=
b+	GL224	Fèves pelées surgelées 2	29,68	53,13	+	29.91	53.62	+	30.76	52.67	+	=
a-	GL225	Asperges vertes surgelées 1	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL226	Asperges vertes surgelées 2	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=

VEGETAL PRODUCTS			Previous validation study			Extension study 2018						Comparison between 1) and 2)
ST	SN	Sample	AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP Current kit/software 2.0			AM: GENE UP New kit/software 3.0			
			CP	MP	GENE UP result	CP	MP	GENE UP result	CP	MP	GENE UP result	
b+	GL227	Salade de pommes de terre et carottes râpées	26,52	53,21	+	26.96	53.71	+	26.96	52.63	+	=
a+	GL228	Salade chou et lentilles	32,54	57,64	+	32.71	58.35	+	34.16	57.70	+	=
a-	GL229	Farine de blé noir 1	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL230	Farine de blé noir 2	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL231	Farine de blé noir 3	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL232	Asperges vertes surgelées 3	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL233	Coulis de carottes	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL234	Potage de légumes	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL235	Macédoine de légumes mixés	23,14	53,32	+	24.95	53.69	+	23.97	52.62	+	=
a+	GL236	Oseille	26,87	59,68	+	28.9	58.65	+	27.61	59.23	+	=
a+	GL237	Aneth	32,90	59,02	+	33.59	58.79	+	33.84	58.65	+	=
c+	GL238	Velouté de potiron	23,70	59,81	+	24.84	59.56	+	23.88	59.08	+	=
c+	GL239	Velouté de légumes	22,49	59,83	+	22.24	59.58	+	22.54	58.89	+	=
c+	GL240	Velouté de tomates	22,51	59,97	+	22.60	59.79	+	22.50	58.77	+	=
a+	GL241	Tomates cerises	21,57	60,08	+	21.87	60.03	+	20.95	59.35	+	=
a-	GL242	Morilles entières surgelées	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL243	Pleurotes entiers surgelés	34,06	58,93	+	35.22	59.08	+	36.11	58.78	+	=
a+	GL244	Girolles entières surgelées	31,71	59,03	+	31.44	59.84	+	32.71	58.71	+	=
a+	GL245	Asperges blanches	25,00	59,39	+	26.60	58.58	+	25.77	58.81	+	=
a-	GL246	Piments rouges	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL247	Piments antillais	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL248	Marrons à la forestière	23,66	60,62	+	25.27	60.63	+	22.65	59.00	+	=
c+	GL249	Macédoine de légumes	24,01	60,67	+	24.82	60.92	+	20.94	59.39	+	=
c+	GL250	Ratatouille	23,07	60,53	+	23.59	60.87	+	23.51	59.92	+	=
c+	GL251	Confit de courgettes	18,52	59,75	+	19.85	61.1	+	26.02	60.15	+	=
c+	GL252	Confit de ratatouille	19,67	60,93	+	20.64	61.34	+	20.54	60.2	+	=
c+	GL253	Tajine de légumes	19,45	60,85	+	19.32	61.05	+	19.69	60.27	+	=
c-	GL338	Croûtons aux fines herbes	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL339	Croûtons ail et persil	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL340	Morilles	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL341	Girolles	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL342	Bolets et cèpes	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL343	Sauce au basilic	25,95	53,21	+	26.10	53.70	+	26.49	52.44	+	=
c+	GL344	Sauce provençale	28,24	53,02	+	28.80	53.79	+	28.90	52.36	+	=
b+	GL345	Poêlée vendéenne	23,32	53,20	+	25.08	53.99	+	24.25	52.51	+	=
c+	GL346	Pesto au basilic frais	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL347	Asperges blanches	23,81	53,37	+	25.02	53.86	+	24.85	52.62	+	=
a+	GL348	Asperges vertes	23,70	53,40	+	24.59	53.98	+	24.25	52.83	+	=
c+	GL349	Ratatouille	25,72	53,35	+	27.34	52.33	+	26.30	52.73	+	=
c+	GL350	Ratatouille cuisinée à la provençale	25,78	53,38	+	26.15	53.52	+	26.22	52.75	+	=
c+	GL351	Légumes cuisinés sauce aigre douce	30,92	53,33	+	30.13	53.66	+	31.62	52.40	+	=
c+	GL352	Tajine de légumes grillés	27,49	53,33	+	27.54	53.79	+	27.53	52.36	+	=
c+	GL353	Purée de carottes	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=

VEGETAL PRODUCTS			Previous validation study			Extension study 2018						Comparison between 1) and 2)
ST	SN	Sample	AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP Current kit/software 2.0			AM: GENE UP New kit/software 3.0			
