

**NF VALIDATION**  
**Validation of alternative analysis methods**  
**Application to the food industry**

**Summary report**  
**according to the standard EN ISO 16140-2:2016**

Qualitative method

**VIDAS *Listeria monocytogenes* II (VIDAS LMO2 - Ref. 30704)**  
**(certificate # BIO 12/11-03/04)**  
**for the detection of *Listeria monocytogenes***  
**in human food products and in environmental samples**

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## Preamble

- Protocols of validation :

- EN ISO 16140-1 and EN ISO 16140-2 (September 2016): Microbiology of the food chain — Method validation

Part 1: Vocabulary.

Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method.

- Requirements regarding comparison and interlaboratory studies for implementation of the standard EN ISO 16140-2 (version 7).

- Reference method:

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

- Application scope:

- **All human food products** by a validation testing of a broad range of foods, including:
  - meat products,
  - dairy products,
  - seafood products,
  - vegetables,
  - composite foods,
- **Environmental samples.**

- Certification body:

- **AFNOR Certification** (<https://nf-validation.afnor.org/>).

## Definitions

- **Method comparison study**

The method comparison study is the part of the validation process that is performed in the organizing laboratory. It consists of three parts namely the following:

- A comparative study of the results of the reference method to the results of the alternative method in (naturally and/or artificially) contaminated samples (so-called sensitivity study);
- A comparative study to determine the relative level of detection (RLOD) in artificially contaminated samples (so-called RLOD study);
- An inclusivity/exclusivity study of the alternative method.

- **Sensitivity study**

The sensitivity study aims to determine the difference in sensitivity between the reference and the alternative method.

The sensitivity is the ability of the reference method or alternative method to detect the analyte.

- **Relative level of detection study**

A comparative study is conducted to evaluate the level of detection (LOD) of the alternative method against the reference method. The evaluation is based on the calculation of the relative level of detection (RLOD).

The level of detection at 50% (LOD<sub>50</sub>) is the measured analyte concentration, obtained by a given measurement procedure, for which the probability of detection is 50%.

The relative level of detection level of detection at  $P = 0,50$  (LOD<sub>50</sub>) of the alternative method divided by the level of detection at  $P = 0,50$  (LOD<sub>50</sub>) of the reference method.

- **Inclusivity and exclusivity study**

The inclusivity study is a study involving pure target strains to be detected or enumerated by the alternative method.

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

- **Interlaboratory study**

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

The aim of the interlaboratory study is to determine the difference in sensitivity between the reference and the alternative method when tested by different collaborators using identical samples (reproducibility conditions).

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## **Appendices**

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Appendix B: Protocol of the reference method

Appendix C: General protocol - Artificial contaminations

Appendix D: General protocol - Results of the sensitivity study

Appendix E: General protocol - Results of the relative level of detection study

Appendix F: Results of the selectivity study

Appendix G: Specific protocol - Results of the sensitivity study

Appendix H: Specific protocol - Results of the relative level of detection study

## 1. Introduction

The VIDAS LMO2 method is validated by AFNOR Certification according to the ISO 16140-2:2016 standard under the certification number BIO 12/11-03/04 for the detection of *Listeria monocytogenes* in a broad range of foods and in environmental samples.

Table 1 summarizes the different steps of the validation that occurred since the initial validation.

*Table 1: validation history*

Date	Study	Expert Laboratory	Standards
March 2004	Initial validation in food products and environmental samples ( <b>general protocol</b> : secondary enrichment step in Fraser broth at 37°C)	SERMHA – Institut Pasteur de Lille	- ISO 16140:2003 (preliminary study) - AFNOR requirements: interlaboratory study - ISO 11290-1
December 2004	Extension in accordance with the amended EN ISO 11290-1 standard ( <b>general protocol</b> )		- ISO 16140:2003 (preliminary study) - AFNOR requirements: interlaboratory study - ISO 11290-1/A1
December 2006	Interlaboratory study in accordance with the ISO 16140 standard ( <b>general protocol</b> )		- ISO 16140:2003 - ISO 11290-1/A1:2005
March 2008	First renewal		- ISO 16140:2003 - ISO 11290-1/A1:2005
March 2012	Second renewal	Eurofins IPL Nord	- ISO 16140:2003 - ISO 11290-1/A1:2005
January 2016	Extension for the addition of a <b>specific protocol</b> including an enrichment step in <b>LPT broth at 30°C for meat products, dairy products and seafoods products</b>	Institut Scientifique d'Hygiène et d'Analyse (ISHA)	- ISO 16140:2003 - ISO 11290-1/A1:2005
June 2016	Third renewal in accordance with EN ISO 16140-2 2016 standard and extension for the addition of a new category: composite foods for the protocol <b>general protocol</b>		- ISO/FDIS 16140-2:2015 - ISO 11290-1/A1:2005
October 2018	Extension for the addition of a <b>specific protocol</b> including an enrichment step in <b>LPT broth at 30°C for environmental samples</b>		- ISO 16140-2:2016 - ISO 11290-1:2017
January 2020	Fourth renewal: <b>additional tests</b> in sensitivity study to fulfill the <b>requirements of the Technical</b>	Microsept	- ISO 16140-2:2016 - ISO 11290-1:2017

	<b>Board version 6</b> linked to the EN ISO 16140-2: 2016 standard.		
February 2024	Fifth renewal with no additional test.	Microsept	- ISO 16140-2:2016 - ISO 11290-1:2017

This summary report introduces all the validation studies results for the NF VALIDATION certification of the VIDAS *Listeria monocytogenes* II method (VIDAS LMO2) with a secondary enrichment step at 37°C in Fraser broth or with a secondary enrichment step at 30°C in LPT broth.

A part of the results set out in this report were produced during validation tests carried out by the SERMHA – Institut Pasteur de Lille IPL Santé, Eurofins IPL Nord and by the Institut Scientifique d’Hygiène et d’Analyse as part of NF VALIDATION, in accordance with prevailing requirements.

The remaining part of the results is constituted by the analyses performed by the Laboratory Microsept as part of the requirements of the updated validation standard.

## 2. Protocols of the methods

### 2.1. Alternative method

#### 2.1.1. Principle of the alternative method

VIDAS *L. monocytogenes* II is an enzyme-linked fluorescent immunoassay (ELFA) for use on the VIDAS family of instruments for the specific detection of *Listeria monocytogenes* antigens.

The Solid Phase Receptacle (SPR) serves as the solid phase as well as the pipetting device. The interior of the SPR is coated with anti-*L. monocytogenes* antibodies adsorbed on its surface. Reagents for the assay are ready-to-use and pre-dispensed in the sealed reagent strips.

All of the assay steps are performed automatically by the instrument. The reaction medium is cycled in and out of the SPR several times.

Part of the enrichment broth is dispensed into the reagent strip. The antigens present will bind to the anti-*Listeria monocytogenes* antibodies which are coated on the interior of the SPR. Unbound sample components are washed away. Antibodies conjugated with alkaline phosphatase are cycled in and out of the SPR and will bind to any *L. monocytogenes* antigens which are themselves bound to the antibodies on the SPR wall. Further wash steps remove unbound conjugate.

During the final detection step, the substrate (4-Methylumbelliferyl phosphate) is cycled in and out of the SPR. The conjugate enzyme catalyzes the hydrolysis of this substrate into a fluorescent product (4-Methylumbelliferone), the fluorescence of which is measured at 450 nm.

At the end of the assay, the results are analyzed automatically by the instrument which generates a test value for each sample. This value is compared to a set of stored standards (thresholds) and each result is interpreted (positive, negative), as shown in figure 1.

Figure 1: interpretation of the VIDAS LPT test

$\text{Test value (TV)} = \frac{RFV_{\text{sample}}}{RFV_{\text{standard}}}$	TV < 0,05: negative test
	TV ≥ 0,05: positive test

#### 2.1.2. Protocol of the alternative method

The validated protocols are as follows:

- **General protocol :**

- pre-enrichment in half-Fraser broth, incubated for 24 to 26 hours at 30±1°C,
- subculture in Fraser broth (0.1 ml in 10 ml), incubated for 24 to 26 hours at 37±1°C.

- **Specific protocol :**

- pre-enrichment in LPT broth, incubated for 24 to 32 hours at 30±1°C,
- subculture in LPT broth (0.1 ml or 1 ml in 10 ml), incubated for 18 to 24 hours at 30±1°C.

The VIDAS LMO2 test is then performed using an aliquot of 0.5 ml of the unheated Fraser broth, or the unheated LPT broth.



Samples found to be positive using the VIDAS LMO2 test are confirmed through isolation on agar: PALCAM, Oxford or a chromogenic agar and confirmation according to one of the two following options:

- the characteristic colonies are confirmed using the tests set out in the methods standardized by CEN or ISO,
- if a chromogenic agar according to Ottaviani Agosti or part of an NF Validation certified method is used, the presence of typical *Listeria monocytogenes* colonies is sufficient to confirm the VIDAS LMO2 result.

The protocols are set out in Appendix A. The table 2 present a summary of the protocols.

*Table 2: protocols of the alternative method*

<b>Protocol</b>	<b>Pre-enrichment</b>	<b>Secondary enrichment</b>	<b>Application scope</b>
General protocol	Broth: half Fraser Incubation: 24 to 26h Temperature: 30±1°C	Broth: Fraser Incubation: 24 to 26h Temperature: 37±1°C	Broad range of foods and environmental samples
Specific protocol	Broth: LPT Incubation: 24 to 32h Temperature: 30±1°C	Broth: LPT Incubation: 18 to 24h Temperature: 30±1°C	Meat products, dairy products, seafood products, environmental samples

After enrichment, the broth can be stored at 2-8°C for:

- General protocol: 24 hours for VIDAS testing and 48 hours for confirmation of positive results,
- Specific protocol: 72 hours before testing and confirmation.

### 2.1.3. Restrictions

There is no restriction on use for the VIDAS LMO2 method.

## 2.2. Reference method

Assays of the initial validation for the general protocol were performed according to the standard EN ISO 11290-1:1996 "Horizontal method for the detection and enumeration of *Listeria monocytogenes* - Part 1: Detection method".

Assays of the extensions for the general protocol in 2004 and for the specific protocol in 2016 were performed according to the standard EN ISO 11290-1/A1:2005 "Horizontal method for the detection and enumeration of *Listeria monocytogenes* - Part 1: Detection method".

Assays of the 2018 extension study for specific protocol and of the fourth renewal study were performed according to the standard EN ISO 11290-1:2017 "Horizontal method for the detection and enumeration of *Listeria monocytogenes* and of *Listeria* spp - Part 1: detection method." The main changes introduced in the ISO 11290-1:2017 are considered as major. The technical changes were assessed and were considered to have no significant effect on the method performance characteristics or test results.

The analytical scheme of reference method is presented in Appendix B.

### 2.3. Study design

Concerning the general protocol, as there is a shared enrichment step for both the alternative and the reference methods, the same test portion is used for both methods. The study will thus provide paired data and the expression “paired study” is used to describe the study design.

The following categories were tested during the study:

- Meat products,
- Dairy products,
- Seafood products,
- Vegetal products,
- Composite foods,
- Environmental samples.

Concerning the specific protocol, as there is no shared enrichment step for both the alternative and the reference methods, different test portions coming from the same batch or lot of product have to be used for the two methods. The study thus provides unpaired data and the expression “unpaired study” is used to describe the study design.

It applies to the following categories:

- Meat products,
- Dairy products,
- Seafood products,
- Environmental samples.

### 3. Method comparison study for the general protocol

The study was conducted on a variety of samples and strains representative of food products. This is not an exhaustive list of the various matrices included in the application scope. For any remark on the alternative method, you can contact AFNOR Certification by connecting to the Internet page <http://nf-validation.afnor.org/contact-2/>.

#### 3.1. Sensitivity study

##### 3.1.1. Number and nature of samples

In total, 394 samples contaminated and non-contaminated with *Listeria monocytogenes* were tested using both the EN ISO 11290-1/A1:2004 reference method and the VIDAS LMO2 method:

- 327 samples in 2004 for the initial validation distributed in five categories,
- 63 samples in 2016 for the third renewal on a sixth category,
- 14 samples in 2019 (and 10 samples withdrawn).

The different kinds of samples analyzed are presented in table 3.

Table 3: Number and nature of samples analyzed for all categories (<sup>1</sup>: positive by any method)

Category	Types	Number of positive results <sup>1</sup>	Number of negative results	Total
<b>Meat products</b>	Raw meats	10	13	23
	Minced products to be cooked	14	7	21
	Ready-to-eat, ready-to-reheat	10	12	22
	<b>Total</b>	<b>34</b>	<b>32</b>	<b>66</b>
<b>Dairy products</b>	Raw milk cheese	11	19	30
	Pasteurized milk cheese	15	7	22
	Milks	7	16	23
	<b>Total</b>	<b>33</b>	<b>42</b>	<b>75</b>
<b>Seafood products</b>	Smoked products	11	11	22
	Raw products	14	6	20
	Cooked products	8	13	21
	<b>Total</b>	<b>33</b>	<b>30</b>	<b>63</b>
<b>Vegetal products</b>	Ready-to-eat vegetables	9	11	20
	Cooked products	10	12	22
	Frozen products	11	10	21
	<b>Total</b>	<b>30</b>	<b>33</b>	<b>63</b>
<b>Composite foods</b>	Ready-to-eat	9	11	20
	Ready-to-reheat	12	8	20
	Pastry and derived, egg products	10	13	23
	<b>Total</b>	<b>31</b>	<b>32</b>	<b>63</b>
<b>Environmental samples</b>	Surface samplings	12	8	20
	Process waters	11	11	22
	Residues	8	14	22
	<b>Total</b>	<b>31</b>	<b>33</b>	<b>64</b>
<b>Total</b>		<b>192</b>	<b>202</b>	<b>394</b>

### 3.1.2. Artificial contamination of samples

Artificial contamination was carried out using stressed strains in accordance with the requirements of the EN ISO 16140:2003 standard in 2004, of the ISO/FDIS 16140-2:2015 standard in 2016 and of the EN ISO 16140-2:2016 in 2019 and to the requirements of the AFNOR Validation Technical Board linked to these standards:

- 2004: 14 different strains used to carry out 50 artificial contaminations, and at least three different types of stress were used (cold, heat and saline stress). For eight products, contaminations were performed by mixing with a naturally contaminated product.
- 2016: 13 different strains used to carry out 42 artificial contaminations, using a seeding protocol,
- 2019: 3 different strains used to carry out 14 artificial contaminations, using a seeding protocol.

In total, 88 positive results out of 192 were obtained following artificial contaminations, i.e. 46%. The samples and the strains used for the artificial contaminations are presented in Appendix C.

Table 4 gives the distribution of the positive samples per level of contamination.

*Table 4: distribution of the positive samples per level (NC: naturally contaminated, AC: artificially contaminated, cl: contamination levels)*

Contaminations	Total +	NC	AC	Mixture	Seeding cl			Spiking cl		
					≤ 3	3-10	10-30	≤ 5	5-10	10-30
Number	192	104	80	8	35	9	0	36	0	0
%	100%	54%	42%	4%	18%	5%	0%	19%	0%	0%

### 3.1.3. Results

Raw data are shown in Appendix D. Table 5 shows the results for the two methods.

Table 5: results of the sensitivity study for both methods (R+/-: reference method positive or negative, A+/-: alternative method positive or negative, PA: positive agreement, NA: negative agreement, ND: negative deviation, PD: positive deviation, PP: presumptive positive before confirmation)

Category	Response	R+	R-
<b>Meat products</b> ①	A+	PA = 32	PD = 2
	A-	ND = 0 incl. 0 PPND	NA = 32 incl. 0 PPNA
<b>Dairy products</b> ②	A+	PA = 32	PD = 0
	A-	ND = 1 incl. 0 PPND	NA = 42 incl. 0 PPNA
<b>Seafood products</b> ③	A+	PA = 33	PD = 0
	A-	ND = 0 incl. 0 PPND	NA = 30 incl. 3 PPNA
<b>Vegetal products</b> ④	A+	PA = 30	PD = 0
	A-	ND = 0 incl. 0 PPND	NA = 33 incl. 0 PPNA
<b>Composite foods</b> ⑤	A+	PA = 30	PD = 0
	A-	ND = 1 incl. 0 PPND	NA = 32 incl. 0 PPNA
<b>Environmental samples</b> ⑥	A+	PA = 31	PD = 0
	A-	ND = 0 incl. 0 PPND	NA = 33 incl. 0 PPNA
<b>All categories</b>	A+	<b>PA = 188</b>	<b>PD = 2</b>
	A-	<b>ND = 2</b> <b>incl. 0 PPND</b>	<b>NA = 202</b> <b>incl. 0 PPNA</b>

### 3.1.4. Calculation and interpretation of data

The set of results obtained were used to calculate the relative trueness, the sensitivity and the false positive ratio for each of the categories and for all the categories, according to the formulas set out in the EN ISO 16140-2:2016 standard (table 6).

Table 6: values in % of sensitivity for the two methods, relative trueness and false positive ratio for the alternative method ( $SE_{alt}$ : sensitivity for the alternative method,  $SE_{ref}$ : sensitivity for the reference method, RT: relative trueness, FPR: false positive ratio for the alternative method)

Categories	Type	PA	NA	ND	PD	N	PPND	PPNA	$SE_{alt}$	$SE_{ref}$	RT	FPR
Meat products ①	a	9	13	0	1	23	0	0	100.0%	90.0%	95.7%	0.0%
	b	13	7	0	1	21	0	0	100.0%	92.9%	95.2%	0.0%
	c	10	12	0	0	22	0	0	100.0%	100.0%	100.0%	0.0%
	Total	32	32	0	2	66	0	0	100.0%	94.1%	97.0%	0.0%
Dairy products ②	a	10	19	1	0	30	0	0	90.9%	100.0%	96.7%	0.0%
	b	15	7	0	0	22	0	0	100.0%	100.0%	100.0%	0.0%
	c	7	16	0	0	23	0	0	100.0%	100.0%	100.0%	0.0%
	Total	32	42	1	0	75	0	0	97.0%	100.0%	98.7%	0.0%
Seafood products ③	a	11	11	0	0	22	0	0	100.0%	100.0%	100.0%	0.0%
	b	14	6	0	0	20	0	0	100.0%	100.0%	100.0%	0.0%
	c	8	13	0	0	21	0	0	100.0%	100.0%	100.0%	0.0%
	Total	33	30	0	0	63	0	0	100.0%	100.0%	100.0%	0.0%
Vegetal products ④	a	9	11	0	0	20	0	0	100.0%	100.0%	100.0%	0.0%
	b	10	12	0	0	22	0	0	100.0%	100.0%	100.0%	0.0%
	c	11	10	0	0	21	0	0	100.0%	100.0%	100.0%	0.0%
	Total	30	33	0	0	63	0	0	100.0%	100.0%	100.0%	0.0%
Composite foods ⑥	a	8	11	1	0	20	0	0	88.9%	100.0%	95.0%	0.0%
	b	12	8	0	0	20	0	0	100.0%	100.0%	100.0%	0.0%
	c	10	13	0	0	23	0	0	100.0%	100.0%	100.0%	0.0%
	Total	30	32	1	0	63	0	0	96.8%	100.0%	98.4%	0.0%
Environmental samples ⑤	a	12	8	0	0	20	0	0	100.0%	100.0%	100.0%	0.0%
	b	11	11	0	0	22	0	0	100.0%	100.0%	100.0%	0.0%
	c	8	14	0	0	22	0	0	100.0%	100.0%	100.0%	0.0%
	Total	31	33	0	0	64	0	0	100.0%	100.0%	100.0%	0.0%
<b>All categories</b>	<b>Total</b>	<b>188</b>	<b>202</b>	<b>2</b>	<b>2</b>	<b>394</b>	<b>0</b>	<b>0</b>	<b>99.0%</b>	<b>99.0%</b>	<b>99.0%</b>	<b>0.0%</b>

The results for all categories are summarized in the table 7 below.

Table 7: summary of the results for all categories

Parameter	Formula EN ISO 16140-2 :2016	Results for all categories
Sensitivity of the alternative method (SE <sub>alt</sub> )	$SE_{alt} = \frac{(PA + PD)}{(PA + ND + PD)} \times 100 \%$	99.0 %
Sensitivity of the reference method (SE <sub>ref</sub> )	$SE_{ref} = \frac{(PA + ND)}{(PA + ND + PD)} \times 100 \%$	99.0 %
Relative trueness (RT)	$RT = \frac{(PA + NA)}{N} \times 100 \%$	99.0 %
False positive ratio (FPR)	$FPR = \frac{FP}{NA} \times 100 \%$	0 %

### 3.1.5. Analysis of discordant results

- **Positive deviations:**

Two samples gave a positive deviation in the category “Meat products”: a chicken sample and a sausage sample, naturally contaminated.

These two samples were contaminated by *Listeria monocytogenes* and by *Listeria* other than *L. monocytogenes*.

With the reference method, only *L. innocua* and *L. welshimeri* were identified on selective agar media. Due to a very high background flora on Ottaviani and Agosti agar media, it was not possible to distinguish any halo typical of *L. monocytogenes*. All colonies isolated from this agar media led to an identification different from *L. monocytogenes*.