			CP	MP	GENE UP result	CP	MP	GENE UP result	CP	MP	GENE UP result	
a-	GL354	Thym	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL355	Persil frisé	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL356	Ciboulette	34,09	53,20	+	35.45	53.60	+	36.22	53.10	+	=
a+	GL357	Laurier	29,72	53,30	+	30.72	53.43	+	31.18	52.79	+	=
a+	GL358	Tomate cerise grappe	26,19	53,28	+	28.47	53.63	+	27.87	52.53	+	=
a-	GL359	Abricots	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL360	Groseilles	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL361	Courgettes cuisinées à la provençale	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=

COMPOSITE FOODS			Previous validation study			Extension study 2018						Comparison between 1) and 2)
ST	SN	Sample	AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP Current kit/software 2.0			AM: GENE UP New kit/software 3.0			
			CP	MP	GENE UP result	CP	MP	GENE UP result	CP	MP	GENE UP result	
c-	GL254	Tarte poires	0,00	0,00	-	0.00	53,40	-	0.00	0.00	-	=
c+	GL255	Tarte abricots	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL256	Tarte clafoutis aux cerises	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL257	Tarte pommes	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL258	Flan	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL259	Tarte mirabelles	29,23	53,10	+	30.2	53.41	+	30.36	52.29	+	=
a+	GL260	Salade jambon. crudités. emmental	23,93	53,11	+	24.78	53.65	+	24.67	52.44	+	=
a+	GL261	Salade thon. pâtes. crudités	24,31	53,30	+	26.05	53.83	+	25.84	52.87	+	=
a+	GL262	Salade poulet. crudités	0,00	0,00	-	0.00	0.00	-	0,00	0,00	-	=
a+	GL263	Taboulé poulet	28,48	52,97	+	28.59	53.61	+	28.62	52.22	+	=
a+	GL264	Torti surimi	23,94	53,28	+	24.61	53.85	+	24.45	52.61	+	=
a+	GL265	Piémontaise au jambon	24,89	53,30	+	26.06	52.45	+	24.99	52.68	+	=
b+	GL266	Pizza 4 fromages	26,57	53,33	+	27.46	52.84	+	26.53	52.77	+	=
b-	GL267	Pizza jambon emmental	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL268	Fusilli à la carbonara	24,87	53,21	+	25.47	53.48	+	25.05	52.18	+	=
b+	GL269	Fusilli aux fromages	23,15	53,53	+	23.03	53.61	+	22.94	52.68	+	=
b+	GL270	Nouilles poulet légumes	21,42	53,46	+	22.24	53.98	+	22.57	52.94	+	=
b+	GL271	Penne à la bolognaise	22,89	53,41	+	24.23	53.96	+	23.85	52.88	+	=
b-	GL272	Pizza poulet	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL273	Tarte mirabelles	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL274	Tarte abricots	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL275	Torti surimi	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL276	Piémontaise au jambon	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL277	Taboulé oriental	31,64	60,36	+	31.52	60.78	+	32.00	60.18	+	=
a-	GL278	Salade poulet. crudités	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL279	Salade thon. pâtes. crudités	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL280	Salade jambon. crudités. emmental	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL281	Fusilli à la carbonara	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL282	Fusilli aux fromages	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL283	Penne à la bolognaise	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL284	Nouilles poulet légumes	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL285	Œufs brouillés aux herbes (MY2761)	21,18	52,25	+	22.62	52.74	+	22.18	52.46	+	=
b+	GL286	Poisson sauce citron. riz créole (ML9690)	22,28	52,04	+	23.84	52.86	+	23.92	52.20	+	=
a-	GL287	Sandwich rosette	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL288	Sandwich jambon emmental	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL289	Sandwich poulet kebab crudités	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL290	Sandwich thon crudités	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL291	Sandwich jambon beurre	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL292	Sandwich poulet rôti crudités	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL293	Cheese burger	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=