For the alternative method, the confirmations allowed identifying *Listeria monocytogenes* regardless the agar media used. The proportion of *Listeria* colonies other than *Listeria monocytogenes* was inferior to the one observed for the reference method, probably the Fraser broth was incubated for 24 hours instead of 48 hours in the reference method.

- **Negative deviations:**

Two samples gave negative deviations: a sample of Saint-Nectaire cheese, naturally contaminated and a sample of Piemontese salad, artificially contaminated.

The cheese sample was highly contaminated with *L. innocua* and poorly contaminated with *L. monocytogenes*. The VIDAS LMO2 test was negative. Seven different agar plates were used for confirmation of the alternative method and the *L. monocytogenes* strain was only present on three chromogenic agar while the *Listeria innocua* was found on the seven agar media.

The Fraser broth was incubated for 24 additional hours and a VIDAS LMO2 test was realized again and found negative.

For the reference method, *Listeria monocytogenes* was not able to be found on the Ottaviani and Agosti agar media isolated from the Fraser broth.

For the piemontese salad, the VIDAS LMO2 test gave a negative result, although the confirmations revealed the presence of *L. monocytogenes* in the samples. The analysis was renewed three times from the broth stored at 5±3°C and didn't allow obtaining a positive result.

The concentration in *L. monocytogenes* in the enriched broth was probably very low, as typical colonies were only found from the Ottaviani and Agosti agar media isolated from the half-Fraser broth with the reference method.

### 3.1.6. Calculation and interpretation of data

Table 8 shows the difference between negative deviations and positive deviations and the acceptability limits.

Table 8: acceptability limits

Category	(ND-PD)	Acceptability limit (AL)	(ND+PD)	Acceptability limit (AL)	Observation
		(ND-PD)		(ND+PD)	
Meat products	-2	3	2	6	(ND-PD) < AL (ND+PD) < AL
Dairy products	1	3	1	6	
Vegetal products	0	3	0	6	
Seafood products	0	3	0	6	
Environmental samples	0	3	0	6	
Composite foods	1	3	1	6	
All categories	0	6	4	16	

The observed values (ND-PD) and (ND+PD) are below the acceptability limits for each category and for all categories.

The alternative method produces results comparable to the reference method.

## 3.2. Relative level of detection study

### 3.2.1. Experimental design

In 2004, five "food product-strain" pairs were studied in parallel using the reference method and the VIDAS LMO2 method with six replicates per contamination level tested.

Artificial contamination was carried out in accordance with the requirements of the EN ISO 16140 standard and the Microbiology Technical Board.

In 2016, for the category "Composite foods", three levels of contamination were prepared consisting of a negative control level, a low level, and a higher level. Only one strain of the target analyte was 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, it has been contaminated at 0.7 - 1 CFU per test portion to obtain fractional recovery results. Twenty replicates are tested for this level.



The higher level shall be just above the theoretical detection level, it has been contaminated at 2 - 3 CFU per test portion. Five replicates are tested for this level.

Food samples were contaminated using the seeding protocol. Bulk contaminations were performed on the matrix for the different levels of contamination, then the matrix was stored at 5±3°C for two days before analysis.

In 2004 and in 2016, an enumeration of the mesophilic aerobic flora was performed on the matrices.

Table 9 details the matrix-strain couples tested.

*Table 9: couples matrix-strain used for the determination of the RLOD of the method*

<b>Matrix</b>	<b>Strain</b>	<b>Origin</b>
Raw milk	<i>L. monocytogenes</i> 1/2b	Raw milk Maroilles
Rillettes	<i>L. monocytogenes</i> 1/2c	Minced meat
Red cabbage	<i>L. monocytogenes</i> 4b	Salad
Smoked salmon	<i>L. monocytogenes</i> 1/2a	Slices of smoked salmon
Piemontese salad	<i>L. monocytogenes</i> 1/2a	Ham and raw vegetables salad
Process water	<i>L. monocytogenes</i> 1/2c	Surface sampling from a milk factory

### 3.2.2. Results and calculation of the RLODs

Raw results are shown in Appendix E. The RLOD is defined as the ratio of the LODs of the alternative method and the reference method:  $RLOD = \frac{LOD_{alt}}{LOD_{ref}}$ .

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 10.

Table 10: RLODs values for the two 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,  $b=\ln(\text{RLOD})$ : 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  $H_0: b=0$ , p-value: p-value of the z-Test)

Category	RLOD	RLODL	RLODU	$b=\ln(\text{RLOD})$	$sd(b)$	z-Test statistic	p-value	Acceptability limit
Meat products	1.165	0.472	2.871	0.152	0.451	0.338	0.735	1.5
Dairy products	1.000	0.422	2.371	0.000	0.432	0.000	1.000	
Vegetal products	1.000	0.382	2.616	0.000	0.481	0.000	1.000	
Seafood products	1.000	0.422	2.371	0.000	0.432	0.000	1.000	
Composite foods	1.000	0.339	2.948	0.000	0.541	0.000	1.000	
Environmental samples	1.000	0.456	2.195	0.000	0.393	0.000	1.000	
<b>Combined</b>	<b>1.028</b>	<b>0.690</b>	<b>1.531</b>	<b>0.028</b>	<b>0.199</b>	<b>0.139</b>	<b>0.890</b>	

The LOD50 calculations according to Wilrich & Wilrich POD-LOD calculation program - version 11, are given in Table 11.

Table 11:  $LOD_{50\%}$  for the alternative and reference method

Matrix	Strain	LOD50% (CFU/25g) alternative method	LOD50% (CFU/25g) Reference method
Raw milk	<i>L. monocytogenes</i> 1/2b	0.38 (0.23-0.64)	0.35 (0.21-0.59)
Rillettes	<i>L. monocytogenes</i> 1/2c	0.35 (0.19-0.65)	0.35 (0.19-0.65)
Red cabbage	<i>L. monocytogenes</i> 4b	0.54 (0.28-1.06)	0.54 (0.28-1.06)
Smoked salmon	<i>L. monocytogenes</i> 1/2a	0.38 (0.19-0.76)	0.38 (0.19-0.76)
Piemontese salad	<i>L. monocytogenes</i> 1/2a	0.99 (0.50-1.95)	0.99 (0.50-1.95)
Process water	<i>L. monocytogenes</i> 1/2c	1.10 (0.63-1.92)	1.10 (0.63-1.92)
<b>Combined results</b>		<b>0.59 (0,46-0,76)</b>	<b>0.58 (0.45-0.74)</b>

### 3.2.3. Interpretation and conclusion

The RLODs values are below the acceptability limit set at 1.5, 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.

In conclusion, alternative and reference methods show similar LODs values for the detection of *Listeria monocytogenes* in the categories tested.

### 3.3. Inclusivity and exclusivity study

The inclusivity and exclusivity of the method are defined by analyzing, respectively, 50 positive strains and 30 negative strains.

This study, carried out for the validation of the VIDAS LMO2 method (with an enrichment step at 30°C) in 2002, was deemed valid with regard to the EN ISO 16140 standard.

**Reminder (2002 validation study):**

The various *Listeria monocytogenes* strains were cultured in Fraser broth. The various *Listeria non-monocytogenes* strains were cultured in Fraser broth and the non-*Listeria* strains were cultured in nutrient broth in such a way as to obtain sufficient concentrations to conduct the test. The VIDAS LMO2 test was then performed.

Fifty *Listeria monocytogenes* strains, 15 *Listeria* other than *Listeria monocytogenes* and 28 other genus were tested using the VIDAS LMO2 test from the first stage of the protocol. All the *Listeria monocytogenes* strains provided a positive result and no cross-reactions were observed with the non-target strains.

The results are set out in Appendix F.

## 4. Method comparison study for the specific protocol

The specific protocol consists in an enrichment in LPT broth at 30°C for 24 to 32 h at 30±1°C, followed by a secondary enrichment for 18 to 22 h at 30±1°C for the categories Meat products, Seafood products, Vegetal products and Environmental samples.

For this extension, two volumes for the subculture in the secondary enrichment broths were tested: 0.1 ml and 1 ml.

### 4.1. Sensitivity study

#### 4.1.1. Number and nature of samples

In total, 255 samples contaminated and non-contaminated with *Listeria monocytogenes* were tested using both methods:

- 191 samples from the 2016 extension study,
- 64 samples from the 2018 extension study.

The distribution of the samples is presented in table 12.

Raw results are detailed in Appendix G.

Table 12: number and nature of the samples analyzed

Category		Type	Negative results	Positive results	Total
January 2016	Meat products (1)	Raw products (including deep-frozen, fresh, seasoned)	7	13	20
		Ready-to-eat and processed meat products	16	10	26
		Fermented or dried meat products (raw and cooked)	17	7	24
		<b>Total</b>	<b>40</b>	<b>30</b>	<b>70</b>
	Dairy products (2)	Raw milk cheese	8	12	20
		Other raw milk products	13	7	20
		Heat-processed milk and dairy products	9	11	20
		<b>Total</b>	<b>30</b>	<b>30</b>	<b>60</b>
	Seafood products (3)	Raw products (fresh, deep-frozen)	10	10	20
		Smoked, cured, marinated products	10	11	21
Ready-to-eat products		10	10	20	
<b>Total</b>		<b>30</b>	<b>31</b>	<b>61</b>	
October 2018	Environmental samples (4)	Process water	12	10	22
		Residue	11	10	21
		Surface sample	11	10	21
		<b>Total</b>	<b>34</b>	<b>30</b>	<b>64</b>
<b>Total (all categories)</b>			<b>134</b>	<b>121</b>	<b>255</b>

#### 4.1.2. Artificial contaminations of the samples

One hundred and twenty-one (121) positive samples were analyzed including 50 naturally contaminated samples.

For seedings, bacterial suspensions were calibrated and inoculated in the matrices. The samples so contaminated were stored at 2-8° for 48 hours (cf. Appendix C).

The proportion of naturally and artificially contaminated samples giving positive results is presented in table 13.

Table 13: proportion of naturally and artificially contaminated samples giving positive results

Category	Number and percentage of samples analyzed per contamination levels (CFU/25g)					
	Naturally contaminated	Mixing	≤ 5 (spiking) ≤ 3 (seeding)	5-10 (spiking) 3-10 (seeding)	>10	Total
Meat products (1)	19	2	9	0	0	30
Dairy products (2)	10	0	20	0	0	30
Seafood products (3)	17	0	14	0	0	31
Environmental samples (4)	4	0	26	0	0	30
<b>Total</b>	50	2	69	0	0	121
<b>%</b>	<b>41.3%</b>	<b>1.7%</b>	<b>57.0%</b>	<b>0.0%</b>	<b>0%</b>	<b>100%</b>

#### 4.1.3. Results

Raw results are presented in Appendix G. The following tables present the summary of the result.

Table 14: results of the sensitivity study for the 1.0 ml protocol (PA: positive agreement, NA: negative agreement, ND: negative deviation, PD: positive deviation, PP: presumptive positive before confirmation)

Category	Type	PA	NA	ND	PD	N	PPND	PPNA
Meat products (1)	1	9	7	1	3	20	0	0
	2	9	16	0	1	26	0	1
	3	3	17	3	1	24	0	0
	<b>Total</b>	<b>21</b>	<b>40</b>	<b>4</b>	<b>5</b>	<b>70</b>	<b>0</b>	<b>1</b>
Dairy products (2)	1	8	8	2	2	20	0	0
	2	7	13	0	0	20	0	0
	3	7	9	1	3	20	0	0
	<b>Total</b>	<b>22</b>	<b>30</b>	<b>3</b>	<b>5</b>	<b>60</b>	<b>0</b>	<b>0</b>
Seafood products (3)	1	9	10	1	0	20	0	0
	2	10	10	1	0	21	0	0
	3	7	10	0	3	20	0	0
	<b>Total</b>	<b>26</b>	<b>30</b>	<b>2</b>	<b>3</b>	<b>61</b>	<b>0</b>	<b>0</b>
Environmental samples (4)	1	8	12	1	1	22	0	0
	2	9	11	1	0	21	0	0
	3	8	11	1	1	21	0	0
	<b>Total</b>	<b>25</b>	<b>34</b>	<b>3</b>	<b>2</b>	<b>64</b>	<b>0</b>	<b>0</b>
<b>Total all categories</b>		<b>94</b>	<b>134</b>	<b>12</b>	<b>15</b>	<b>255</b>	<b>0</b>	<b>1</b>

Table 15: results of the sensitivity study for the 0.1 ml protocol (PA: positive agreement, NA: negative agreement, ND: negative deviation, PD: positive deviation, PP: presumptive positive before confirmation)

Category	Type	PA	NA	ND	PD	N	PPND	PPNA
Meat products (1)	1	9	7	1	3	20	0	0
	2	9	16	0	1	26	0	1
	3	3	17	3	1	24	0	0
	<b>Total</b>	<b>21</b>	<b>40</b>	<b>4</b>	<b>5</b>	<b>70</b>	<b>0</b>	<b>1</b>
Dairy products (2)	1	8	8	2	2	20	0	0
	2	7	13	0	0	20	0	0
	3	7	10	1	2	20	0	0
	<b>Total</b>	<b>22</b>	<b>31</b>	<b>3</b>	<b>4</b>	<b>60</b>	<b>0</b>	<b>0</b>
Seafood products (3)	1	9	10	1	0	20	0	0
	2	10	10	1	0	21	0	0
	3	7	10	0	3	20	0	0
	<b>Total</b>	<b>26</b>	<b>30</b>	<b>2</b>	<b>3</b>	<b>61</b>	<b>0</b>	<b>0</b>
Environmental samples (4)	1	8	12	1	1	22	0	0
	2	9	11	1	0	21	0	0
	3	8	11	1	1	21	0	0
	<b>Total</b>	<b>25</b>	<b>34</b>	<b>3</b>	<b>2</b>	<b>64</b>	<b>0</b>	<b>0</b>
<b>Total all categories</b>		<b>94</b>	<b>135</b>	<b>12</b>	<b>14</b>	<b>255</b>	<b>0</b>	<b>1</b>

These results were used to calculate the sensitivity for the alternative method (both protocols: 1.0 mL and 0.1 mL) and the reference method and the relative sensitivity (cf. tables 16 and 17).

Table 16: values of sensitivity for the two methods, relative trueness and false positive ratio for the alternative method using 1.0 ml protocol ( $SE_{alt}$ : sensitivity for the alt. method,  $SE_{ref}$ : sensitivity for the reference method, RT: relative trueness, FPR: false positive ratio for the alternative method)

Category	Type	PA	NA	ND	PD	N	PPND	PPNA	$SE_{alt}$	$SE_{ref}$	RT	FPR
Meat products (1)	a	9	7	1	3	20	0	0	92.3%	76.9%	80.0%	0.0%
	b	9	16	0	1	26	0	1	100.0%	90.0%	96.2%	6.3%
	c	3	17	3	1	24	0	0	57.1%	85.7%	83.3%	0.0%
	<b>Total</b>	<b>21</b>	<b>40</b>	<b>4</b>	<b>5</b>	<b>70</b>	<b>0</b>	<b>1</b>	<b>86.7%</b>	<b>83.3%</b>	<b>87.1%</b>	<b>2.5%</b>
Dairy products (2)	a	8	8	2	2	20	0	0	83.3%	83.3%	80.0%	0.0%
	b	7	13	0	0	20	0	0	100.0%	100.0%	100.0%	0.0%
	c	7	9	1	3	20	0	0	90.9%	72.7%	80.0%	0.0%
	<b>Total</b>	<b>22</b>	<b>30</b>	<b>3</b>	<b>5</b>	<b>60</b>	<b>0</b>	<b>0</b>	<b>90.0%</b>	<b>83.3%</b>	<b>86.7%</b>	<b>0.0%</b>
Seafood products (3)	a	9	10	1	0	20	0	0	90.0%	100.0%	95.0%	0.0%
	b	10	10	1	0	21	0	0	90.9%	100.0%	95.2%	0.0%
	c	7	10	0	3	20	0	0	100.0%	70.0%	85.0%	0.0%
	<b>Total</b>	<b>26</b>	<b>30</b>	<b>2</b>	<b>3</b>	<b>61</b>	<b>0</b>	<b>0</b>	<b>93.5%</b>	<b>90.3%</b>	<b>91.8%</b>	<b>0.0%</b>
Environmental samples (4)	a	8	12	1	1	22	0	0	90.0%	90.0%	90.9%	0.0%
	b	9	11	1	0	21	0	0	90.0%	100.0%	95.2%	0.0%
	c	8	11	1	1	21	0	0	90.0%	90.0%	90.5%	0.0%
	<b>Total</b>	<b>25</b>	<b>34</b>	<b>3</b>	<b>2</b>	<b>64</b>	<b>0</b>	<b>0</b>	<b>90.0%</b>	<b>93.3%</b>	<b>92.2%</b>	<b>0.0%</b>
<b>All categories</b>		<b>94</b>	<b>134</b>	<b>12</b>	<b>15</b>	<b>255</b>	<b>0</b>	<b>1</b>	<b>90.1%</b>	<b>87.6%</b>	<b>89.5%</b>	<b>0.6%</b>

Table 17: values of sensitivity for the two methods, relative trueness and false positive ratio for the alternative method using 0.1 ml protocol ( $SE_{alt}$ : sensitivity for the alt. method,  $SE_{ref}$ : sensitivity for the reference method, RT: relative trueness, FPR: false positive ratio for the alternative method)

Category	Type	PA	NA	ND	PD	N	PPND	PPNA	$SE_{alt}$	$SE_{ref}$	RT	FPR
Meat products (1)	a	9	7	1	3	20	0	0	92.3%	76.9%	80.0%	0.0%
	b	9	16	0	1	26	0	1	100.0%	90.0%	96.2%	6.3%
	c	3	17	3	1	24	0	0	57.1%	85.7%	83.3%	0.0%
	Total	21	40	4	5	70	0	1	86.7%	83.3%	87.1%	2.5%
Dairy products (2)	a	8	8	2	2	20	0	0	83.3%	83.3%	80.0%	0.0%
	b	7	13	0	0	20	0	0	100.0%	100.0%	100.0%	0.0%
	c	7	10	1	2	20	0	0	90.0%	80.0%	85.0%	0.0%
	Total	22	31	3	4	60	0	0	89.7%	86.2%	88.3%	0.0%
Seafood products (3)	a	9	10	1	0	20	0	0	90.0%	100.0%	95.0%	0.0%
	b	10	10	1	0	21	0	0	90.9%	100.0%	95.2%	0.0%
	c	7	10	0	3	20	0	0	100.0%	70.0%	85.0%	0.0%
	Total	26	30	2	3	61	0	0	93.5%	90.3%	91.8%	0.0%
Environmental samples (4)	a	8	12	1	1	22	0	0	90.0%	90.0%	90.9%	0.0%
	b	9	11	1	0	21	0	0	90.0%	100.0%	95.2%	0.0%
	c	8	11	1	1	21	0	0	90.0%	90.0%	90.5%	0.0%
	Total	25	34	3	2	64	0	0	90.0%	93.3%	92.2%	0.0%
All categories	Total	94	135	12	14	255	0	1	90.0%	88.3%	89.9%	0.6%

Table 18 presents the summary of the results for all categories and all protocols:

Table 18: summary of the sensitivity study results for all the categories of the application

Parameter	ISO 16140-2 formulas	Results for all the categories (1.0 ml protocol)	Results for all the categories (0.1 ml protocol)
Sensitivity of the alternative method	$SE_{alt} = \frac{(PA + PD)}{(PA + ND + PD)} \times 100 \%$	90.1%	90.0%
Sensitivity of the reference method	$SE_{ref} = \frac{(PA + ND)}{(PA + ND + PD)} \times 100 \%$	87.6%	88.3%
Relative trueness	$RT = \frac{(PA + NA)}{N} \times 100 \%$	89.5%	89.9%
False positive ratio	$FPR = \frac{FP}{NA} \times 100 \%$	0.6%	0.6%

#### 4.1.4. Analysis of discordant results

Discordant results are examined according to the standard ISO 16140-2: 2016.

Table 19 presents the summary of the discordant results for all categories.

Table 19: summary of discordant results for all categories (Conf. : Confirmation; L. m: Listeria monocytogenes, L.w: Listeria welshimeri; type of contamination: AC-artificial contamination, /-naturally contaminated sample)

Cat.	Study	Type	N° Sample	Sample	Type of contamination	Final result RM	AM : Vidas LMO2, LPT 1 ml			Discordance	AM : Vidas LMO2, LPT 0.1 ml			Discordance
							Vidas test	Conf	Final result		Vidas test	Conf	Final result	
(1)	2016	1	3	Raw minced beef 5% fat	AC	P	-	L.w	A	ND	-	L.w	A	ND
	2016	1	34	Deep-frozen chicken leg with skin	/	A	+	L.m	P	PD	+	L.m	P	PD
	2016	1	39	Sliced leg of lamb	AC	A	+	L.m	P	PD	+	L.m	P	PD
	2016	1	152	Raw cartilage of pork	/	A	+	L.m	P	PD	+	L.m	P	PD
	2016	2	36	Peking duck 6	/	A	+	L.m	P	PD	+	L.m	P	PD
	2016	3	16	Sliced Serrano ham	AC	P	-	/	A	ND	-	/	A	ND
	2016	3	30	Sliced smoked poultry delicatessen	/	P	-	/	A	ND	-	/	A	ND
	2016	3	32	Salted pork ribs	/	P	-	/	A	ND	-	/	A	ND
(2)	2016	3	63	Extra lean skinless smoked lardons	/	A	+	L.m	P	PD	+	L.m	P	PD
	2016	1	14	Pressed and cooked cow raw milk cheese	AC	A	+	L.m	P	PD	+	L.m	P	PD
	2016	1	19	Raw milk Pont L'Evêque	/	P	-	/	A	ND	-	/	A	ND
	2016	1	136	Raw milk goat cheese 1	/	P	-	/	A	ND	-	/	A	ND
	2016	1	141	Raw milk camembert	AC	A	+	L.m	P	PD	+	L.m	P	PD
	2016	3	1	Camembert	AC	A	+	L.m	P	PD	+	L.m	P	PD
	2016	3	2	Goat cheese	AC	A	+	L.m	P	PD	+	L.m	A	NA
	2016	3	41	Saint-Paulin cheese	AC	P	-	L.m	A	ND	-	L.m	A	ND
(3)	2016	3	87	Tzatziki	/	A	+	L.m	P	PD	+	L.m	P	PD
	2016	1	144	Trout fillet	/	P	-	/	A	ND	-	/	A	ND
	2016	2	131	Smoked swordfish 1	/	P	-	/	A	ND	-	/	A	ND
	2016	3	105	Seafood salad	AC	A	+	L.m	P	PD	+	L.m	P	PD
	2016	3	127	Thalissini 1	/	A	+	L.m	P	PD	+	L.m	P	PD
(4)	2016	3	143	Fish paupiette	/	A	+	L.m	P	PD	+	L.m	P	PD
	2018	1	6	Processed water 6	AC	A	+	L.m	P	PD	+	L.m	P	PD
	2018	1	8	Processed water 8	AC	P	-	/	A	ND	-	/	A	ND
	2018	2	15	Residue 5	AC	P	-	/	A	ND	-	/	A	ND
	2018	3	24	Surface sample 4	AC	A	+	L.m	P	PD	+	L.m	P	PD
2018	3	28	Surface sample 8	AC	P	-	/	A	ND	-	/	A	ND	



- **Negative deviations:**

A positive result is obtained by the reference method whereas a negative result is obtained by the alternative method.

Twelve negative deviations were observed for the two protocols tested.

For 11 negative deviations, including 6 naturally contaminated samples, the confirmation protocol of the alternative method was applied and non-typical colonies were observed.

An additional confirmation according to the ISO 16140-2:2016 was applied on subcultures of LPT for these discordant results. This protocol did not allow to find typical colonies. These results suggest that these negative deviations could be due to the difference of sampling between both methods. No cell of *L. monocytogenes* may have been present in the sampling of the alternative method.

One negative deviation (sample n°41) is also false negative, highlighted by the confirmation protocol of the alternative method and by the additional confirmation according to the ISO 16140-2:2016. It is probable that the enrichment did not allow to reach the threshold of the VIDAS LMO2 test.

- **Positive deviations:**

A confirmed positive result is obtained by the alternative method whereas a negative result is obtained by the reference method.

Fifteen and fourteen positive deviations were observed for the 1.0 ml and 0.1 ml protocols respectively, including 7 naturally contaminated samples. For the reference method, no typical colonies were observed.

The positive deviations could be due to the difference of sampling between both methods. No cell of *L. monocytogenes* may have been present in the sampling of the reference method.

Tables 20 and 21 show the difference between negative deviations and positive deviations and the acceptability limits for each category.

Table 20: acceptability limits for 1.0 ml protocol

Category	Type	ND	PD	(ND-PD)	Acceptability limit (AL)	Observation
Meat products (1)	1	1	3	/	/	(ND-PD) ≤ AL for unpaired data
	2	0	1			
	3	3	1			
	<b>Total</b>	<b>4</b>	<b>5</b>	<b>-1</b>	<b>(ND – PD)<sub>AL=3</sub></b>	
Dairy products (2)	1	2	2	/	/	
	2	0	0			
	3	1	3			
	<b>Total</b>	<b>3</b>	<b>5</b>	<b>-2</b>	<b>(ND – PD)<sub>AL=3</sub></b>	
Seafood products (3)	1	1	0	/	/	
	2	1	0			
	3	0	3			
	<b>Total</b>	<b>2</b>	<b>3</b>	<b>-1</b>	<b>(ND – PD)<sub>AL=3</sub></b>	
Environmental samples (4)	1	1	1	/	/	
	2	1	0			
	3	1	1			
	<b>Total</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>(ND – PD)<sub>AL=3</sub></b>	
<b>All categories</b>		<b>12</b>	<b>15</b>	<b>-3</b>	<b>(ND – PD)<sub>AL=5</sub></b>	

Table 21: acceptability limits for 0.1 ml protocol

Category	Type	ND	PD	(ND-PD)	Acceptability limit (AL)	Observation
Meat products (1)	1	1	3	/	/	(ND-PD) ≤ AL for unpaired data
	2	0	1			
	3	3	1			
	<b>Total</b>	<b>4</b>	<b>5</b>	<b>-1</b>	<b>(ND – PD)<sub>AL=3</sub></b>	
Dairy products (2)	1	2	2	/	/	
	2	0	0			
	3	1	2			
	<b>Total</b>	<b>3</b>	<b>4</b>	<b>-1</b>	<b>(ND – PD)<sub>AL=3</sub></b>	
Seafood products (3)	1	1	0	/	/	
	2	1	0			
	3	0	3			
	<b>Total</b>	<b>2</b>	<b>3</b>	<b>-1</b>	<b>(ND – PD)<sub>AL=3</sub></b>	
Environmental samples (4)	1	1	1	/	/	
	2	1	0			
	3	1	1			
	<b>Total</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>(ND – PD)<sub>AL=3</sub></b>	
<b>All categories</b>		<b>12</b>	<b>14</b>	<b>-2</b>	<b>(ND – PD)<sub>AL=5</sub></b>	

For the 2 tested protocols (1 ml and 0.1 ml), the observed values are below the acceptability limits for each category and for the combined categories.

The alternative method produces results comparable to the reference method.

#### 4.1.5. Study of storage of the enriched LPT broths

A stability study of the secondary enriched broths stored at 5±3°C for 72 hours was performed on all positive and discordant samples. After storage, the broths were reanalyzed and confirmed by streaking on ALOA (results in Appendix G).

Two modifications of the results after storage of the enriched broth at 5±3°C for 72 hours were observed:

- For the 1 ml protocol, one sample (n°2, 2016) found positive after enrichment (positive deviation) gives a negative result after storage of the LPT broth for 72 hours at 2-8°C (negative agreement),
- For the 0.1 ml protocol, one sample (n°1, 2016) found positive after enrichment (positive deviation) gives a negative result after storage of the LPT broth for 72 hours at 2-8°C (negative agreement).

Tables 22 and 23 show the difference between negative deviations and positive deviations and the acceptability limits for each category for the protocol 1.0 ml and 0.1 ml, respectively.

For the 2 protocols tested, (1.0 ml and 0.1 ml), the observed values are below the acceptability limits for each category and for the combined categories.

After storage of the LPT broth for 72 hours at 2-8°C, the alternative method produces comparable results to the reference method.

Table 22: acceptability limits for the 1.0 ml protocol after storage of the LPT broth for 72 hours at 2-8°C

Category	Type	ND	PD	(ND-PD)	Acceptability limit (AL)	Observation
<b>Meat products (1)</b>	1	1	3	/	/	(ND-PD) ≤ AL for unpaired data
	2	0	1			
	3	3	1			
	<b>Total</b>	<b>4</b>	<b>5</b>	<b>-1</b>	<b>(ND – PD)<sub>AL=3</sub></b>	
<b>Dairy product (2)</b>	1	2	2 1	/	/	
	2	0	0			
	3	1	2 3			
	<b>Total</b>	<b>3</b>	<b>4</b>	<b>-1</b>	<b>(ND – PD)<sub>AL=3</sub></b>	
<b>Seafood products (3)</b>	1	1	0	/	/	
	2	1	0			
	3	0	3			
	<b>Total</b>	<b>2</b>	<b>3</b>	<b>-1</b>	<b>(ND – PD)<sub>AL=3</sub></b>	
<b>Environmental samples (4)</b>	1	1	1	/	/	
	2	1	0			
	3	1	1			
	<b>Total</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>(ND – PD)<sub>AL=3</sub></b>	
<b>All categories</b>		<b>12</b>	<b>14</b>	<b>-2</b>	<b>(ND – PD)<sub>AL=5</sub></b>	

Table 23: acceptability limits for the 0.1 ml protocol after storage of the LPT broth for 72 hours at 2-8°C

Category	Type	ND	PD	(ND-PD)	Acceptability limit (AL)	Observation
Meat products (1)	1	1	3	/	/	(ND-PD) ≤ AL for unpaired data
	2	0	1			
	3	3	1			
	Total	4	5	-1	(ND – PD) <sub>AL=3</sub>	
Dairy products (2)	1	2	2	/	/	
	2	0	0			
	3	1	1			
	Total	3	3	0	(ND – PD) <sub>AL=3</sub>	
Seafood products (3)	1	1	0	/	/	
	2	1	0			
	3	0	3			
	Total	2	3	-1	(ND – PD) <sub>AL=3</sub>	
Environmental samples (4)	1	1	1	/	/	
	2	1	0			
	3	1	1			
	Total	3	2	1	(ND – PD) <sub>AL=3</sub>	
All categories		12	13	-1	(ND – PD) <sub>AL=5</sub>	

## 4.2. Relative level of detection study

### 4.2.1. Experimental design

#### 4.2.1.1. Matrix

Different “strain-matrix” couples were studied in parallel with the reference method and the VIDAS LMO2 method, for the studied categories.

The total viable count of each matrix was enumerated. Characteristics of the strain and the matrix are shown in table 24.

Table 24: « matrix – strain » couples of the relative level of detection

Category	Matrix	Strain	Code	Strain origin	Study
(1) Meat products	Pork rillettes	<i>L. monocytogenes</i> 1/2c	LIS.4.33	Minced meat	2016
(2) Dairy products	Pasteurized milk	<i>L. monocytogenes</i> 1/2b	LIS.4.32	Raw milk	2016
(3) Seafood products	Salmon rillettes	<i>L. monocytogenes</i> 1/2a	LIS.4.12	Smoked salmon	2016
(4) Environmental samples	Process water	<i>L. monocytogenes</i> 1/2c	LIS.4.16	Surface sample	2018

#### 4.2.1.2. Protocol of contamination

Artificial contamination was carried out in accordance with the requirements of the EN ISO 16140 standard and with the prevailing AFNOR Technical Board requirements.

Test portions were prepared for each level of contamination and individually inoculated with a calibrated bacterial suspension. Several dilutions of a calibrated and low-concentrated suspension of *Listeria monocytogenes* were used to spike the samples before analysis.

Three levels of contamination were prepared consisting of a negative control level (5 replicates), a low level (20 replicates), and a higher level (5 replicates).

The inoculated samples were analyzed by the reference method and the alternative method.

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

#### 4.2.2. Results and calculation of the RLODs

Raw results are shown in Appendix H.

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 the same for the two protocols used of the alternative method (1.0 ml and 0.1 ml). They are presented in table 25.

*Table 25 : RLODs values for the categories of the application scope (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,  $b=\ln(\text{RLOD})$ : 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  $H_0: b=0$ , p-value: p-value of the z-Test)*

Name	AL	RLOD	RLODL	RLODU	$b=\ln(\text{RLOD})$	$sd(b)$	z-Test statistic	p-value
Pork rillettes	2.5	0.899	0.413	1.954	-0.107	0.388	0.275	1.217
Raw milk	2.5	0.937	0.356	2.465	-0.065	0.484	0.134	1.107
Salmon rillettes	2.5	1.000	0.478	2.092	0.000	0.369	0.000	1.000
Process water	2.5	0.872	0.387	1.964	-0.137	0.406	0.338	1.264
<b>Combined</b>	<b>2.5</b>	<b>0.932</b>	<b>0.635</b>	<b>1.367</b>	<b>-0.071</b>	<b>0.192</b>	<b>0.368</b>	<b>1.287</b>

The LOD50 calculations according to Wilrich & Wilrich POD-LOD calculation program - version 11, are given in table 26.

*Table 26: LOD<sub>50%</sub> for the alternative and reference method*

Matrix	Strain	LOD50% (CFU/25g) Alternative method	LOD50% (CFU/25g) Reference method
Meat products	Pork rillettes	0.84 (0.47-1.50)	0.94 (0.52-1.68)
Dairy products	Pasteurized milk	1.38 (0.69-2.76)	1.51 (0.74-3.07)
Seafood products	Salmon rillettes	0.49 (0.29-0.82)	0.49 (0.29-0.82)
Environmental samples	Process water	0.45 (0.26-0.78)	0.52 (0.30-0.89)
<b>Combined results</b>		<b>0.70 (0.53-0.93)</b>	<b>0.70 (0.58-1.02)</b>

#### 4.2.3. Interpretation and conclusion

The RLODs values are below the acceptability limits (2,5 for an unpaired study), 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.

In conclusion, alternative and reference methods show similar LODs values for the detection of *Listeria monocytogenes* in the categories tested.

#### 4.3. Inclusivity and exclusivity study

Inclusivity and exclusivity of the method were already determined for the initial validation of the method with different enrichment broths (2004): half-Fraser and Fraser, known to be more selective than the LPT broth. During the presentation of the extension project of the method, the Technical Committee accepted that the inclusivity and exclusivity were not to be determined again.

## 5. Practicability

<p>1. <i>Storage conditions of the components (see package insert) – Expiration date of unopened products (see package insert)</i></p>	<p>The storage temperature of the VIDAS LMO2 kit is 2-8°C. The kit expiration date is shown on the box label and on the various vials.</p>																																																		
<p>2. <i>Conditions of use after first use (see package insert)</i></p>	<p>The kit components should be stored at 2-8°C. If stored as recommended (pouch correctly resealed with desiccant after use, etc.), all the components will remain stable until the expiration date indicated on the label.</p>																																																		
<p>3. <i>Time-to-result</i></p> <table border="1" data-bbox="135 701 786 1238"> <thead> <tr> <th style="text-align: center;"><b>Step</b></th> <th style="text-align: center;"><b>Time required (Day)</b> VIDAS LMO2 method</th> <th style="text-align: center;"><b>Time required (Day)</b> EN ISO 11290-1 standard</th> </tr> </thead> <tbody> <tr> <td>Pre-enrichment</td> <td style="text-align: center;">D0</td> <td style="text-align: center;">D0</td> </tr> <tr> <td>Inoculation of Fraser</td> <td style="text-align: center;">D1</td> <td style="text-align: center;">D1</td> </tr> <tr> <td>Streaking on selective media</td> <td style="text-align: center;">/</td> <td style="text-align: center;">D1 &amp; D2</td> </tr> <tr> <td>Perform VIDAS LMO2 test</td> <td style="text-align: center;">D2</td> <td style="text-align: center;">/</td> </tr> <tr> <td>Plate reading</td> <td style="text-align: center;">/</td> <td style="text-align: center;">D3 &amp; D4</td> </tr> <tr> <td><b>Obtention of negative results</b> (without confirmation)</td> <td style="text-align: center;"><b>D2</b></td> <td style="text-align: center;"><b>D4</b></td> </tr> <tr> <td>Confirmation testing</td> <td style="text-align: center;">D2</td> <td style="text-align: center;">D3 to D5</td> </tr> <tr> <td><b>Obtention of negative results</b> (after negative confirmation testing if necessary)</td> <td style="text-align: center;"><b>D4 to D6</b></td> <td style="text-align: center;"><b>D4 to D6</b></td> </tr> <tr> <td><b>Obtention of positive results</b> (confirmation of typical colonies)</td> <td style="text-align: center;"><b>D3 to D6</b></td> <td style="text-align: center;"><b>D4 to D6</b></td> </tr> </tbody> </table>	<b>Step</b>	<b>Time required (Day)</b> VIDAS LMO2 method	<b>Time required (Day)</b> EN ISO 11290-1 standard	Pre-enrichment	D0	D0	Inoculation of Fraser	D1	D1	Streaking on selective media	/	D1 & D2	Perform VIDAS LMO2 test	D2	/	Plate reading	/	D3 & D4	<b>Obtention of negative results</b> (without confirmation)	<b>D2</b>	<b>D4</b>	Confirmation testing	D2	D3 to D5	<b>Obtention of negative results</b> (after negative confirmation testing if necessary)	<b>D4 to D6</b>	<b>D4 to D6</b>	<b>Obtention of positive results</b> (confirmation of typical colonies)	<b>D3 to D6</b>	<b>D4 to D6</b>	<table border="1" data-bbox="794 701 1455 1238"> <thead> <tr> <th style="text-align: center;"><b>Time required (Day)</b> VIDAS LMO2 method</th> <th style="text-align: center;"><b>Time required (Day)</b> EN ISO 11290-1 standard</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">D0</td> <td style="text-align: center;">D0</td> </tr> <tr> <td style="text-align: center;">D1</td> <td style="text-align: center;">D1</td> </tr> <tr> <td style="text-align: center;">/</td> <td style="text-align: center;">D1 &amp; D2</td> </tr> <tr> <td style="text-align: center;">D2</td> <td style="text-align: center;">/</td> </tr> <tr> <td style="text-align: center;">/</td> <td style="text-align: center;">D3 &amp; D4</td> </tr> <tr> <td style="text-align: center;"><b>D2</b></td> <td style="text-align: center;"><b>D4</b></td> </tr> <tr> <td style="text-align: center;">D2</td> <td style="text-align: center;">D3 to D5</td> </tr> <tr> <td style="text-align: center;"><b>D4 to D6</b></td> <td style="text-align: center;"><b>D4 to D6</b></td> </tr> <tr> <td style="text-align: center;"><b>D3 to D6</b></td> <td style="text-align: center;"><b>D4 to D6</b></td> </tr> </tbody> </table>	<b>Time required (Day)</b> VIDAS LMO2 method	<b>Time required (Day)</b> EN ISO 11290-1 standard	D0	D0	D1	D1	/	D1 & D2	D2	/	/	D3 & D4	<b>D2</b>	<b>D4</b>	D2	D3 to D5	<b>D4 to D6</b>	<b>D4 to D6</b>	<b>D3 to D6</b>	<b>D4 to D6</b>
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<p>4. <i>Steps common to the reference method</i></p>	<p><b>General protocol:</b> the two enrichment steps and the confirmation testing (reference method tests including purification)</p> <p><b>Specific protocol:</b> no common step</p>																																																		

## 6. Interlaboratory study

A validation extension was obtained in December 2006 following the completion of the interlaboratory study in accordance with the EN ISO 16140 standard. The general protocol of the alternative method was used in this study.

### 6.1. Organization of the study

Sixteen laboratories received samples of pasteurized milk.

The strain used for contamination of the pasteurized milk was a strain of *Listeria monocytogenes* (L32), isolated from a raw milk cheese.

The contamination rates and the estimated precisions are set out in the table below: sixteen laboratories received the samples.

Table 27: target and real contamination rates per level

Level	Samples	Targeted theoretical rate (b/25 ml)	Actual level (bacteria/25 ml of sample)
Level 0 L <sub>0</sub>	6-7-8-14-15-19-20-21	0	0
Low level L <sub>1</sub>	1-2-9-10-11-16-22-23	3	4.5
High level L <sub>2</sub>	3-4-5-12-13-17-18-24	30	46.6

As a result of transport conditions, only 14 laboratories carried out the tests, as two laboratories did not receive the samples within the lead time.

### 6.2. Results

- **Results obtained by participating laboratories**

Table 28: positive results after confirmation obtained with the reference method

Laboratories	Contamination levels					
	L <sub>0</sub>		L <sub>1</sub>		L <sub>2</sub>	
	Obtained	Analyzed	Obtained	Analyzed	Obtained	Analyzed
Laboratory A	0	8	8	8	8	8
Laboratory D	0	8	8	8	8	8
Laboratory E	0	8	8	8	8	8
Laboratory F	0	8	4	4	8	8
Laboratory G	0	8	8	8	8	8
Laboratory H	0	8	8	8	8	8
Laboratory I	0	8	8	8	8	8
Laboratory J	0	8	8	8	8	8
Laboratory K	0	8	8	8	8	8
Laboratory L	0	8	8	8	8	8
Laboratory M	0	8	8	8	8	8
Laboratory N	0	8	8	8	8	8
Laboratory O	0	8	8	8	8	8
Laboratory P	0	8	8	8	8	8
Total	0	112	108	112	112	112



Table 29: positive results after confirmation obtained with the alternative method

Laboratories	Contamination levels					
	$L_0$		$L_1$		$L_2$	
	Obtained	Analyzed	Obtained	Analyzed	Obtained	Analyzed
Laboratory A	0	8	8	8	8	8
Laboratory D	0	8	8	8	8	8
Laboratory E	0	8	8	8	8	8
Laboratory F	0	8	4	4	8	8
Laboratory G	0	8	8	8	8	8
Laboratory H	0	8	8	8	8	8
Laboratory I	0	8	8	8	8	8
Laboratory J	0	8	8	8	8	8
Laboratory K	0	8	8	8	8	8
Laboratory L	0	8	8	8	8	8
Laboratory M	0	8	8	8	8	8
Laboratory N	0	8	8	8	8	8
Laboratory O	0	8	8	8	8	8
Laboratory P	0	8	8	8	8	8
Total	0	112	108	112	112	112

- **Analysis of the results**

Laboratory F was excluded from the final statistical analysis of the results, as 4 samples had not been analyzed due to leaks. Results of 13 laboratories are thus kept for the statistical analysis. At  $L_0$ , no positive result is observed. At  $L_1$  and  $L_2$ , all samples are found positive by the two methods.