COMPOSITE FOODS			Previous validation study			Extension study 2018						Comparison between 1) and 2)
ST	SN	Sample	AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP Current kit/software 2.0			AM: GENE UP New kit/software 3.0			
			CP	MP	GENE UP result	CP	MP	GENE UP result	CP	MP	GENE UP result	
b+	GL294	Chicken burger	28,26	53,26	+	29.23	53.2	+	29.23	52.58	+	=
b+	GL295	Tarte chèvre épinards	25,28	53,35	+	26.04	53.8	+	25.84	52.52	+	=
b+	GL296	Quiche lorraine	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL297	Tarte tomates chorizo	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL298	Fondant chocolat	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL299	Tarte citrons	25,93	52,49	+	26.15	52.79	+	25.75	51.39	+	=
a+ ou c+	GL300	Tartare de saumon. œufs. oignons (ST 555)	20,05	53,31	+	21.85	53.85	+	21.55	52.67	+	=
b-	GL301	Nem chua (M 97162)	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL302	Steak hâché sandwich (ST 1489)	26,22	53,32	+	28.74	52.68	+	27.65	52.75	+	=
a+	GL303	Thalissini (oeufs de cabillaud. fromage blanc. saumon. ciboulette) (ML 9833)	32,01	53,11	+	32.78	52.59	+	33.67	52.37	+	=
c+	GL304	Perle coco(Q 4256)	18,95	52,65	+	20.84	52.67	+	20.22	60.67	+	=
c-	GL305	Flan cerises	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL306	Salambo vanille	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL307	Eclair à la vanille	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL308	Tarte aux fraises	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL309	Pancakes vanillés	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL310	Tarte aux fruits	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL311	Paris-Brest	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL312	Eclair au chocolat	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL313	Tarte à la framboise	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL314	Flan coco	25,69	53,29	+	25.44	53.42	+	25.87	52.25	+	=
c+	GL315	Eclair au café	27,74	53,40	+	28.93	52.28	+	28.20	52.71	+	=
c-	GL316	Cookie	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL317	Flan raisins	27,60	53,33	+	27.83	52.94	+	28.02	52.62	+	=
a-	GL318	Trio chou. jambon et comté	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL319	Duo ananas. carotte et surimi	29,23	53,08	+	29.69	53.22	+	30.02	52.30	+	=
a+	GL320	Salade de gambas aux mandarines	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL321	Salade de pommes de terre et saucisses	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL322	Taboulé volaille	27,29	53,28	+	53.45	60.61	+	28.67	52.60	+	=
b+	GL323	Fajitas poulet cheddar	21,02	59,96	+	22.58	60.02	+	21.75	59.17	+	=
a+	GL324	Sandwich poulet mayonnaise	21,70	59,77	+	22.43	59.87	+	22.21	59.04	+	=
a+	GL325	Wrap poulet rôti. tomates. sauce caesar	22,15	59,91	+	22.75	59.96	+	22.24	59.25	+	=
a+	GL326	Wrap poulet caesar	19,97	59,94	+	21.63	59.02	+	20.17	59.55	+	=
a+	GL327	Wrap jmbon brebis	21,93	60,05	+	23.5	58.73	+	21.79	59.51	+	=
a+	GL328	Sandwich suèdois saumon	23,02	60,98	+	24.86	60.70	+	23.86	60.56	+	=
a+	GL329	Sandwich suèdois bacon	30,33	59,14	+	31.71	59.14	+	31.77	59.06	+	=
c+	GL330	Omelette à la pomme de terre	30,57	59,31	+	31.31	58.86	+	32.45	58.38	+	=
a+	GL331	Salade de gambas à la mandarine	30,55	59,35	+	32.08	59.21	+	33.21	58.98	+	=
a+	GL332	Salade surimi. carottes. ananas	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL333	Salade piémontaise	30,99	58,97	+	32.18	59.14	+	32.01	58.86	+	=

ENVIRONMENTAL SAMPLES			Previous validation study			Extension study 2018						Comparison between 1) and 2)
ST	SN	Sample	AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP Current kit/software 2.0			AM: GENE UP New kit/software 3.0			
			CP	MP	GENE UP result	CP	MP	GENE UP result	CP	MP	GENE UP result	
c-	GL445	Swab 1	0,00	0,00	-	0.00	53,40	-	0.00	0.00	-	=
c+	GL446	Swab 2	26,13	59,75	+	27.62	55.82	+	26.90	58.77	+	=