### 6.3. Interpretation of the results

#### 6.3.1. Summary of the results

Table 30 details per method and per level the results obtained during the study.

Table 30: tests results for the two methods

Level	Alternative method	Reference method		
		MR+	MR-	Total
$L_0$	MA+	PA = 0	PD = 0	0
	MA-	ND = 0	NA = 104	104
	Total	0	104	104
$L_1$	MA+	PA = 104	PD = 0	104
	MA-	ND = 0	NA = 0	0
	Total	104	0	104
$L_2$	MA+	PA = 104	PD = 0	104
	MA-	ND = 0	NA = 0	0
	Total	104	0	104
$L_0 + L_1 + L_2$	MA+	PA = 208	PD = 0	208
	MA-	ND = 0	NA = 104	104
	Total	208	104	312

### 6.3.2. Calculation of sensitivities, relative accuracy and false positive ratio

Based on the data of table 27, the following parameters are calculated:

- Sensitivity for the alternative method:  $SE_{alt} = \frac{(PA+PD)}{(PA+ND+PD)} \times 100\% = 100\%$
- Sensitivity for the reference method:  $SE_{ref} = \frac{(PA+ND)}{(PA+ND+PD)} \times 100\% = 100\%$
- Relative accuracy:  $AC = \frac{(PA+NA)}{N} \times 100\% = 100\%$
- False positive ratio for the alternative method:  $FP = \frac{(FP)}{NA} \times 100\% = 0\%$

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

### 6.4. Comparison to the acceptability limits and conclusion

For a paired study, the difference between (ND – PD) and the sum of (ND + PD) is calculated. The observed values shall not be higher than the acceptability limits (AL) defined by the ISO 16140-2:2016.

The AL is not met when the observed value is higher than the AL. When the AL is not met, investigations should be made (e.g. root cause analysis) in order to provide an explanation of the observed results.

Based on the AL and the additional information, it is decided whether the alternative method is regarded as not fit for purpose. The reasons for acceptance of the alternative method in case the AL is not met shall be stated in the study report.

As no fractional recovery result is obtained either at level  $L_1$  or at level  $L_2$ , calculations are performed from the data of these two levels.

The different values observed are detailed in the table 31.

Table 31: values obtained for the determination of the acceptability limit

Number of collaborators	(ND-PD)	(ND+PD)	Acceptability limits (AL)	
			(ND-PD)	(ND+PD)
13	0	0	4	5

The values (ND-PD) and (ND+PD) are inferior to the AL, 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.

### 6.5. Determination of the relative level of detection

This evaluation is performed according to Annex F of ISO 16140-2:2016 and using the excel spreadsheet as described in this standard. As there is limited experience with the interpretation of this approach, the results are used only for information. Results are shown in the table 32.

Table 32: values obtained for the determination of the relative level of detection

RLOD	RLODL	RLODU	b=ln(RLOD)	sd(b)	z-Test statistic	p-value
1.000	0.468	2.135	0.000	0.379	0.000	1.000

Calculation of LOD50% is not possible because every sample at level 1 was positive.

## 7. Conclusion

### 7.1. General protocol

- **Method comparison study**

The performances of the VIDAS LMO2 test are comparable to those of the EN ISO 11290-1:2017 standard.

This study concerned 394 samples of a broad range of foods and environmental samples tested in categories:

- Meat products,
- Dairy products,
- Seafood products,
- Vegetal products,
- Composite foods,
- Environmental samples.

Values obtained for the criteria of the sensitivity study are the following:

- sensitivity of the alternative method: 99.0%
- sensitivity of the reference method: 99.0%
- relative trueness: 99.0%
- false positive ratio: 0.0%

Three discordant results were obtained: two positive deviations and two negative deviations. The observed values (ND – PD) are below the acceptability limit for each category and for all categories.

The relative level of detection of the VIDAS LMO2 method was evaluated by artificially contaminating six different products representative the six categories tested.

It is between 0.339 and 2.948 *Listeria monocytogenes* cells per 25 g or ml of sample for both methods.

The specificity of the method is satisfactory.

The study of the practicability of the alternative method shows a simple and easy-to-use method and significant time savings compared to the reference method.

The interlaboratory study results obtained for all 13 selected laboratories demonstrate that the alternative method and the reference method have equivalent relative accuracy and sensitivity values and in the same level as those obtained in the comparison study.

### 7.2. Specific protocol

- **Method comparison study**

The performances of the VIDAS LMO2 test are comparable to those of the EN ISO 11290-1:2017 standard.

This extension study concerned 255 samples of four categories of products:

- Meat products,
- Dairy products,

- Seafood products,
- Environmental samples.

Values obtained for the criteria of the sensitivity study are the following:

- **Protocol with transfert of 1.0 ml**

- sensitivity of the alternative method: 90.1%
- sensitivity of the reference method: 87.6%
- relative trueness: 89.5%
- false positive ratio: 0.6%

- **Protocol with transfert of 0.1 ml**

- sensitivity of the alternative method: 90.0%
- sensitivity of the reference method: 88.3%
- relative trueness: 89.9%
- false positive ratio: 0.6%

Some discordant results were observed for both protocols. These results could be explained by the difference of sampling between both methods. No cell of *L. monocytogenes* may have been present in the sampling of the alternative method or the reference method.

The relative level of detection of the alternative method and the reference method was evaluated for all categories. With a value between 0.872 and 1.000, the results are similar between the two methods for all the categories tested.

The specificity of the method is satisfactory.

The study of the practicability of the alternative method shows a simple and easy-to-use method and significant time savings compared to the reference method.

The data and their interpretation produced in this renewal report fulfill the requirements of both the EN ISO 16140-2:2016 standard and the version 7 of the Requirements regarding comparison and interlaboratory studies for implementation of the standard EN ISO 16140-2.

Le Lion d'Angers, March 13, 2024

Guillaume Mesnard  
Deputy technical manager



François Le Nestour  
Head of the Microbiology Department



# APPENDICES

**APPENDIX A**  
**ALTERNATIVE METHOD PROTOCOLS**

**VIDAS LMO2 - General protocol**

**Primary enrichment :**

X g of sample + 9 X mL of half-Fraser broth

Example: 1 swab into 10 mL,

1 sponge into 100 mL, 1 wipe into 225 mL



Incubation 24-26h at 30±1°C

**Secondary enrichment :**

0.1mL enriched primary broth

+

10 mL of FRASER broth



Incubation 24-26h at 37±1°C

Possibility to store the broth at 2-8°C for:

- 24 hours (VIDAS testing)
- 48 hours (confirmation)



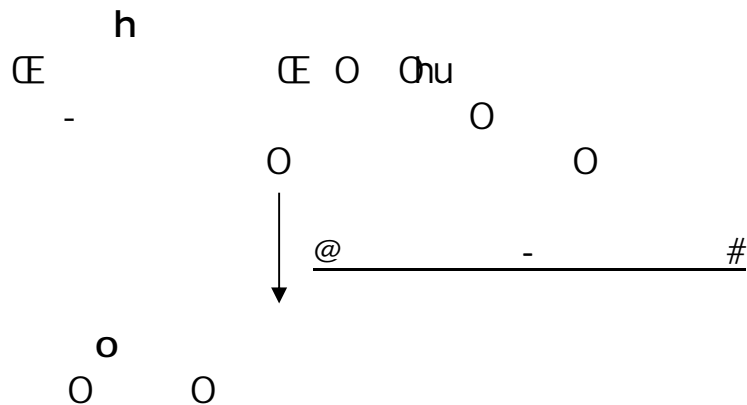
**VIDAS LMO2**

**Confirmation of positive results :**

- On a chromogenic medium or on PALCAM or Oxford: the characteristic colonies are confirmed using the tests set out in the methods standardized by CEN or ISO,
- On a chromogenic agar according to Ottaviani Agosti: the presence of typical *Listeria monocytogenes* colonies is sufficient to confirm the VIDAS LMO2 result.

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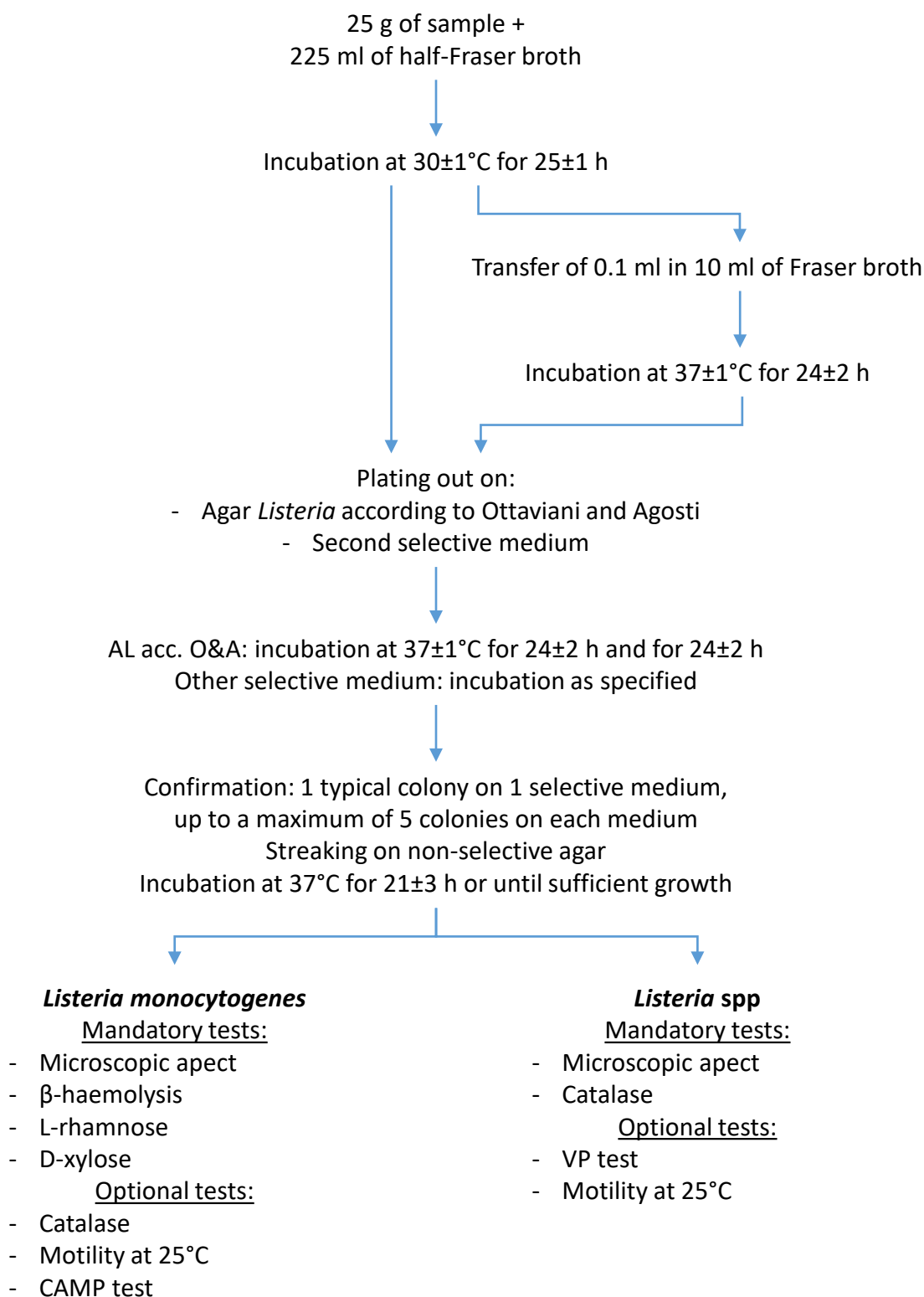
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- On a chromogenic medium or on PALCAM or Oxford: the characteristic colonies are confirmed using the tests set out in the methods standardized by CEN or ISO,
- On a chromogenic agar according to Ottaviani Agosti: the presence of typical *Listeria monocytogenes* colonies is sufficient to confirm the VIDAS LMO2 result.

**APPENDIX B**  
**EN ISO 11290-1:2017**

Diagram of the procedure as described in the standard





## **APPENDIX C**

### **ARTIFICIAL CONTAMINATIONS**

**Initial validation study**  
**Summary of the artificial contaminations**

Spiking: A: contamination by mixture with a naturally contaminated product  
 B: contamination by spiking with a cold-stressed strain  
 C: contamination by spiking with a heat-stressed strain  
 D: contamination by spiking with a strain stressed by high salt concentrations

N°	Product	Mode of contamination	« stress » (DLog)	Level (CFU/25g)	Strain	Origin	Result
D12	Brie de Meaux cheese	B	0,48	2	<i>L.monocytogenes</i> 4b	Munster cheese	-
D14	St Nectaire cheese	D	0,47	2,3	<i>L.monocytogenes</i> 1/2a	Munster cheese	+
D16	Maroilles cheese	D	0,47 0,89	2,3 2,0	<i>L.monocytogenes</i> 1/2a <i>L. innocua</i>	Munster cheese	+
D21	Maroilles cheese	D	0,65	1,5	<i>L.monocytogenes</i> 1/2a	Maroilles cheese	+
D24	Camembert made with raw milk	D	0,75	2,9	<i>L.monocytogenes</i> 1/2a	Maroilles cheese	+
D75	Belle des champs cheese	D	0,69	3	<i>L.monocytogenes</i> 1/2a	Munster cheese	+
D76	Vieux pâné cheese	D	0,47	2,3	<i>L.monocytogenes</i> 1/2a	Maroilles cheese	+
D77	Chaumes cheese	A	/	/	/	St Nectaire cheese	+
D78	Chamois d'Or cheese	D	0,65	4,5	<i>L.monocytogenes</i> 4b	Munster cheese	+
D79	St Albroy cheese	D	0,69	3	<i>L.monocytogenes</i> 1/2a	Munster cheese	-
D81	Chamois d'Or cheese	B	0,48	2	<i>L.monocytogenes</i> 4b	Munster cheese	+
D82	Chaumes cheese	B	1,06	1,9	<i>L.monocytogenes</i> 4e	Reblochon cheese	+
D83	Belle des champs cheese	A	/	/	/	Rond du vinage cheese	+
D84	St Albroy cheese	B	0,89	3,3	<i>L.monocytogenes</i> 1/2b	Ripened cheese	+
D85	Chamois d'Or cheese	A	/	/	/	Rond du vinage	+
D86	Chaumes cheese	D	0,75	2,9	<i>L.monocytogenes</i> 1/2a	Carré du vinage	+
D87	Pasteurized cheese	A	/	/	/	Rond du vinage cheese	+
D88	Chamois d'Or cheese	D	0,73	2,2	<i>L.monocytogenes</i> 1/2b	Ripened cheese	+
D89	Chaumes cheese	D	0,73	1	<i>L.monocytogenes</i> 1/2b	Ripened cheese	+
D102	Pasteurized whole milk	B	0,56	1,7	<i>L.monocytogenes</i> 1/2a	Munster cheese	+
D103	Pasteurized whole milk	B	0,56	0,8	<i>L.monocytogenes</i> 1/2a	Munster cheese	+
D104	Pasteurized whole milk	B	0,81	1,8	<i>L.monocytogenes</i> 1/2a	St Nectaire cheese	+
D114	Raw milk	B	0,62	5	<i>L.monocytogenes</i> 1/2a	Brie de Meaux cheese	+
V3	Lamb's lettuce	B	0,74	2,5	<i>L.monocytogenes</i> 4b	Salad	-
V4	Mixed salad	A	/	/	/	BrocolisBroccoli	+
V8	Celery	C	0,43	2,5	<i>L.monocytogenes</i>	Poached vegetables	+
V9	Grated celery	B	0,56	1,8	<i>L.monocytogenes</i> 1/2a	Hash browns	+
V10	Plain celery	C	0,54	1,7	<i>L.monocytogenes</i> 1/2a	Hash browns	+
V11	Lamb's lettuce	C	0,56	2,4	<i>L.monocytogenes</i>	Poached vegetables	+
V12	Mixed salad	C	0,56	1,2	<i>L.monocytogenes</i>	Poached vegetables	+
V22	Provençal mixed vegetables	C	0,54	2,5	<i>L.monocytogenes</i> 1/2a	Hash browns	-
V25	Tabbouleh	A	/	/	/	Cantonais rice	+
V26	Mixed salad with dressing	A	/	/	/	Cantonais rice	+
V27	Peppers	B	0,51	2	<i>L.monocytogenes</i> 1/2a	Hash browns	+
V28	Cucumbers	B	0,91	2	<i>L.monocytogenes</i>	Poached vegetables	+
V30	Tabbouleh	B	0,52	3,5	<i>L.monocytogenes</i> 1/2a	Hash browns	+
V31	Creamed spinach	B	0,51	2,1	<i>L.monocytogenes</i> 1/2a	Hash browns	+
V47	Peas	A	/	/	/	Spinach	+
V48	Frozen fries	B	0,82	3,5	<i>L.monocytogenes</i>	Poached vegetables	+
V50	Frozen fries	C	0,43	2,5	<i>L.monocytogenes</i>	Poached vegetables	+
S28	Fish fillet	B	0,65	3,5	<i>L.monocytogenes</i> 1/2a	Diced Smoked salmon	+
S29	Fish fillet	B	0,98	3,7	<i>L.monocytogenes</i>	Salmon	+
S30	Fillet of grenadier	B	1,22	3	<i>L.monocytogenes</i> 1/2a	Diced Smoked salmon	+
S31	Fillet of pout	B	1,22	3	<i>L.monocytogenes</i> 1/2a	Diced Smoked salmon	+
S32	Mackerel fillet	B	1,22	3	<i>L.monocytogenes</i> 1/2a	Diced Smoked salmon	+
E25	Water from washing machine output	C	0,87	2,5	<i>L.monocytogenes</i> 1/2c	Dairy environment	+
E26	Water from drain in production area	C	0,87	5	<i>L.monocytogenes</i> 1/2c	Dairy environment	+
E27	Water from drain in production area	C	0,87	2,5	<i>L.monocytogenes</i> 1/2c	Dairy environment	+

**Specific protocol - Analyses realized in 2016 and 2018**

Category	Study	Sample number	Sample	Code strain	Strain	Origin	Protocol of stress: seeding	Inoculation level (UFC/25g)	Global result
Meat products	ISHA 2016	3	Raw minced beef 5% fat	LIS.4.5	<i>Listeria monocytogenes 1/2a</i>	Ham crudeness	48 h at 5±3°C	3.0	+
		4	Raw minced beef 15% fat	LIS.4.9	<i>Listeria monocytogenes 1/2a</i>	Granule of roast beef	48 h at 5±3°C	3.0	+
		5	Deep-frozen raw veal	LIS.4.9	<i>Listeria monocytogenes 1/2a</i>	Granule of roast beef	48 h at 5±3°C	3.0	+
		6	Raw chicken brochette	LIS.4.11	<i>Listeria monocytogenes 1/2a</i>	Chicken curry	48 h at 5±3°C	3.0	+
		10	Raw Charolais sirloin	LIS.4.9	<i>Listeria monocytogenes 1/2a</i>	Granule of roast beef	48 h at 5±3°C	0.6	-
		18	Raw backbone chop pork	LIS.4.27	<i>Listeria monocytogenes 1/2a</i>	Ground beef	48 h at 5±3°C	3.0	+
		39	Sliced leg of lamb	LIS.4.33	<i>Listeria monocytogenes 1/2c</i>	Ground beef	48 h at 5±3°C	2.4	+
		40	Veal outlet	LIS.4.33	<i>Listeria monocytogenes 1/2c</i>	Ground beef	48 h at 5±3°C	2.4	+
		120	Raw chicken fillet	LIS.4.45	<i>Listeria monocytogenes 3a</i>	Roasted bacon	48 h at 5±3°C	0.2	-
		16	Sliced Serrano ham	LIS.4.27	<i>Listeria monocytogenes 1/2a</i>	Ground beef	48 h at 5±3°C	3.0	+
17	Sliced saucisson	LIS.4.27	<i>Listeria monocytogenes 1/2a</i>	Ground beef	48 h at 5±3°C	3.0	-		
100	Pork rilletes	LIS.4.43	<i>Listeria monocytogenes 1/2c</i>	Ground beef	48 h at 5±3°C	1.2	+		
Dairy products	ISHA 2016	7	Raw milk Comté 1	LIS.4.23	<i>Listeria monocytogenes 1/2a</i>	Fresh cheese	48 h at 5±3°C	3.0	+
		8	Raw milk Comté 2	LIS.4.32	<i>Listeria monocytogenes 1/2b</i>	Raw milk	48 h at 5±3°C	3.0	+
		9	Raw milk Comté 3	LIS.4.32	<i>Listeria monocytogenes 1/2b</i>	Raw milk	48 h at 5±3°C	3.0	+
		13	Raw milk camembert	LIS.4.56	<i>Listeria monocytogenes</i>	Raw milk cheese	48 h at 5±3°C	2.0	-
		14	Pressed and cooked cow raw milk cheese	LIS.4.56	<i>Listeria monocytogenes</i>	Raw milk cheese	48 h at 5±3°C	2.0	+
		48	Raw milk Abondance (cheese)	LIS.4.62	<i>Listeria monocytogenes</i>	Ewe raw milk	48 h at 5±3°C	2.2	+
		140	Raw milk Pont L'Évêque 2	LIS.4.56	<i>Listeria monocytogenes</i>	Raw milk cheese	48 h at 5±3°C	2.0	+
		141	Raw milk camembert	LIS.4.60	<i>Listeria monocytogenes</i>	Raw milk cheese	48 h at 5±3°C	2.0	+
		142	Raw milk Saint-Nectaire	LIS.4.60	<i>Listeria monocytogenes</i>	Raw milk cheese	48 h at 5±3°C	2.0	+
		12	Microfiltered milk	LIS.4.32	<i>Listeria monocytogenes 1/2b</i>	Raw milk	48 h at 5±3°C	3.0	+
		133	Raw milk 5	LIS.4.64	<i>Listeria monocytogenes</i>	Buffalo raw milk cheese	48 h at 5±3°C	2.0	+
		134	Raw milk 6	LIS.4.64	<i>Listeria monocytogenes</i>	Buffalo raw milk cheese	48 h at 5±3°C	2.0	+
		135	Raw milk 7	LIS.4.64	<i>Listeria monocytogenes</i>	Buffalo raw milk cheese	48 h at 5±3°C	2.0	+
		1	Camembert	LIS.4.23	<i>Listeria monocytogenes 1/2a</i>	Fresh cheese	48 h at 5±3°C	3.0	+
		2	Goat cheese	LIS.4.23	<i>Listeria monocytogenes 1/2a</i>	Fresh cheese	48 h at 5±3°C	3.0	+
		41	Saint-Paulin cheese	LIS.4.59	<i>Listeria monocytogenes</i>	Goat raw milk	48 h at 5±3°C	3.0	+
		42	Mixed milk pasteurized cheese	LIS.4.59	<i>Listeria monocytogenes</i>	Goat raw milk	48 h at 5±3°C	3.0	+
		43	Livarot cheese	LIS.4.59	<i>Listeria monocytogenes</i>	Goat raw milk	48 h at 5±3°C	3.0	+
		44	Nature yoghourt	LIS.4.60	<i>Listeria monocytogenes</i>	Raw milk cheese	48 h at 5±3°C	2.0	+
		103	Dice of pasteurized cheese garlic, herbs	LIS.4.63	<i>Listeria monocytogenes</i>	Raw milk cheese	48 h at 5±3°C	2.5	+
109	Cancoillotte	LIS.4.63	<i>Listeria monocytogenes</i>	Raw milk cheese	48 h at 5±3°C	2.5	+		
Seafood products	ISHA 2016	11	Back of raw cod (fresh)	LIS.4.15	<i>Listeria monocytogenes 1/2a</i>	Salmon tartare	48 h at 5±3°C	3.0	+
		45	Coley fillet	LIS.4.31	<i>Listeria monocytogenes 1/2b</i>	Herring with spices	48 h at 5±3°C	2.2	+
		15	Smoked salmon	LIS.4.25	<i>Listeria monocytogenes 1/2a</i>	Fish with vegetable	48 h at 5±3°C	2.0	+
		46	Whiting fillet	LIS.4.31	<i>Listeria monocytogenes 1/2b</i>	Herring with spices	48 h at 5±3°C	2.2	+
		107	Salmon lardons	LIS.4.42	<i>Listeria monocytogenes 3a</i>	Smoked salmon	48 h at 5±3°C	1.8	+
		113	Rollmops	LIS.4.12	<i>Listeria monocytogenes 1/2a</i>	Smoked salmon	48 h at 5±3°C	2.6	+
		47	Desalinated cod fillet	LIS.4.47	<i>Listeria monocytogenes 4b</i>	Salmon slice	48 h at 5±3°C	2.4	+
		101	Two salmons rilletes	LIS.4.39	<i>Listeria monocytogenes 1/2c</i>	Salmon tartare	48 h at 5±3°C	2.2	+
		104	Salmon lasagna	LIS.4.39	<i>Listeria monocytogenes 1/2c</i>	Salmon tartare	48 h at 5±3°C	2.2	+
		105	Seafood salad	LIS.4.39	<i>Listeria monocytogenes 1/2c</i>	Salmon tartare	48 h at 5±3°C	2.2	+
		106	Fish gratin	LIS.4.42	<i>Listeria monocytogenes 3a</i>	Smoked salmon	48 h at 5±3°C	1.8	+
		111	Tuna rilletes	LIS.4.42	<i>Listeria monocytogenes 3a</i>	Smoked salmon	48 h at 5±3°C	1.8	+
		112	Catalan mussels	LIS.4.12	<i>Listeria monocytogenes 1/2a</i>	Smoked salmon	48 h at 5±3°C	2.6	+
		114	Tarama	LIS.4.12	<i>Listeria monocytogenes 1/2a</i>	Smoked salmon	48 h at 5±3°C	2.6	+
Environmental samples	ISHA 2018	1	Processed water 1	LIS.4.2	<i>Listeria monocytogenes</i>	Environment	48 h at 5±3°C	2.6	+
		2	Processed water 2	LIS.4.2	<i>Listeria monocytogenes</i>	Environment	48 h at 5±3°C	2.6	+
		3	Processed water 3	LIS.4.2	<i>Listeria monocytogenes</i>	Environment	48 h at 5±3°C	2.6	+
		4	Processed water 4	LIS.4.2	<i>Listeria monocytogenes</i>	Environment	48 h at 5±3°C	2.6	+
		5	Processed water 5	LIS.4.16	<i>Listeria monocytogenes 1/2a</i>	Surface sample sewer	48 h at 5±3°C	1.8	-
		6	Processed water 6	LIS.4.2	<i>Listeria monocytogenes</i>	Environment	48 h at 5±3°C	2.6	+
		7	Processed water 7	LIS.4.16	<i>Listeria monocytogenes 1/2a</i>	Surface sample sewer	48 h at 5±3°C	1.8	+
		8	Processed water 8	LIS.4.16	<i>Listeria monocytogenes 1/2a</i>	Surface sample sewer	48 h at 5±3°C	1.8	+
		9	Processed water 9	LIS.4.16	<i>Listeria monocytogenes 1/2a</i>	Surface sample sewer	48 h at 5±3°C	1.8	-
		10	Processed water 10	LIS.4.16	<i>Listeria monocytogenes 1/2a</i>	Surface sample sewer	48 h at 5±3°C	1.8	+
		11	Residue 1	LIS.4.44	<i>Listeria monocytogenes 3a</i>	Surface sample	48 h at 5±3°C	2.0	+
		12	Residue 2	LIS.4.44	<i>Listeria monocytogenes 3a</i>	Surface sample	48 h at 5±3°C	2.0	+
		13	Residue 3	LIS.4.44	<i>Listeria monocytogenes 3a</i>	Surface sample	48 h at 5±3°C	2.0	+
		14	Residue 4	LIS.4.44	<i>Listeria monocytogenes 3a</i>	Surface sample	48 h at 5±3°C	2.0	+
		15	Residue 5	LIS.4.44	<i>Listeria monocytogenes 3a</i>	Surface sample	48 h at 5±3°C	2.0	+
		16	Residue 6	LIS.4.57	<i>Listeria monocytogenes</i>	Goat milk filter	48 h at 5±3°C	1.8	+
		17	Residue 7	LIS.4.57	<i>Listeria monocytogenes</i>	Goat milk filter	48 h at 5±3°C	1.8	+
		18	Residue 8	LIS.4.57	<i>Listeria monocytogenes</i>	Goat milk filter	48 h at 5±3°C	1.8	-
		19	Residue 9	LIS.4.57	<i>Listeria monocytogenes</i>	Goat milk filter	48 h at 5±3°C	1.8	+
		20	Residue 10	LIS.4.57	<i>Listeria monocytogenes</i>	Goat milk filter	48 h at 5±3°C	1.8	+
		21	Surface sample 1	LIS.4.68	<i>Listeria monocytogenes</i>	Surface sample	48 h at 5±3°C	2.6	+
		22	Surface sample 2	LIS.4.68	<i>Listeria monocytogenes</i>	Surface sample	48 h at 5±3°C	2.6	+
		23	Surface sample 3	LIS.4.68	<i>Listeria monocytogenes</i>	Surface sample	48 h at 5±3°C	2.6	+
		24	Surface sample 4	LIS.4.68	<i>Listeria monocytogenes</i>	Surface sample	48 h at 5±3°C	2.6	+
		25	Surface sample 5	LIS.4.68	<i>Listeria monocytogenes</i>	Surface sample	48 h at 5±3°C	2.6	+
		26	Surface sample 7	LIS.4.50	<i>Listeria monocytogenes 4b</i>	Surface sample salmon line	48 h at 5±3°C	1.8	-
		27	Surface sample 7	LIS.4.50	<i>Listeria monocytogenes 4b</i>	Surface sample salmon line	48 h at 5±3°C	1.8	+
		28	Surface sample 8	LIS.4.50	<i>Listeria monocytogenes 4b</i>	Surface sample salmon line	48 h at 5±3°C	1.8	+
		29	Surface sample 9	LIS.4.50	<i>Listeria monocytogenes 4b</i>	Surface sample salmon line	48 h at 5±3°C	1.8	+
		30	Surface sample 10	LIS.4.50	<i>Listeria monocytogenes 4b</i>	Surface sample salmon line	48 h at 5±3°C	1.8	+

**Artificial contaminations - analyses realized in 2016 - General protocol - Composite foods**

Sample ID	Sample	Code strain	Strain	Origin	Protocol of seeding	Inoculation level (CFU/25g)	Global result
VC 1	Salad with pasta, tuna and vegetables	LIS.4.42	<i>Listeria monocytogenes</i> 3a	smoked salmon	48 h at 5±3°C	1.0	-
VC 2	Sandwich with salmon	LIS.4.42	<i>Listeria monocytogenes</i> 3a	smoked salmon	48 h at 5±3°C	2.8	+
VC 3	Pizza: ham, cheese and mushrooms	LIS.4.39	<i>Listeria monocytogenes</i> 1/2c	Salmon tartare	48 h at 5±3°C	2.2	-
VC 4	Pie with peach and pear	LIS.4.20	<i>Listeria monocytogenes</i> 1/2a	sandwich bacon raw vegetables	48 h at 5±3°C	1.4	+
VC 5	Cooked pasta with cheese	LIS.4.18	<i>Listeria monocytogenes</i> 1/2a	vegetables salad	48 h at 5±3°C	3.6	-
VC 6	Pig snout with vinaigrette	LIS.4.18	<i>Listeria monocytogenes</i> 1/2a	vegetables salad	48 h at 5±3°C	3.6	-
VC 7	Salad of semolina with vegetables and chicken	LIS.4.18	<i>Listeria monocytogenes</i> 1/2a	vegetables salad	48 h at 5±3°C	3.6	+
VC 8	Quiche lorraine	LIS.4.18	<i>Listeria monocytogenes</i> 1/2a	vegetables salad	48 h at 5±3°C	3.6	+
VC 9	Pie with tuna, tomato and sweet pepper	LIS.4.17	<i>Listeria monocytogenes</i> 1/2a	raw vegetables	48 h at 5±3°C	3.8	+
VC 10	Boeuf bourguignon	LIS.4.17	<i>Listeria monocytogenes</i> 1/2a	raw vegetables	48 h at 5±3°C	3.8	+
VC 11	Croissant with ham	LIS.4.35	<i>Listeria monocytogenes</i> 1/2c	sandwich salade du chef	48 h at 5±3°C	8.0	+
VC 12	Couscous	LIS.4.35	<i>Listeria monocytogenes</i> 1/2c	sandwich salade du chef	48 h at 5±3°C	8.0	+
VC 13	Chocolate cake	LIS.4.47	<i>Listeria monocytogenes</i> 1/2b	praliné spread	48 h at 5±3°C	1.6	+
VC 14	Apple pie 1	LIS.4.47	<i>Listeria monocytogenes</i> 1/2b	praliné spread	48 h at 5±3°C	1.6	+
VC 15	Galette of black corn	LIS.4.24	<i>Listeria monocytogenes</i> 1/2a	Ready-to-reheat meal	48 h at 5±3°C	2	+
VC 16	Tortilla with bacon	LIS.4.24	<i>Listeria monocytogenes</i> 1/2a	Ready-to-reheat meal	48 h at 5±3°C	2	+
VC 17	Vegetable gratin with pork	LIS.4.24	<i>Listeria monocytogenes</i> 1/2a	Ready-to-reheat meal	48 h at 5±3°C	2	+
VC 18	Lasagna of chicken	LIS.4.28	<i>Listeria monocytogenes</i> 1/2b	leg of duck	48 h at 5±3°C	2.4	+
VC 19	Chinese pasta with vegetables	LIS.4.28	<i>Listeria monocytogenes</i> 1/2b	leg of duck	48 h at 5±3°C	2.4	+
VC 20	Piemontese salad	LIS.4.28	<i>Listeria monocytogenes</i> 1/2b	leg of duck	48 h at 5±3°C	2.4	+
VC 21	Tabbouleh with chicken and chive	LIS.4.30	<i>Listeria monocytogenes</i> 1/2b	Raw turkey meal	48 h at 5±3°C	1.6	+
VC 22	Shepherd's pie	LIS.4.30	<i>Listeria monocytogenes</i> 1/2b	Raw turkey meal	48 h at 5±3°C	1.6	+
VC 23	Sandwich with emmental	LIS.4.30	<i>Listeria monocytogenes</i> 1/2b	Raw turkey meal	48 h at 5±3°C	1.6	+
VC 24	Sandwich with chicken and mayonnaise	LIS.4.30	<i>Listeria monocytogenes</i> 1/2b	Raw turkey meal	48 h at 5±3°C	1.6	+
VC 25	Sandwich with surimi, salad and cucumber	LIS.4.23	<i>Listeria monocytogenes</i> 1/2a	Cottage cheese	48 h at 5±3°C	2.6	+
VC 26	Sandwich with tuna, raw vegetables and mayonnaise	LIS.4.23	<i>Listeria monocytogenes</i> 1/2a	Cottage cheese	48 h at 5±3°C	2.6	+
VC 27	Sandwich with meat, tomato	LIS.4.23	<i>Listeria monocytogenes</i> 1/2a	Cottage cheese	48 h at 5±3°C	2.6	-
VC 28	Pizza	LIS.4.23	<i>Listeria monocytogenes</i> 1/2a	Cottage cheese	48 h at 5±3°C	2.6	-
VC 49	Cream doughnut	LIS.4.20	<i>Listeria monocytogenes</i> 1/2a	sandwich bacon raw vegetables	48 h at 5±3°C	1.2	-
VC 50	Patte d'ours	LIS.4.20	<i>Listeria monocytogenes</i> 1/2a	sandwich bacon raw vegetables	48 h at 5±3°C	1.2	-
VC 51	Apple pie 2	LIS.4.20	<i>Listeria monocytogenes</i> 1/2a	sandwich bacon raw vegetables	48 h at 5±3°C	1.2	-
VC 52	Strawberry pie	LIS.4.23	<i>Listeria monocytogenes</i> 1/2a	Cottage cheese	48 h at 5±3°C	5.6	+
VC 53	Curry noodles salad	LIS.4.23	<i>Listeria monocytogenes</i> 1/2a	Cottage cheese	48 h at 5±3°C	5.6	+
VC 54	Clafoutis	LIS.4.23	<i>Listeria monocytogenes</i> 1/2a	Cottage cheese	48 h at 5±3°C	5.6	+
VC 55	Egg cream 1	LIS.4.67	<i>Listeria monocytogenes</i> 1/2 b	Raw milk	48 h at 5±3°C	1.4	+
VC 56	Lemon pie	LIS.4.67	<i>Listeria monocytogenes</i> 1/2 b	Raw milk	48 h at 5±3°C	1.4	-
VC 57	Custard	LIS.4.67	<i>Listeria monocytogenes</i> 1/2 b	Raw milk	48 h at 5±3°C	1.4	+
VC 58	Tiramisu	LIS.4.46	<i>Listeria monocytogenes</i> 3a	Goat milk cheese sandwich	48 h at 5±3°C	2.2	+
VC 59	Egg cream 2	LIS.4.46	<i>Listeria monocytogenes</i> 3a	Goat milk cheese sandwich	48 h at 5±3°C	1.4	+
VC 60	Vermicelli with beef, rice, vegetables	LIS.4.46	<i>Listeria monocytogenes</i> 3a	Goat milk cheese sandwich	48 h at 5±3°C	1.4	-
VC 61	Hazelnut cake	LIS.4.47	<i>Listeria monocytogenes</i> 1/2b	Praliné spread	48 h at 5±3°C	1.8	-
VC 62	Chocolate and hazelnut cake	LIS.4.47	<i>Listeria monocytogenes</i> 1/2b	Praliné spread	48 h at 5±3°C	1.8	+

General protocol : analyses realized in 2019

Category	Study	Sample number	Sample	Code strain	Strain	Origin	Protocol of stress: seeding	Inoculation level (CFU/25g)	Global result
Dairy products	MICROSEPT 2019	1746467	Raw milk	HBP652	<i>Listeria monocytogenes 4b</i>	Raw milk cheese	48 h at 5±3°C	2.0	+
		1746468	Pasteurized milk	HBP652	<i>Listeria monocytogenes 4b</i>	Raw milk cheese	48 h at 5±3°C	2.0	+
		1746469	Morbier cheese	HBP652	<i>Listeria monocytogenes 4b</i>	Raw milk cheese	48 h at 5±3°C	2.0	+
		1746470	Tomme de Savoie cheese	HBP652	<i>Listeria monocytogenes 4b</i>	Raw milk cheese	48 h at 5±3°C	2.0	+
		1758369	Raw milk	HBP652	<i>Listeria monocytogenes 4b</i>	Raw milk cheese	48 h at 5±3°C	3.0	+
Vegetal products	MICROSEPT 2019	1758371	Alfalfa cress sprout	RCJ280	<i>Listeria monocytogenes 4b</i>	Black wheat flour	48 h at 5±3°C	1.8	+
		1730247	Sweet potato puree	RCJ280	<i>Listeria monocytogenes 4b</i>	Black wheat flour	48 h at 5±3°C	1.8	+
		1730248	Cooked beets	RCJ280	<i>Listeria monocytogenes 4b</i>	Black wheat flour	48 h at 5±3°C	1.8	+
		1730249	Grated seasoned carrots	RCJ280	<i>Listeria monocytogenes 4b</i>	Black wheat flour	48 h at 5±3°C	1.8	+
		1746538	Grated carrots	RCJ280	<i>Listeria monocytogenes 4b</i>	Black wheat flour	48 h at 5±3°C	3.0	+
		1730246	Mixed vegetables	QDB363	<i>Listeria monocytogenes 4b</i>	Mushroom soup	48 h at 5±3°C	2.4	+
		1731488	Ratatouille mixture	QDB363	<i>Listeria monocytogenes 4b</i>	Mushroom soup	48 h at 5±3°C	2.4	+
		1730245	Pan-fried vegetables	QDB363	<i>Listeria monocytogenes 4b</i>	Mushroom soup	48 h at 5±3°C	2.4	+
1731489	Mixed spinach zucchini	QDB363	<i>Listeria monocytogenes 4b</i>	Mushroom soup	48 h at 5±3°C	2.4	-		

## APPENDIX D

### Sensitivity study - Raw results

#### General protocol

Caption: Bacterial burden  
∅: no culture  
L = low  
M = moderate  
H = high

#### Breakdown of flora

A = pure culture of suspect colonies  
B = mixture with a majority of suspect colonies  
C = mixture with a minority of suspect colonies  
D = mixture with rare suspect colonies  
E = absence of suspect colonies  
(x): x colonies characteristic of Listeria if  $x \leq 5$