c+	GL447	Swab 3	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL448	Swab 4	23,78	59,91	+	24.58	59.98	+	24.06	59.34	+	=
c+	GL449	Swab 5	22,84	60,07	+	23.58	59.65	+	23.19	59.41	+	=
c+	GL450	Swab 6	28,49	59,55	+	29.12	59.31	+	29.06	59.18	+	=
c+	GL451	Swab 7	21,48	59,84	+	21.63	59.72	+	21.45	59.17	+	=
c+	GL452	Swab 8	24,03	60,03	+	26.47	60.05	+	25.18	59.40	+	=
c+	GL453	Swab 9	28,95	52,22	+	29.78	59.53	+	30.97	58.51	+	=
c+	GL454	Swab 10	22,98	59,79	+	23.64	59.66	+	23.53	58.89	+	=
c+	GL455	Swab 11	28,13	59,77	+	28.78	59.46	+	29.02	58.81	+	=
c+	GL456	Swab 12	30,82	59,23	+	31.70	59.40	+	33.06	58.62	+	=
c+	GL457	Swab 13	27,04	53,35	+	27.63	53.36	+	27.68	52.52	+	=
c+	GL458	Sponge 1	25,29	53,37	+	26.43	53.26	+	26.06	52.42	+	=
c+	GL459	Sponge 2	28,62	53,35	+	29.02	52.66	+	28.95	52.08	+	=
c+	GL460	Sponge 3	24,74	53,54	+	25.55	53.24	+	25.05	52.39	+	=
c+	GL461	Sponge 4	23,85	53,75	+	24.32	53.63	+	24.15	52.35	+	=
c+	GL462	Sponge 5	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL463	Sponge 6	26,90	53,63	+	26.98	53.38	+	27.01	52.08	+	=
a+	GL466	Process water 3	20,32	52,94	+	30.55	53.15	+	31.65	52.03	+	=
a+	GL467	Process water 4	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL470	Process water 7	29,30	53,50	+	30.19	52.91	+	30.56	52.48	+	=
a+	GL471	Process water 8	22,70	53,75	+	23.65	52.65	+	23.14	52.67	+	=
a+	GL472	Process water 9	20,93	53,70	+	21.85	52.30	+	21.35	52.65	+	=
a+	GL473	Process water 10	22,08	52,90	+	22.47	52.83	+	22.53	52.05	+	=
a-	GL474	Process water 11	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL475	Swab 14	29,98	53,44	+	31.65	53.45	+	32.17	52.04	+	=
a+	GL476	Process water 12	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a+	GL477	Process water 13	27,97	59,64	+	28.66	59.65	+	28.56	59.06	+	=
a+	GL478	Process water 14	29,53	59,36	+	30.19	59.59	+	30.73	59.32	+	=
a+	GL479	Process water 15	28,67	59,65	+	29.60	59.54	+	29.84	59.26	+	=
a-	GL480	Process water 16	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL481	Process water 17	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL485	Process water 21	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL486	Process water 22	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL487	Process water 23	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL488	Process water 24	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL489	Process water 25	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL490	Process water 26	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL491	Process water 27	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
a-	GL492	Process water 28	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL493	Dust 1	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL494	Dust 2	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL495	Dust 3	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=

ENVIRONMENTAL SAMPLES			Previous validation study			Extension study 2018						Comparison between 1) and 2)
ST	SN	Sample	AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP Current kit/software 2.0			AM: GENE UP New kit/software 3.0			
			CP	MP	GENE UP result	CP	MP	GENE UP result	CP	MP	GENE UP result	
b-	GL496	Dust 4	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL497	Dust 5	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL498	Dust 6	32,18	52,42	+	33.76	52.76	+	34.75	51.82	+	=
b+	GL499	Dust 7	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL500	Dust 8	24,52	52,46	+	25.84	52.72	+	25.11	52.03	+	=
b-	GL501	Dust 9	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL502	Dust 10	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL503	Dust 11	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL504	Dust 12	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL505	Dust 13	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL506	Dust 14	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL507	Dust 15	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL508	Dust 16	0,00	51,40	+	27.27	51.52	+	26.94	51.51	+	=