ST: sample type

P: Palcam agar media

A: Ottaviani and Agosti agar media

Ox: Oxford agar media

C1: colony 1

C2: colony 2

C3: colony 3

C4: colony 4

C5: colony 5

**Meat products - Initial validation study**

#	ST	Sample	Reference method: EN ISO 11290-1					AM: VIDAS LMO2 (general protocol)													Comparison
			P1	A1	P2	A2	Confirmation	Result	TV	Interp.	Confirmation							Confirmation	Result		
											Ox	P	C1	C2	C3	C4	C5				
1	a	- Minced meat	-LE	∅	-LE	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA
2	a	+ Chicken fillet	+LD	+LC	+HB	+HC	<i>L.monocytogenes</i> / <i>L.welshimeri</i>	P	2.08	+	+HB	+HA	/	+HD	+HD	+HD	+HB	<i>L.monocytogenes</i> / <i>L.welshimeri</i>	P	PA	
3	a	+ Chicken	+HB	-HD	+HB	-HC	<i>L.innocua</i>	A	0.10	+	+HB	+HA	/	+HD	+HD	+HD	+HD	<i>L.monocytogenes</i> / <i>L.innocua</i>	P	PD	
4	a	- Beef	-LE	∅	-HE	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA	
5	a	- Minced beef burger	+MB	-MA	+HA	-HA	<i>L.innocua</i>	A	0.00	-	/	/	/	/	/	/	/	/	A	NA	
6	a	- Minced beef burger	+MB	-MA	+HA	-MA	<i>L.innocua</i> / <i>L.welshimeri</i>	A	0.00	-	/	/	/	/	/	/	/	/	A	NA	
7	a	+ Minced beef burger	+MB(*)	+MD	+HA(*)	+HD	<i>L.welshimeri</i> / <i>L.monocytogenes</i>	P	0.23	+	+HC(*)	+HA	+HD (*)	+HD (*)	+HC (*)	+HD (*)	+HD (*)	<i>L.welshimeri</i> / <i>L.monocytogenes</i>	P	PA	
8	a	- Minced meat	+LB	-MA	+HA	-HA	<i>L.innocua</i>	A	0.00	-	/	/	/	/	/	/	/	/	A	NA	
9	a	+ Minced beef	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	1.78	+	+HA	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA	
10	a	+ Beef	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	1.82	+	+HA	+HA	+HB	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA	
11	a	+ Beef	+MA	+MA	+HB	+HB	<i>L.monocytogenes</i>	P	1.96	+	+HB	+HB	+HA	+HB	+MA	+HB	+HA	<i>L.monocytogenes</i>	P	PA	
12	a	- Beef	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	A	NA		
13	a	- Beef	-HE	-LE	-ME	-LE	/	A	0.00	-	/	/	/	/	/	/	/	A	NA		
14	a	+ Minced horse meat	+LA (1col)	+LA	+HB	+MA	<i>L.monocytogenes</i>	P	2.93	+	+HA	+HA	+MA	+MA	+MA	+MA	+MA	<i>L.monocytogenes</i>	P	PA	
15	a	- Minced horse meat	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	A	NA		
16	a	- Raw turkey breast	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	A	NA		
17	a	- Raw chicken breast	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	A	NA		
18	a	+ Fillet of duck breast	+MA	+MB	+HB	+HB	<i>L.monocytogenes</i> / <i>L.innocua</i>	P	1.78	+	+HB	+HB	/	+HB	+HC	/	/	<i>L.monocytogenes</i> / <i>L.innocua</i>	P	PA	
19	a	+ Chicken cutlet	+MA	+MA	+HB	+HB	<i>L.monocytogenes</i>	P	1.99	+	+HB	+HB	/	+HB	+HB	/	/	<i>L.monocytogenes</i>	P	PA	
20	a	+ Minced beef burger	+MB	+MB	+MB	+HB	<i>L.monocytogenes</i> / <i>L.welshimeri</i>	P	1.44	+	+HB	+HB	/	+HB	+HB	/	/	<i>L.monocytogenes</i> / <i>L.welshimeri</i>	P	PA	
21	a	- Minced veal cutlet	-LE	-LE	-ME	-ME	/	A	0.00	-	/	/	/	/	/	/	/	A	NA		
22	a	- Minced veal burger	+MA	-MA	+HA	-HA	<i>L.welshimeri</i>	A	0.00	-	/	/	/	/	/	/	/	A	NA		
23	a	- Beef	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	A	NA		
24	b	- Minced beef tartare	-LE	∅	-LE	∅	/	A	0.00	-	/	/	/	/	/	/	/	A	NA		
25	b	+ Merguez sausage	+LD	-LE	+HB	+HC	<i>L.monocytogenes</i> / <i>L.welshimeri</i>	P	0.06	+	+HB	+HA	/	+HD	+HC	+HD	+HC	<i>L.monocytogenes</i> / <i>L.welshimeri</i>	P	PA	
26	b	+ Sausage	+MD	-MC	+HB	-HC	<i>L.welshimeri</i>	A	0.35	+	+HB	+HA	/	+HC	+HC	+HC	+HC	<i>L.monocytogenes</i> / <i>L.welshimeri</i>	P	PD	
27	b	- Chipolata sausages	-LE	-LE	-HE	-HE	/	A	0.00	-	/	/	/	/	/	/	/	A	NA		
28	b	- Bolognese mince	-LE	∅	-HE	-LE	/	A	0.00	-	/	/	/	/	/	/	/	A	NA		
29	b	+ Sausage	+MB	+HC	+HB	+HD	<i>L.monocytogenes</i> / <i>L.welshimeri</i>	P	0.83	+	+HB	+HB	/	+HC	+HC	+HC	+HB	<i>L.monocytogenes</i>	P	PA	
30	b	+ Uncooked sausage	+HB	+HC	+HA	+HD	<i>L.innocua</i> / <i>L.welshimeri</i> / <i>L.monocytogenes</i>	P	0.94	+	+HC(*)	-HA	+HD(*)	+HD(*)	+HC(*)	+HC(*)	+HC(*)	<i>L.innocua</i> / <i>L.welshimeri</i> / <i>L.monocytogenes</i> (*)	P	PA	
31	b	+ Merguez sausage	+LC	+LA	+HB	+HD	<i>L.monocytogenes</i>	P	2.62	+	+HB	+HB	+HA	+HA	+HB	+HB	+HB	<i>L.monocytogenes</i>	P	PA	
32	b	+ Merguez sausage	+LB	+LB	+HA	+HD	<i>L.innocua</i> / <i>L.monocytogenes</i>	P	2.44	+	+HD	+HA	+HD	+HD	+HC	+HC	+HC	<i>L.innocua</i> / <i>L.monocytogenes</i>	P	PA	
67	b	+ Sausage meat	+MB	+LD	+HB	+HD	<i>L.welshimeri</i> / <i>L.monocytogenes</i>	P	0.37	+	+HB	+HB(*)	+HD(*)	+HD(*)	+HD(*)	+HD(*)	+HD(*)	<i>L.welshimeri</i> / <i>L.monocytogenes</i> (*)	P	PA	
68	b	+ Raw sausage	+LB	+LD	+HA	+HD	<i>L.monocytogenes</i> / <i>L.welshimeri</i>	P	0.79	+	+HB	+HB	+HD	+HD	+HC	+HC	+HC	<i>L.monocytogenes</i> / <i>L.welshimeri</i>	P	PA	
69	b	+ Raw black pudding	+HB	+HB	+HB	+HB	<i>L.monocytogenes</i> / <i>L.welshimeri</i>	P	2.39	+	+HB	+HB	+HB	+HB	+HB	+HB	+HB	<i>L.monocytogenes</i> / <i>L.welshimeri</i>	P	PA	
70	b	+ Merguez sausage	+LB	+LB	+HB	+MA	<i>L.innocua</i> / <i>L.monocytogenes</i>	P	0.62	+	+HB	+HB	+HB	+MB	+HB	+HB	+HB	<i>L.innocua</i> / <i>L.monocytogenes</i>	P	PA	
71	b	- Bolognese mince	+HA	-HA	+HB	-MA	<i>L.innocua</i>	A	0.00	-	/	/	/	/	/	/	/	A	NA		
72	b	+ Chipolata sausages	+MB	+MB	+HB	+HB	<i>L.innocua</i> / <i>L.monocytogenes</i>	P	1.01	+	+HB	+HB	+HB	+MB	+HB	+HB	+MB	<i>L.innocua</i> / <i>L.monocytogenes</i>	P	PA	

**Meat products - Initial validation study**

#	ST	Sample	Reference method: EN ISO 11290-1					AM: VIDAS LMO2 (general protocol)											Comparison			
			P1	A1	P2	A2	Confirmation	Result	TV	Interp.	Confirmation							Result				
											Ox	P	C1	C2	C3	C4	C5			Confirmation		
73	b	- Sausages	+HA	-MA	+HA	-HA	<i>L.innocua</i>	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
74	b	- Sausages with thyme	+MA	-LA	+MB	-LA	<i>L.welshimeri</i>	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
75	b	+ Sausage meat	+LB	+LC	+HB	+MB	<i>L.monocytogenes / L.welshimeri</i>	P	0.39	+	+HC	+HA	/	+HB	/	/	/	/	/	<i>L.monocytogenes / L.welshimeri</i>	P	PA
76	b	+ Merguez sausage	+LA (5col)	+LB (5col)	+HA	+MB	<i>L.monocytogenes / L.innocua</i>	P	0.23	+	+HB	+HA	/	+HC	+HC	/	/	/	/	<i>L.monocytogenes / L.innocua</i>	P	PA
78	b	+ Veal paupiette	+LB (1col)	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	1.89	+	+HB	+HA	/	+HA	+HB	/	/	/	/	<i>L.monocytogenes</i>	P	PA
79	b	- Uncooked Toulouse sausage	+MB	-MA	+HB	+HA	<i>L.welshimeri</i>	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
80	c	- Dried sausage	-LE	∅	-HE	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
81	c	+ Smoked chicken thigh with paprika	+MB	+MA	+HA	+HA	<i>L.monocytogenes</i>	P	2.26	+	+HA	+HA	/	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA
82	c	+ Smoked chicken thigh with paprika	+LB	+MA	+MB	+MA	<i>L.monocytogenes</i>	P	3.06	+	+HA	+HA	/	+HA	+HA	+HA	+HB	+HA	+HA	<i>L.monocytogenes</i>	P	PA
83	c	- Tomato burger	+LB	-MA	+HA	-MA	<i>L.innocua</i>	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
84	c	+ Smoked cured ham	+MA	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	2.08	+	+HA	+HA	/	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA
85	c	+ Chicken gizzards for salad	+MA	+MA	+HA	+HB	<i>L.monocytogenes</i>	P	2.17	+	+HB	+HB	/	+HB	+HB	+HB	+HB	+HB	+HB	<i>L.monocytogenes</i>	P	PA
86	c	+ Pork sausage	+HB	+HD	+HB	+HB	<i>L.monocytogenes / L.welshimeri</i>	P	0.27	+	+HB(*)	+HB	+HD(*)	+HB(*)	+HC(*)	+HC(*)	+HC(*)	+HC(*)	+HC(*)	<i>L.monocytogenes / L.welshimeri (*)</i>	P	PA
87	c	+ Cured ham with paprika	+HB	+HB	+HA	+HA	<i>L.monocytogenes</i>	P	2.15	+	+HA	+HA	+HA	+HA	+HA	+HB	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA
88	c	+ Pizza royale	+MB	+LA	+HB	+HB	<i>L.monocytogenes</i>	P	2.99	+	+HB	+HB	+HA	+HB	+HB	+HB	+HB	+HA	+HA	<i>L.monocytogenes</i>	P	PA
89	c	+ Smoked sausages	+LA	+LA	+HA	+HB	<i>L.monocytogenes / L.welshimeri</i>	P	0.62	+	+HB	+HA	+MA	+HB	+HB	+HB	+HB	+MA	+MA	<i>L.monocytogenes / L.welshimeri</i>	P	PA
90	c	- Pork belly	+MA	-MA	+HA	-HA	<i>L.welshimeri</i>	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
91	c	- Pâté with shallots	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
92	c	- Italian ham	∅	∅	∅	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
93	c	- Parma ham	∅	-LE	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
94	c	+ Tomato burger	+MB	+LB	+HB	+LB	<i>L.monocytogenes / L.welshimeri</i>	P	0.06	+	+HB	+HA	/	+HB	+HB	/	/	/	/	<i>L.monocytogenes / L.welshimeri</i>	P	PA
95	c	+ Smoked lardons	+LB	+LB	+HB	+MB	<i>L.monocytogenes</i>	P	1.83	+	+HA	+HA	/	+HA	+HA	/	/	/	/	<i>L.monocytogenes</i>	P	PA
96	c	- Cheeseburger	∅	-LE	∅	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
97	c	- Roasted rabbit	∅	∅	∅	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
98	c	- Chicken fillets with saffron	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
99	c	- Pig's head pâté	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
100	c	- Lasagna	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
101	c	- Minced beef burger with tomatoes	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA



Dairy products - Initial validation study

#	ST	Sample	Reference method: EN ISO 11290-1						AM: VIDAS LMO2 (general protocol)													Comparison
			P1	A1	P2	A2	Confirmation	Result	TV	Interp.	Confirmation								Result			
											Ox	P	C1	C2	C3	C4	C5	Confirmation				
1	a	+ Boulette d'Avesnes cheese	+MC	+LB	+MB	+HB	<i>L.monocytogenes</i> / <i>L.innocua</i>	P	0.62	+	+HA	+HA	/	+HB	+HB	+HB	+HB	<i>L.monocytogenes</i> / <i>L.innocua</i>	P	PA		
2	a	- Brie cheese	-ME	∅	-LE	-HE	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
3	a	- Cheese made with raw milk	+HA	-HA	+HB	-HB	<i>L.innocua</i>	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
4	a	- Maroilles cheese	+HA	-HA	+HB	-MA	<i>L.innocua</i>	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
5	a	- Reblochon cheese	+HA	-HA	+HB	-MB	<i>L.innocua</i>	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
6	a	- Carré du Vinage cheese	-LE	∅	∅	-ME	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
7	a	- Pont l'Evêque cheese	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
8	a	- Cheese made with raw milk	-LE	∅	-HE	-HE	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
9	a	+ Boulette d'Avesnes cheese	+LB	+LD	+HB	+HB	<i>L.monocytogenes</i> / <i>L.innocua</i>	P	2.48	+	+HB*	+HB *	/	+HA	+HB *	+HA	+HA	<i>L.monocytogenes</i> / * <i>L.innocua</i>	P	PA		
10	a	- Reblochon cheese	-LE	-LE	-LE	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
11	a	- Maroilles cheese	∅	∅	-LE	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
12	a	- Brie de Meaux cheese	-LE	∅	-LE	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
14	a	+ St Neactaire cheese	+LC	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	2.22	+	+HA	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
16	a	+ Maroilles cheese	+LB	+LB	+MB	+MB	<i>L.monocytogenes</i> / <i>L.innocua</i>	P	0.11	+	+MB	+MB	+MB	+MB	+MB	+MB	+MB	<i>L.monocytogenes</i> / <i>L.innocua</i>	P	PA		
17	a	- Reblochon cheese	-MD	-LA	+MA	-HA	<i>L.innocua</i>	A	0.00	-	+HB	+HB	-HB	-HA	-HE	-HB	-HB	<i>L.innocua</i>	A	NA		
18	a	- Brie de Meaux cheese	+MD	-LA	+HB	-HA	<i>L.innocua</i>	A	0.00	-	+HA	+HA	-HA	-HA	-HE	-HB	-HB	<i>L.innocua</i>	A	NA		
19	a	- Munster cheese	-LE	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
20	a	+ St Neactaire cheese	+LB	+LC	+HB	-HA	<i>L.innocua</i> / <i>L.monocytogenes</i>	P	0.00	-	+HC(*)	+HA	-MA	+MD(*)	-MA	+MD(*)	+MD(*)	<i>L.innocua</i> / <i>L.monocytogenes</i> (*)	A	ND		
21	a	+ Maroilles cheese	∅	-LE	+HB	+MB	<i>L.monocytogenes</i>	P	0.11	+	+HB	+MB	+HA	+MA	+MA	+MA	+MA	<i>L.monocytogenes</i>	P	PA		
22	a	+ Carré du Vinage cheese	+MB	+HA	+HB	+HA	<i>L.monocytogenes</i>	P	2.30	+	+HB	+HA	+HB	+HA	+MB	+HB	+HB	<i>L.monocytogenes</i>	P	PA		
23	a	- Cheese made with raw milk	-LE	∅	-LE	-LE	/	A	0.00	-	-LE	-LE	-LE	-LE	-ME	-LE	-ME	/	A	NA		
24	a	+ Camembert made with raw milk	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	2.21	+	+HA	+HA	+HA	+MA	+HA	+HB	+HA	<i>L.monocytogenes</i>	P	PA		
25	a	+ Round Vinage cheese	+HA	+HA	+HB	+HB	<i>L.monocytogenes</i>	P	2.75	+	+HA	+HA	+MA	+MA	+HA	+MA	+MA	<i>L.monocytogenes</i>	P	PA		
26	a	- Large Rond du Vinage cheese	-LE	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA		
27	a	- Carré du Vinage cheese	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA		
28	a	- Carré du Vinage cheese	-LE	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA		
29	a	- Époisses cheese	∅	∅	-LE	-ME	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA		
30	a	- Soumaintrain cheese	∅	∅	-HE	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA		
73	b	- Passendale cheese	-LE	-LE	-ME	-ME	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA		
74	b	+ St Albray cheese	+LA	+MB	+HB	+MB	<i>L.monocytogenes</i>	P	1.66	+	+HA	+HA	+HA	+HA	+HA	+HB	+HA	<i>L.monocytogenes</i>	P	PA		
75	b	+ Belle des champs cheese	+LA	+LA	+HB	+MB	<i>L.monocytogenes</i>	P	1.81	+	+HA	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
76	b	+ Vieux pâné cheese	+LB	+LB	+MB	+MB	<i>L.monocytogenes</i>	P	1.76	+	+HA	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
77	b	+ Chaumes cheese	+LB	+LA	+HB	+HA	<i>L.monocytogenes</i>	P	2.30	+	+HA	+HA	+HA	+HA	+HA	+HB	+HA	<i>L.monocytogenes</i>	P	PA		
78	b	+ Chamois d'Or cheese	+LA	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	2.85	+	+HA	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
79	b	- St Albray cheese	-LE	-LE	-HE	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA		
80	b	+ Pasteurized brie cheese	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	2.59	+	+HA	+HA	+MA	+MA	+HA	+HA	+HB	<i>L.monocytogenes</i>	P	PA		
81	b	+ Chamois d'Or cheese	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	2.84	+	+HA	+HA	+HA	+HA	+HB	+HB	+HA	<i>L.monocytogenes</i>	P	PA		
82	b	+ Chaumes cheese	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	2.43	+	+HA	+HA	+HA	+HA	+HA	+HB	+HA	<i>L.monocytogenes</i>	P	PA		
83	b	+ Belle des champs cheese	+LB	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	2.34	+	+HA	+HA	+HA	+HA	+MA	+MA	+HA	<i>L.monocytogenes</i>	P	PA		
84	b	+ St Albray cheese	+MA	+MA	+HA	+HA	<i>L.monocytogenes</i>	P	2.38	+	+HA	+HA	+HA	+HA	+HA	+MA	+MA	<i>L.monocytogenes</i>	P	PA		
85	b	+ Chamois d'Or cheese	+LA	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	3.15	+	+HA	+MA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
86	b	+ Chaumes cheese	-LE	+LA	+MA	+MA	<i>L.monocytogenes</i>	P	2.90	+	+HA	+HA	+MA	+MA	+HB	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
87	b	+ Pasteurized cheese	+MA	+LA	+HB	+HA	<i>L.monocytogenes</i>	P	2.61	+	+HB	+HA	+HB	+MA	+MA	+HB	+HB	<i>L.monocytogenes</i>	P	PA		
88	b	+ Chamois d'Or cheese	+MA	+MA	+HA	+HA	<i>L.monocytogenes</i>	P	2.86	+	+HA	+HA	+MA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
89	b	+ Chaumes cheese	+MB	+MA	+HB	+MA	<i>L.monocytogenes</i>	P	2.46	+	+HB	+HB	+MA	+HA	+HA	+MA	+HB	<i>L.monocytogenes</i>	P	PA		
90	b	- St Albray cheese	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA		
91	b	- Belle des champs cheese	-LE	∅	-LE	-LE (Bac)	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA		
92	b	- Chaumes cheese	-LE	-LE	-LE	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA		
93	b	- Vieux pâné cheese	-LE	-LE	-LE	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA		
94	b	- Chamois d'Or cheese	-LE	-LE	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA		
95	c	- Raw milk	-LE	∅	-LE	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA		
96	c	- Raw milk	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA		

**Dairy products - Initial validation study**

#	ST	Sample	Reference method: EN ISO 11290-1						AM: VIDAS LMO2 (general protocol)										Comparison			
			P1	A1	P2	A2	Confirmation	Result	TV	Interp.	Confirmation					Confirmation	Result					
											Ox	P	C1	C2	C3			C4		C5		
97	c	- Raw milk	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
98	c	- Raw milk	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
99	c	- Pasteurized whole milk	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
100	c	- Pasteurized whole milk	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
101	c	- Pasteurized whole milk	∅	∅	∅	∅	<i>L.monocytogenes</i>	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
102	c	+ Pasteurized whole milk	+MA	+MA	+HA	+MA	<i>L.monocytogenes</i>	P	2.32	+	/	+HA	/	+HA	+HA	/	/	<i>L.monocytogenes</i>	P	PA		
103	c	+ Pasteurized whole milk	+MA	+MA	+HA	+HA	<i>L.monocytogenes</i>	P	2.36	+	/	+HA	/	+HA	+HA	/	/	<i>L.monocytogenes</i>	P	PA		
104	c	+ Pasteurized whole milk	+HA	+MA	+HA	+MA	<i>L.monocytogenes</i>	P	2.22	+	/	+HA	/	+HA	+HA	/	/	<i>L.monocytogenes</i>	P	PA		
105	c	- Raw milk	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
106	c	- Raw milk	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
107	c	- Raw milk	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
108	c	- Raw milk	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
109	c	- Raw milk	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
110	c	- Raw milk	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
111	c	- Raw milk	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
112	c	- Raw milk	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
113	c	- Raw milk	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
114	c	+ Raw milk	+HA	+MA	+HA	+MA	<i>L.monocytogenes</i>	P	2.40	+	+HB	+MA	+HA	+HA	+HB	+HA	+HA	<i>L.monocytogenes</i>	P	PA		

**Dairy products - Fourth renewal study**

#	ST	Sample	RM: NF EN ISO 11290-1(■)										AM: VIDAS LMO2 (general protocol)						Concordance
			Half Fraser				Fraser				Confirmation	Result	Vidas LMO2		Confirmation		Identification	Final result	
			ALOA		PALCAM		ALOA		PALCAM				TV	Result	ALOA	PALCAM			
			24h	48h	24h	48h	24h	48h	24h	48h									
1746469	a +	Morbier cheese	DL	DL	CM	CM	∅	∅	EM	EM	<i>L. monocytogenes</i>	P	0.51	POSITIF	AH	AH	<i>Listeria monocytogenes</i>	P	PA
1746470	a +	Tomme de Savoie cheese	AM	AM	EM	EM	AM	AM	AM	AM	<i>L. monocytogenes</i>	P	2.50	POSITIF	AH	AH	<i>Listeria monocytogenes</i>	P	PA
1746467	c +	Raw milk	AM	AM	AM	AM	AM	AM	AM	AM	<i>L. monocytogenes</i>	P	2.67	POSITIF	AH	AH	<i>Listeria monocytogenes</i>	P	PA
1758369	c +	Raw milk	AM	AM	AM	AM	AM	AM	AM	AM	<i>L. monocytogenes</i>	P	2.47	POSITIF	AM	AM	<i>Listeria monocytogenes</i>	P	PA
1746468	c +	Pasteurized milk	AH	AH	AH	AH	AM	AM	AM	AM	<i>L. monocytogenes</i>	P	2.11	POSITIF	AH	AH	<i>Listeria monocytogenes</i>	P	PA

**Seafood products - Initial validation study**

#	ST	Sample	Reference method: EN ISO 11290-1					AM: VIDAS LMO2 (general protocol)											Comparison			
			P1	A1	P2	A2	Confirmation	Result	TV	Inter p.	Confirmation							Result				
											Ox	P	C1	C2	C3	C4	C5			Confirmation		
1	a -	Smoked Atlantic salmon	-LE	∅	-LE	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
2	a +	Norwegian smoked salmon	+MB	+MA	+HA	+HA	<i>L.monocytogenes</i>	P	2.19	+	+HA	+HA	+HA	+HA	+HA	+HB	+MA	<i>L.monocytogenes</i>	P	PA		
3	a +	Smoked salmon	+LA	+LA	+HA	+MA	<i>L.monocytogenes</i>	P	2.27	+	+HA	+HA	+HA	+MA	+HA	+MA	+MA	<i>L.monocytogenes</i>	P	PA		
4	a -	Seafood platter	∅	∅	-ME	-ME	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
5	a +	Seafood platter	-ME	∅	+HB	+HA	<i>L.monocytogenes</i>	P	1.20	+	+HB	+HB	+HA	+MA	+HB	+HB	<i>L.monocytogenes</i>	P	PA			
6	a +	Norwegian smoked salmon	+LB	+LA	+MA	+HA	<i>L.monocytogenes</i>	P	2.90	+	+HA	+MA	+HA	+HA	+MA	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
7	a +	Minced smoked salmon	+MA	+MA	+HA	+HA	<i>L.monocytogenes</i>	P	2.18	+	+HA	+HA	+HA	+HA	+HB	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
8	a +	Minced smoked salmon	+LB	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	2.16	+	+HA	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
9	a -	Minced smoked salmon	-LE	-LE	+HB	-MA	<i>L.innocua</i>	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
10	a -	Smoked Atlantic salmon	∅	∅	+HA	-MA	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
11	a +	Norwegian smoked salmon	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	2.07	+	+HA	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
12	a +	Smoked salmon offcuts	+LA	+MA	+HA	+HA	<i>L.monocytogenes</i>	P	2.45	+	+MB	+HA	+MB	+HA	+MB	+MB	+MB	<i>L.monocytogenes</i>	P	PA		
13	a +	Scottish salmon	+LA	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	2.88	+	+HB	+HA	+HB	+HA	+HA	+HB	+HA	<i>L.monocytogenes</i>	P	PA		
14	a -	Smoked salmon	∅	∅	-LE	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
15	a -	Smoked herring fillets	∅	∅	+HB	-HB	<i>L.welshimeri</i>	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
16	a +	Scottish smoked salmon	+LA	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	2.42	+	+HA	+HA	/	+HA	+HA	/	/	<i>L.monocytogenes</i>	P	PA		
17	a +	Norwegian smoked salmon	+MA	+MA	+HA	+HA	<i>L.monocytogenes</i>	P	2.34	+	+HA	+HA	/	+HA	+HA	/	/	<i>L.monocytogenes</i>	P	PA		
18	a -	Smoked wild marlin	∅	∅	-ME	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
19	a -	Norwegian salmon	∅	∅	-ME	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
20	a -	Aquitaine smoked trout	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
21	a -	Scottish smoked salmon	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
22	a -	Smoked wild marlin	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
23	b +	Salmon fillet	+MD	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	3.11	+	+HB	+HA	+HB	+HA	+HA	+HA	+LA	<i>L.monocytogenes</i>	P	PA		
24	b +	Salmon fillet	+MA	+HA	+HB	+HB	<i>L.monocytogenes</i>	P	2.25	+	+HB	+HA	+HB	+HA	+HA	+HA	+HB	<i>L.monocytogenes</i>	P	PA		
25	b +	Salmon fillets	+LA	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	3.03	+	+HA	+MA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
26	b +	Salmon fillets	+MA	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	2.83	+	+HB	+MA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
27	b +	Salmon steaks	+MA	+MA	+HB	+HB	<i>L.monocytogenes</i>	P	2.86	+	+HB	+HB	+HA	+HB	+HA	+HB	+HA	<i>L.monocytogenes</i>	P	PA		
28	b +	Fish fillet	+MA	+MA	+HA	+HA	<i>L.monocytogenes</i>	P	2.30	+	+HB	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
29	b +	Fish fillet	+LA	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	2.42	+	+HB	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
30	b +	Fillet of grenadier	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	2.65	+	+HA	+MA	+HA	+HA	+HA	+MB	+MA	<i>L.monocytogenes</i>	P	PA		
31	b +	Fillet of pout	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	2.61	+	+HA	+HA	+HA	+HA	+MA	+MA	+MA	<i>L.monocytogenes</i>	P	PA		
32	b +	Mackerel fillet	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	2.67	+	+HA	+HA	+HA	+HA	+HB	+HB	+HB	<i>L.monocytogenes</i>	P	PA		
33	b +	Salmon fillet	+MA	+MA	+HA	+HA	<i>L.monocytogenes</i>	P	2.51	+	+MA	+MA	+MA	+HA	+MA	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
34	b +	Salmon steaks	+MA	+LA	+HB	+HB	<i>L.monocytogenes</i>	P	2.07	+	+HB	+HA	/	+HA	+HA	/	/	<i>L.monocytogenes</i>	P	PA		
35	b -	Cod fillet	∅	∅	-ME	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
36	b +	Salmon steaks	+LB	+LA	+HB	+HB	<i>L.monocytogenes</i>	P	2.47	+	+HB	+HA	/	+HA	+HB	/	/	<i>L.monocytogenes</i>	P	PA		
37	b -	Fillet of sea bream	∅	∅	-ME	-ME	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
38	b -	Fillet of ocean perch	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
39	b -	Fillet of pout	∅	-LE	-LE	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
40	b -	Fresh Atlantic salmon	∅	∅	-HE	-HE	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
41	b -	Salmon fillet	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
42	b +	Herring fillets	+LA	+MA	+HB	+HA	<i>L.monocytogenes</i>	P	2.27	+	+HA	+HA	/	+HA	+HA	/	/	<i>L.monocytogenes</i>	P	PA		
43	c +	Salmon with juniper berries	+MD	+LB	+HA	+HB	<i>L.monocytogenes</i>	P	3.11	+	+HB	+HB	/	+HB	+HB	+HB	+HA	<i>L.monocytogenes</i>	P	PA		
44	c +	Salmon with basil	+LB	+LA	+MB	+HA	<i>L.monocytogenes</i>	P	1.96	+	+HB	+HB	/	+HA	+HB	+HA	+HA	<i>L.monocytogenes</i>	P	PA		
45	c -	Marinated herrings	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	

**Seafood products - Initial validation study**

#	ST	Sample	Reference method: EN ISO 11290-1						AM: VIDAS LMO2 (general protocol)											Comparison
			P1	A1	P2	A2	Confirmation	Result	TV	Inter p.	Confirmation							Result		
											Ox	P	C1	C2	C3	C4	C5		Confirmation	
46	c +	Marinated herrings	+LB	+LB	+HB	+HB	<i>L.monocytogenes / L.innocua</i>	P	1.64	+	+HB	+HB	-HA	+HB	+HC	+HB	+HB	<i>L.monocytogenes / L.innocua</i>	P	PA
48	c -	Cod taramasalata	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
49	c -	Salmon with basil	∅	∅	∅	∅	<i>L.monocytogenes</i>	A	0.00	-	∅	∅	∅	+LA	∅	∅	∅	<i>L.monocytogenes</i>	A	NA
50	c +	Salted salmon with basil	+HA	+HA	+MB	+MA	<i>L.monocytogenes</i>	P	1.95	+	+MB	+MB	+HA	+MA	+HA	+HA	+HB	<i>L.monocytogenes</i>	P	PA
51	c -	Salted salmon with basil	∅	∅	-LE	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
52	c +	Kipper filets	+LB	+LA	+MA	+HA	<i>L.monocytogenes</i>	P	2.34	+	+HA	+MA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA
53	c +	Minced salmon with five berries	+LA	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	2.53	+	+HA	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA
54	c +	Salmon tartare	+MA	+MA	+HA	+HA	<i>L.monocytogenes</i>	P	1.91	+	+HA	+MA	+HA	+HA	+MA	+MA	+MA	<i>L.monocytogenes</i>	P	PA
55	c +	Salmon paupiette	+LB	+LA	+MB	+MA	<i>L.monocytogenes</i>	P	0.29	+	+MB	+MA	/	+MA	+MA	/	/	<i>L.monocytogenes</i>	P	PA
56	c -	Shellfish terrine	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
57	c -	Salmon terrine	∅	∅	∅	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
58	c -	Salmon terrine	∅	∅	∅	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
59	c -	Scallops in shell	∅	∅	-LE	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
60	c -	Salmon "mosaic"	∅	∅	-LE	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
61	c -	Salmon terrine	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
62	c -	Minced salmon with sorrel	∅	∅	-ME	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
63	c -	Salmon "mosaic"	∅	∅	-LE	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
64	c -	Prawn terrine	-LE	∅	-ME	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA

**Vegetal products - Initial validation study**

#	ST	Sample	Reference method: EN ISO 11290-1					AM: VIDAS LMO2 (general protocol)													Comparison	
			P1	A1	P2	A2	Confirmation	Result	TV	Interp.	Confirmation							Confirmation	Result			
											Ox	P	C1	C2	C3	C4	C5					
1	a	- Grated celery	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
2	a	- Red cabbage	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
3	a	- Lamb's lettuce	-LE	∅	-HE	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	/	A	NA
4	a	+ Mixed salad	+LA	+LA	+HB	+HB	<i>L.monocytogenes</i>	P	1.98	+	+HA	+HA	/	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA
7	a	- Grated carrots	∅	∅	∅	∅	/	A	0.00	-	∅	∅	∅	∅	∅	∅	∅	∅	∅	/	A	NA
8	a	+ Celery	+LA (5 col)	+LA	+MA	+HA	<i>L.monocytogenes</i>	P	2.75	+	+MA	+MA	+HA	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA
9	a	+ Grated celery	+HA	+HA	+HA	+MA	<i>L.monocytogenes</i>	P	1.86	+	+HA	+HA	+HA	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA
10	a	+ Plain celery	+LA (4col)	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	2.44	+	+HA	+HA	+MA	+HA	+HA	+MA	+MA	+MA	+MA	<i>L.monocytogenes</i>	P	PA
11	a	+ Lamb's lettuce	+LB	+MA	+HA	+HA	<i>L.monocytogenes</i>	P	3.29	+	+HA	+HA	+MA	+HA	+MA	+HB	+MB	+MB	<i>L.monocytogenes</i>	P	PA	
12	a	+ Mixed salad	+MA	+MB	+HA	+HA	<i>L.monocytogenes</i>	P	2.49	+	+HA	+HA	+MA	+MA	+HA	+HA	+HB	+HB	<i>L.monocytogenes</i>	P	PA	
13	a	- Grated carrots	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
14	a	- Red cabbage	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
15	a	- Lettuce	-LE	-LE	-ME	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
16	a	- Red beetroot	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
17	a	- Celery	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
18	a	- Red beetroot	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
19	a	- Pre-cooked vacuum-packed potatoes	∅	∅	-ME	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
20	a	+ Mixed salad	+MA	+MA	+HA	+HA	<i>L.monocytogenes</i>	P	2.36	+	/	+MA	/	+HA	+HA	/	/	/	<i>L.monocytogenes</i>	P	PA	
21	b	- Country-style fried potatoes	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
22	b	- Provençal mixed vegetables	-LE	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
23	b	- Catalan salad mix	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
24	b	+ Fried rice	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	3.12	+	+HA	+HA	+HA	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA
25	b	+ Tabbouleh	+HB	+HA	+MA	+HA	<i>L.monocytogenes</i>	P	2.77	+	+HA	+MA	+HA	+HA	+HA	+HB	+HA	+HA	<i>L.monocytogenes</i>	P	PA	
26	b	+ Mixed salad with dressing	+MA	+MA	+HB	+HB	<i>L.monocytogenes / L.innocua</i>	P	3.04	+	+HB	+HB	+HB	+HB	+HB	+HB	+HB	+HB	+HB	<i>L.monocytogenes / L.innocua</i>	P	PA
27	b	+ Peppers	+MA	+MA	+MA	+MA	<i>L.monocytogenes</i>	P	1.97	+	+HB	+MA	+HA	+MA	+MA	+MA	+MA	+MB	+MB	<i>L.monocytogenes</i>	P	PA
28	b	+ Cucumbers	+MA	+MA	+MA	+MA	<i>L.monocytogenes</i>	P	2.32	+	+HB	+MA	+HA	+MA	+MA	+HA	+HA	+HA	+MA	<i>L.monocytogenes</i>	P	PA
30	b	+ Tabbouleh	+MB	+MA	+MA	+MA	<i>L.monocytogenes</i>	P	2.13	+	+MB	+HB	+HA	+HA	+HB	+HB	+HB	+HB	+HB	<i>L.monocytogenes</i>	P	PA
31	b	+ Creamed spinach	+MA	+MA	+HA	+HB	<i>L.monocytogenes / L.innocua</i>	P	1.83	+	+HA	+HA	+HA	+HA	+HB	+HB	+HA	+HA	<i>L.monocytogenes / L.innocua</i>	P	PA	
33	b	- Creamed spinach	-LE	∅	+MC	-HA	<i>L.welshimeri</i>	A	0.00	-	-HE	+MC	-LD	-HA	-LE	-HA	-MA	-MA	<i>L.welshimeri</i>	A	NA	
34	b	+ Pan-fried vegetables	+MA	+MA	+HB	+HA	<i>L.monocytogenes</i>	P	2.02	+	+HA	+HA	+MA	+HA	+HA	+HA	+MA	+MA	+MA	<i>L.monocytogenes</i>	P	PA
35	b	- Mixed salad	∅	-LE	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
36	b	- Cucumbers	-LE	-LE	-ME	-ME	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
37	b	- Salad of sweetcorn, celery, carrots	-LE	-LE	∅	-ME	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
38	b	- Saffron rice	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
39	b	- Piedmont salad	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
40	b	- Tabbouleh	-LE	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
41	b	- Pan-fried vegetables	-LE	∅	-LE	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
42	b	- Ratatouille	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
43	c	- Flageolet beans	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	/	A	NA	
44	c	+ Frozen fries	+MA	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	2.24	+	+HA	+HA	+HA	+HA	+MA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA	
45	c	+ Frozen spinach	+MA	+LA	+HA	+HB	<i>L.monocytogenes / L.innocua</i>	P	2.30	+	+HB *	+HA *	+HB *	+HB *	+HB *	+HA	+HA	+HA	<i>L.monocytogenes / *L.innocua</i>	P	PA	
46	c	+ Frozen peas	+LB	+LB	+HB	+HB	<i>L.monocytogenes / L.innocua</i>	P	2.29	+	+HB	+HB	+HB	+HB	+HB	+MB	+MB	+MB	<i>L.monocytogenes / L.innocua</i>	P	PA	
47	c	+ Peas	∅	∅	+MA	+MA	<i>L.monocytogenes</i>	P	2.69	+	+MA	+MA	+MA	+MA	+MA	+MA	+MA	+MA	<i>L.monocytogenes</i>	P	PA	

**Vegetal products - Initial validation study**

#	ST	Sample	Reference method: EN ISO 11290-1						AM: VIDAS LMO2 (general protocol)											Comparison
			P1	A1	P2	A2	Confirmation	Result	TV	Interp.	Confirmation							Result		
											Ox	P	C1	C2	C3	C4	C5		Confirmation	
48	c +	Frozen fries	+MA	+MA	+HA	+HA	<i>L.monocytogenes</i>	P	2.39	+	+HA	+HA	+HA	+HA	+HA	+MA	+HA	<i>L.monocytogenes</i>	P	PA
49	c -	Peas	∅	∅	∅	∅	/	A	0.00	-	∅	∅	∅	∅	∅	∅	∅	/	A	NA
50	c +	Frozen fries	+LA	+MA	+HA	+MA	<i>L.monocytogenes</i>	P	2.16	+	+HA	+HA	+HA	+MA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA
54	c -	Fries	∅	-LA (4col)	+LA	-LA	<i>L.seeligeri</i>	A	0.00	-	+MA	+LB	-LA	-LA	-LA	-LA	-LB	<i>L.seeligeri</i>	A	NA
56	c +	Potato fries	+HA	+MA	+HA	+MA	<i>L.monocytogenes</i>	P	2.42	+	+HA	+HA	+HA	+MA	+HA	+HB	+HA	<i>L.monocytogenes</i>	P	PA
57	c -	Mushrooms	-ME	-ME	-LE	-ME	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
58	c -	Mushrooms	-LE	-LE	+LB	-MB	<i>L.welshimeri</i>	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
59	c -	Mushrooms	-LE	∅	∅	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
60	c -	Frozen fries	∅	∅	∅	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
61	c -	Frozen fries	∅	∅	∅	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
62	c -	Green beans	-LE	∅	-ME	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA

**Vegetal products - Fourth renewal study**

#	ST	Sample	RM: NF EN ISO 11290-1(■)										AM: VIDAS LMO2 (general protocol)					Concordance	
			Half Fraser				Fraser				Confirmation	Result	Vidas LMO2		Confirmation		Confirmation		Final result
			ALOA		PALCAM		ALOA		PALCAM				TV	Result	ALOA	PALCAM			
			24h	48h	24h	48h	24h	48h	24h	48h									
1746538	a +	Grated carrots	AM	AM	AL	AL	AM	AM	AM	AM	<i>L. monocytogenes</i>	P	2.29	POSITIF	AM	AM	<i>Listeria monocytogenes</i>	P	PA
1758371	a +	Alfalfa cress sprout	EM	EM	EM	EM	AM	AM	AM	AM	<i>L. monocytogenes</i>	P	2.38	POSITIF	AM	AM	<i>Listeria monocytogenes</i>	P	PA
1730246	b +	Mixed vegetables	AM	AM	AM	AM	AM	AM	AM	AM	<i>L. monocytogenes</i>	P	2.09	POSITIF	AM	AM	<i>Listeria monocytogenes</i>	P	PA
1731488	b +	Ratatouille mixture	AL	AL	AL	AL	AM	AM	AM	AM	<i>L. monocytogenes</i>	P	2.81	POSITIF	AM	AM	<i>Listeria monocytogenes</i>	P	PA
1730245	c +	Pan-fried vegetables	EM	EM	AM	AM	EM	DL	EM	DL	<i>L. monocytogenes</i>	P	1.42	POSITIF	EM	AM	<i>Listeria monocytogenes</i>	P	PA
1730247	c +	Sweet potato puree	AM	AM	AM	AM	AM	AM	AM	AM	<i>L. monocytogenes</i>	P	2.11	POSITIF	AM	AM	<i>Listeria monocytogenes</i>	P	PA
1730248	c +	Cooked beets	AM	AM	AM	AM	AM	AM	AM	AM	<i>L. monocytogenes</i>	P	2.14	POSITIF	AM	AM	<i>Listeria monocytogenes</i>	P	PA
1730249	c +	Grated seasoned carrots	AM	AM	AM	AM	AM	AM	AM	AM	<i>L. monocytogenes</i>	P	2.18	POSITIF	AM	AM	<i>Listeria monocytogenes</i>	P	PA
1731489	c -	Mixed spinach zucchini	EL	EL	EL	EL	EL	EL	EL	EL	/	A	0,00	NEGATIF	/	/	/	A	NA