c+	GL509	Swab 16	24,40	51,52	+	25.59	51.36	+	25.11	51.16	+	=
c+	GL510	Swab 17	27,73	51,65	+	28.27	51.43	+	28.52	51.32	+	=
c+	GL511	Swab 18	27,13	51,71	+	27.36	51.72	+	27.12	51.59	+	=
c+	GL512	Swab 19	25,74	51,80	+	26.22	51.79	+	25.45	51.59	+	=
c+	GL513	Swab 20	25,83	51,82	+	26.34	51.87	+	25.71	51.63	+	=
c+	GL514	Swab 21	24,24	51,62	+	24.80	51.87	+	23.97	51.53	+	=
c+	GL515	Swab 22	23,01	51,78	+	24.42	52.10	+	23.64	51.80	+	=
c-	GL516	Swab 23	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL517	Swab 24	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL518	Swab 25	0,00	52,71	+	0.00	0.00	+	0.00	0.00	+	=
c-	GL519	Swab 26	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL520	Swab 27	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL521	Swab 28	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL522	Swab 29	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL523	Swab 30	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL524	Sponge 7	23,90	52,70	+	24.25	52.80	+	24.18	52.42	+	=
c+	GL525	Sponge 8	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c+	GL526	Sponge 9	28,77	52,61	+	28.93	52.86	+	29.24	52.38	+	=
c+	GL527	Sponge 10	23,26	52,67	+	22.62	52.85	+	22.69	52.31	+	=
c+	GL528	Sponge 11	22,76	52,65	+	22.29	52.81	+	22.51	52.25	+	=
c-	GL529	Sponge 12	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL530	Sponge 13	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL531	Sponge 14	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL532	Sponge 15	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b+	GL533	Dust 17	33,08	55,31	+	34.48	54.55	+	34.95	54.77	+	=
b+	GL534	Dust 18	32,68	55,31	+	34.19	54.65	+	34.61	54.77	+	=
a+	GL535	Process water 32	29,19	55,38	+	29.95	55.34	+	29.91	55.12	+	=
a+	GL536	Process water 33	29,86	55,45	+	30.31	55.28	+	30.59	55.02	+	=
a+	GL537	Process water 34	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL538	Dust 20	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL539	Dust 21	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=

ENVIRONMENTAL SAMPLES			Previous validation study			Extension study 2018						Comparison between 1) and 2)
ST	SN	Sample	AM: GENE UP after storage of the lysates 3 days at 5°C			AM: GENE UP Current kit/software 2.0			AM: GENE UP New kit/software 3.0			
			CP	MP	GENE UP result	CP	MP	GENE UP result	CP	MP	GENE UP result	
b-	GL540	Dust 22	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
b-	GL541	Dust 23	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL542	Swab 32	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL543	Swab 33	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL544	Swab 34	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL545	Swab 35	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL546	Swab 36	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL547	Swab 37	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL548	Swab 38	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL549	Swab 39	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL550	Swab 40	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL551	Swab 41	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL552	Sponge 17	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL554	Sponge 19	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL555	Sponge 20	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL556	Sponge 21	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL557	Sponge 22	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL558	Sponge 23	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL559	Sponge 24	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL560	Sponge 25	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL561	Sponge 26	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL562	Wipe 1	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL563	Wipe 2	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL564	Wipe 3	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=
c-	GL565	Wipe 4	0,00	0,00	-	0.00	0.00	-	0.00	0.00	-	=