**Composite foods - Third renewal study**

#	ST	Sample	Contamination strain or serovar, type (nc,sp,se or cm ) and level (CFU/25 g)			RM: NF EN ISO 11290-1						AM: VIDAS LMO2 (general protocol)					Concordance RM /AM		
						Half Fraser		Fraser		Confir- mation	Final result	VIDAS LMO2		Conf. 1	Conf. 2	Final result		RM vs final result AM	RM vs final result AM
						ALOA	PALCAM	ALOA	PALCAM			VT	Result			ALOA	after purif.		
VC 1	a-	Salad with pasta, tuna and vegetables	LIS.4.42	se	1.0	0;L	0;L	0;L	0;Ø	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 5	a-	Cooked pasta with cheese	LIS.4.18	se	3.6	0;Ø	0;L	0;L	0;M	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 6	a-	Pig snout with vinaigrette	LIS.4.18	se	3.6	0;Ø	0;Ø	0;Ø	0;Ø	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 2	a+	Sandwich with salmon	LIS.4.42	se	2.8	1h+;Ø	1;Ø	3h+;Ø	3;L	L.m	P	3.14	+	3h+;Ø	L.m	P	P	PA	PA
VC 7	a+	Salad of semolina with vegetables and chicken	LIS.4.18	se	3.6	1h+;L	1;L	2h+;Ø	2;Ø	L.m	P	2.86	+	3h+;Ø	L.m	P	P	PA	PA
VC 20	a+	Piemontese salad	LIS.4.28	se	2.4	1h+;L	1;L	2;L	0;L	L.m	P	0/0/0/0	-/-/-/-	1h+;Ø	L.m	A (FN)	A (FN)	ND	ND
VC 21	a+	Tabbouleh with chicken and chive	LIS.4.30	se	1.6	3h+;Ø	3;L	4;H	3;H	L.m	P	2.59	+	4h+;Ø	L.m	P	P	PA	PA
VC 23	a+	Sandwich with emmental	LIS.4.30	se	1.6	1h+;Ø	1;L	4;Ø	4;Ø	L.m	P	2.74	+	3h+;Ø	L.m	P	P	PA	PA
VC 24	a+	Sandwich with chicken and mayonnaise	LIS.4.30	se	1.6	2h+;Ø	1;L	4;M	4;M	L.m	P	2.69	+	3h+;Ø	L.m	P	P	PA	PA
VC 25	a+	Sandwich with surimi, salad and cucumber	LIS.4.23	se	2.6	1h+;Ø	1;Ø	4;Ø	4;Ø	L.m	P	1.21	+	2h+;Ø	L.m	P	P	PA	PA
VC 26	a+	Sandwich with tuna, raw vegetables and mayonnaise	LIS.4.23	se	2.6	2h+;L	1;L	4;Ø	4;L	L.m	P	2.39	+	3h+;Ø	L.m	P	P	PA	PA
VC 31	a-	Fruit salad	/	/	/	0;Ø	0;Ø	0;Ø	0;Ø	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 37	a-	Sandwich with ham and butter	/	/	/	0;Ø	0;Ø	0;Ø	0;Ø	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 38	a-	Sandwich with Coppa and Emmental	/	/	/	0;Ø	0;Ø	0;Ø	0;Ø	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 43	a-	Grated carrots	/	/	/	0;Ø	0;Ø	0;Ø	0;Ø	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 45	a-	Mixed vegetables (macédoine)	/	/	/	0;Ø	0;Ø	0;L	0;M	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 46	a-	Semolina salad with vegetables	/	/	/	0;Ø	0;L	0;L	0;L	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 47	a-	Beef panini cheese flavored	/	/	/	0;Ø	0;Ø	0;Ø	0;Ø	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 40	a+	Tuna rilettes	/	/	/	0;Ø	0;Ø	0;Ø	0;L	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 53	a+	Curry noodles salad	LIS.4.23	se	5.6	0;Ø	0;Ø	2h+;Ø	3;Ø	L.m	P	0.15	+	1h+;Ø	L.m	P	P	PA	PA
VC 28	b-	Pizza	LIS.4.23	se	2.6	0;Ø	0;Ø	0;Ø	0;Ø	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 29	b-	Cannelloni bolognese	/	/	/	0;Ø	0;L	0;L	0;M	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 30	b-	Pie with spinach and goat cheese	/	/	/	0;Ø	0;Ø	0;L	0;M	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 36	b-	Fusilli carbonara	/	/	/	0;Ø	0;Ø	0;L	0;M	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 39	b-	Spaghetti bolognese with parmesan cheese	/	/	/	2h+;Ø	3;Ø	2h+;Ø	3h+;Ø	L.m	P	3.08	+	4;Ø	L.m	P	P	PA	PA
VC 60	b-	Vermicelli with beef, rice, vegetables	LIS.4.46	se	1.4	0;Ø	0;Ø	0;L	0;Ø	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 63	b-	Tortilla potatoes, eggs, bacon	/	/	/	0;Ø	0;Ø	0;Ø	0;Ø	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 3	b-	Pizza: ham, cheese and mushrooms	LIS.4.39	se	2.2	0;L	0;L	0;L	0;M	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 27	b-	Sandwich with meat, tomato	LIS.4.23	se	2.6	0;M	0;M	0;L	0;L	/	A	0.00	-	0;L	/	A	A	NA	NA
VC 8	b+	Quiche lorraine	LIS.4.18	se	3.6	1h+;Ø	1;L	3h+;Ø	4;L	L.m	P	2.92	+	3h+;Ø	L.m	P	P	PA	PA
VC 9	b+	Pie with tuna, tomato and sweet pepper	LIS.4.17	se	3.8	1h+;L	2;L	3h+;L	3;L	L.m	P	2.90	+	4h+;Ø	L.m	P	P	PA	PA
VC 10	b+	Bœuf bourguignon	LIS.4.17	se	3.8	2h+;Ø	1;Ø	3h+;Ø	3;Ø	L.m	P	2.94	+	4h+;Ø	L.m	P	P	PA	PA
VC 11	b+	Croissant with ham	LIS.4.35	se	8.0	3h+;Ø	2;L	3h+;Ø	3;Ø	L.m	P	2.63	+	3h+;Ø	L.m	P	P	PA	PA
VC 12	b+	Couscous	LIS.4.35	se	8.0	1h+;L	1;L	3h+;Ø	1;M	L.m	P	1.01	+	4h+;Ø	L.m	P	P	PA	PA
VC 15	b+	Galette of black corn	LIS.4.24	se	2,0	0;M	0;M	4;L	4;M	L.m	P	0.06	+	2h+;L	L.m	P	P	PA	PA
VC 16	b+	Tortilla with bacon	LIS.4.24	se	2,0	3h+;Ø	3;L	4;Ø	0;L	L.m	P	2.99	+	3h+;Ø	L.m	P	P	PA	PA
VC 17	b+	Vegetable gratin with pork	LIS.4.24	se	2,0	2h+;Ø	2;L	4;Ø	3;H	L.m	P	2.85	+	4h+;Ø	L.m	P	P	PA	PA
VC 18	b+	Lasagna of chicken	LIS.4.28	se	2.4	3h+;Ø	2;L	4;Ø	3;H	L.m	P	3.03	+	3h+;Ø	L.m	P	P	PA	PA
VC 19	b+	Chinese pasta with vegetables	LIS.4.28	se	2.4	3h+;Ø	2;Ø	4;Ø	2;H	L.m	P	2.91	+	3h+;Ø	L.m	P	P	PA	PA
VC 22	b+	Shepherd's pie	LIS.4.30	se	1.6	3h+;Ø	3;L	4;Ø	3;H	L.m	P	2.58	+	3h+;Ø	L.m	P	P	PA	PA
VC 4	c+	Pie with peach and pear	LIS.4.20	se	1.4	2h+;Ø	2;Ø	2h+;Ø	2;M	L.m	P	2.66	+	3h+;Ø	L.m	P	P	PA	PA
VC 13	c+	Chocolate cake	LIS.4.47	se	1.6	2h+;M	2;M	3h+;L	1;M	L.m	P	2.74	+	4h+;Ø	L.m	P	P	PA	PA
VC 14	c+	Apple pie 1	LIS.4.47	se	1.6	2h+;Ø	2;Ø	3h+;Ø	3;Ø	L.m	P	2.71	+	2h+;Ø	L.m	P	P	PA	PA
VC 32	c-	Custard tart	/	/	/	0;Ø	0;Ø	0;Ø	0;L	/	A	0.00	-	0;Ø	/	A	A	NA	NA

**Composite foods - Third renewal study**

#	ST	Sample	Contamination strain or serovar, type (nc,sp,se or cm ) and level (CFU/25 g)			RM: NF EN ISO 11290-1						AM: VIDAS LMO2 (general protocol)						Concordance RM /AM	
						Half Fraser		Fraser		Confir- mation	Final result	VIDAS LMO2		Conf. 1	Conf. 2	Final result		RM vs final result AM	RM vs final result AM
						ALOA	PALCAM	ALOA	PALCAM			VT	Result	ALOA	after purif.	Conf.1	Conf. 2	Conf. 1	Conf.2
VC 33	c-	Strawberry pie	/	/	/	0;M	0;Ø	0;L	0;Ø	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 34	c-	Paris-Brest	/	/	/	0;Ø	0;M	0;L	0;M	/	A	0.00	-	0;L	/	A	A	NA	NA
VC 35	c-	Bread with custard	/	/	/	0;Ø	0;Ø	0;Ø	0;Ø	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 41	c-	Tresse provençale	/	/	/	0;Ø	0;Ø	0;L	0;M	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 42	c-	Pancake	/	/	/	0;L	0;M	0;L	0;M	/	A	0.00	-	0;L	/	A	A	NA	NA
VC 44	c-	Pie with tomatoes and goat cheese	/	/	/	0;Ø	0;Ø	0;L	0;M	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 48	c-	Eclair au café	/	/	/	0;Ø	0;Ø	0;Ø	0;Ø	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 49	c-	Cream doughnut	LIS.4.20	se	1.2	0;L	0;M	0;Ø	0;L	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 50	c-	Patte d'ours	LIS.4.20	se	1.2	0;Ø	0;Ø	0;Ø	0;L	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 51	c-	Apple pie 2	LIS.4.20	se	1.2	0;Ø	0;Ø	0;Ø	0;Ø	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 56	c-	Lemon pie	LIS.4.67	se	1.4	1h;Ø	0;L	0;Ø	0;Ø	/	A	0.00	-	0;Ø	/	A	A	NA	NA
VC 61	c-	Hazelnut cake	LIS.4.47	se	1.8	0;Ø	0;L	0;L	0;M	/	A	0.00	-	0;L	/	A	A	NA	NA
VC 52	c+	Strawberry pie	LIS.4.23	se	5.6	1h+;Ø	1;Ø	2h+;Ø	2;Ø	L.m	P	3.12	+	2h+;Ø	L.m	P	P	PA	PA
VC 54	c+	Clafoutis	LIS.4.23	se	5.6	1h+;Ø	1;Ø	2h+;Ø	3;Ø	L.m	P	3.12	+	2h+;Ø	L.m	P	P	PA	PA
VC 55	c+	Egg cream 1	LIS.4.67	se	1.4	1h+;Ø	1;L	2h+;Ø	2;L	L.m	P	2.76	+	3h+;Ø	L.m	P	P	PA	PA
VC 57	c+	Custard	LIS.4.67	se	1.4	2h+;Ø	2;Ø	2h+;Ø	3;Ø	L.m	P	2.77	+	3h+;Ø	L.m	P	P	PA	PA
VC 58	c+	Tiramisu	LIS.4.46	se	2.2	1h+;L	1;L	3h+;Ø	3;Ø	L.m	P	2.67	+	3h+;Ø	L.m	P	P	PA	PA
VC 59	c+	Egg cream 2	LIS.4.46	se	1.4	1h+;L	1;L	3h+;Ø	3;Ø	L.m	P	2.71	+	3h+;Ø	L.m	P	P	PA	PA
VC 62	c+	Chocolate and hazelnut cake	LIS.4.47	se	1.8	2h+;Ø	1;M	2h+;Ø	2;L	L.m	P	3.04	+	2h+Ø	L.m	P	P	PA	PA

**Environmental samples - Initial validation study**

#	ST	Sample	Reference method: EN ISO 11290-1					AM: VIDAS LMO2 (general protocol)												Comparison
			P1	A1	P2	A2	Confirmation	Result	TV	Interp.	Confirmation								Result	
											Ox	P	C1	C2	C3	C4	C5	Confirmation		
1	a	- Cooling unit	+HA	-MA	+HB	-MB	<i>L.innocua / L.welshimeri</i>	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
2	a	- Intestines cold store	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
3	a	- Minced meat cold store	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
4	a	- Cold store for products in brine	+MB	-MB	+HB	-MB	<i>L.innocua / L.welshimeri</i>	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
5	a	- T1 cold store	-ME	∅	-ME	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
6	a	+ T2 cold store	+HB	+HD	+HB	+HD	<i>L.monocytogenes / L.innocua</i>	P	0.07	+	+HB	+HB	-HE (Bac)	+HD	-HE (Bac)	+HD (Bac)	+HD	<i>L.monocytogenes / L.innocua</i>	P	PA
7	a	+ Broth cold store	+HA	+MA	+HB	+MA	<i>L.monocytogenes</i>	P	1.97	+	+HB	+HA	+HB (Bac)	+HA	+MB (Bac)	+HB (Bac)	+HA	<i>L.monocytogenes</i>	P	PA
8	a	+ T3 cold store	+HA	+MA	+HA	+MA	<i>L.monocytogenes</i>	P	1.99	+	+HB	+HA	+HA	+HA	+MB	+HB (Bac)	+MA	<i>L.monocytogenes</i>	P	PA
9	a	+ Sponge from fish-cutting fish facility	+LA	+LA	+HA	+MA	<i>L.monocytogenes</i>	P	2.27	+	+HB	+HA	+HA	+HA	+MB (Bac)	+HA	+HA	<i>L.monocytogenes</i>	P	PA
10	a	+ Sponge from fish-cutting fish facility	+MA	+MA	+HA	+MA	<i>L.monocytogenes</i>	P	2.25	+	+HB	+HA	+HA	+HA	+HB (Bac)	+HA	+HA	<i>L.monocytogenes</i>	P	PA
11	a	+ Surface of fish fillet tray	+HA	+MA	+MB	+MB	<i>L.monocytogenes</i>	P	1.96	+	+MB	+MA	+MB (Bac)	+HA	+MA	+HB (Bac)	+MB	<i>L.monocytogenes</i>	P	PA
12	a	+ Surface of peeling knife blade	+LA (2col)	∅	+MB	+MA	<i>L.monocytogenes</i>	P	2.45	+	+HB	+HB	+MA	+MA	+HA	+MA	+MA	<i>L.monocytogenes</i>	P	PA
13	a	+ Surface of preparation board	+LA	+LA	+HA	+HA	<i>L.monocytogenes</i>	P	2.68	+	+MB	+MA	+MA	+HA	+MA	+MB (Bac)	+MA	<i>L.monocytogenes</i>	P	PA
14	a	+ Underside of tray-raiser	+LB	+LB	+MB	+MB	<i>L.monocytogenes</i>	P	2.11	+	+MB	+MB	+MA	+MA	+MB	+M (Bac)	+MA	<i>L.monocytogenes</i>	P	PA
15	a	- Top of loader	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
16	a	- Swab from cable tray	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
17	a	+ Surface of weighing machine conveyor	+MB	+LA	+MA	+LA	<i>L.monocytogenes</i>	P	1.89	+	+MB	+MA	+MA	+MA	+MA	+MB (Bac)	+MA	<i>L.monocytogenes</i>	P	PA
18	a	- Surface of fillet preparation board	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
19	a	+ Surface of salmon preparation board	+LA	+LA	+HB	+MA	<i>L.monocytogenes</i>	P	1.93	+	+MB	+HA	+MA	+MA	+HA	+HB (Bac)	+MA	<i>L.monocytogenes</i>	P	PA
20	a	+ Waste disposal conveyor	+MB	+MA	+MA	+MA	<i>L.monocytogenes</i>	P	1.98	+	+HB	+HA	+MA	+MA	+HA	+MB (Bac)	+MA	<i>L.monocytogenes</i>	P	PA
21	b	- Water from drain in production area	+MA	-LA	+MB	-MB	<i>L.welshimeri</i>	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
22	b	- Water from washing machine output	-LE	-LE	∅	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
23	b	+ Water from drain in production area	+HA	+HA	+HB	+HD	<i>L.monocytogenes / L.innocua</i>	P	1.87	+	+MB	+HB	+MD	+HB	+HD (Bac)	+MB (Bac)	+MC	<i>L.monocytogenes / L.innocua</i>	P	PA
24	b	- Rinsing water from sauce station	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
25	b	+ Water from washing machine output	+MB	+LB	+HB	+MB	<i>L.monocytogenes</i>	P	2.75	+	+MA	+MA	+MA	+MA	+HA	+MA	+MA	<i>L.monocytogenes</i>	P	PA
26	b	+ Water from drain in production area	+MB	+LB	+HB	+MB	<i>L.monocytogenes</i>	P	1.85	+	+HB	+HB	+MB	+MB	-HE	+MB	+MC	<i>L.monocytogenes</i>	P	PA
27	b	+ Water from drain in production area	+HB	+MB	+MB	+MB	<i>L.monocytogenes</i>	P	2.44	+	+HB	+HB	-HE	+MC	-HE	+MB	+MC	<i>L.monocytogenes</i>	P	PA
28	b	- Water from edge of machine output	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
29	b	+ Water from drain in vestibule	+MB	+HB	+HB	+MB	<i>L.monocytogenes</i>	P	2.31	+	+MC	+HB	+MB	+MA	+MB	+LA	+MA (Bac)	<i>L.monocytogenes / L.innocua</i>	P	PA
30	b	+ Water from drain in storage room	+MA	+LB	+HB	+MC	<i>L.monocytogenes / L.innocua</i>	P	2.83	+	+HB	+HB	-HE	+MC	+HD	+MC	+MC	<i>L.monocytogenes / L.innocua</i>	P	PA
31	b	+ Water from drain in cold store	+MB	+LA	+HB	+MB	<i>L.monocytogenes</i>	P	2.25	+	+MB	+MB	+MB	+MA	+MA	+MA (Bac)	+MA	<i>L.monocytogenes</i>	P	PA
32	b	+ Water from drain in smokehouse	+MB	+LB	+HB	+MB	<i>L.monocytogenes / L.innocua</i>	P	2.36	+	+MB	+HB	+MB	+MB	+MB	+MB	+LB	<i>L.monocytogenes / L.innocua</i>	P	PA
33	b	- Water from drain in herring room	∅	-LE	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
34	b	+ Water from drain in salting facility	+LA	+MA	+HB	+HB	<i>L.monocytogenes</i>	P	2.22	+	+MB	+HB	+MB	+MA	+HB	+MA	+MA	<i>L.monocytogenes / L.welshimeri</i>	P	PA
35	b	+ Water from drain in central facility	+LA	+LA	+HA	+MA	<i>L.monocytogenes</i>	P	1.90	+	+HA	+HA	+HA	+HA	+HA	+MA	+MA	<i>L.monocytogenes</i>	P	PA
36	b	- Standing water from knife holder	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
37	b	- Water from drain in thawing room	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
38	b	+ Water from drain in brining room	+MA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	2.03	+	+HA	+HA	+HA	+HA	+HA	+HA	+HA	<i>L.monocytogenes</i>	P	PA
39	b	- Water from drain in intermediate room	+MA	-ME	+HA	-ME	<i>L.innocua</i>	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
40	b	- Water from drain in fishbone-removal room	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
41	b	- Water from drain in herring fillet room	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
42	b	- Water from drain in packaging room	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA

**Environmental samples - Initial validation study**

#	ST	Sample	Reference method: EN ISO 11290-1						AM: VIDAS LMO2 (general protocol)											Comparison
			P1	A1	P2	A2	Confirmation	Result	TV	Interp.	Confirmation								Result	
											Ox	P	C1	C2	C3	C4	C5	Confirmation		
43	c	+ Residue from washing area	+LA	+LA	+HB	+HB	<i>L.monocytogenes</i>	P	3.03	+	+HB	+HB	+HB	+HB	+HB	+MB	+HB	<i>L.monocytogenes</i>	P	PA
44	c	- Residue from boot-washer	-HE	-HE	-HE	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
45	c	- Residue from braiser outlet	-HE	-HE	-ME	-ME	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
46	c	- Greasy liquid from bin	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
47	c	+ Residue from goods-in drain outlet	+MB	+MA	+MB	+MA	<i>L.monocytogenes</i>	P	3.09	+	+HB	+MB	+HB	+MA	+HB	+HB	+MA (Bac)	<i>L.monocytogenes</i>	P	PA
48	c	- Residue from "rauques" room	∅	-ME	∅	-HE	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
49	c	- Residue from drain in smoked salmon facility	∅	∅	∅	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
50	c	+ Residue from haddock trolley	+HA	+HA	+HA	+HB	<i>L.monocytogenes</i>	P	2.08	+	+HB	+HA	+HB	+HB	+HB	+HA	+HB	<i>L.monocytogenes</i>	P	PA
51	c	+ Residue from grate in intermediate room - Corréze entrance	+MA	+MA	+MA	+HA	<i>L.monocytogenes</i>	P	2.23	+	+MA	+MA	+MA	+HA	+MA	+MA	+HB (Bac)	<i>L.monocytogenes</i>	P	PA
52	c	+ Residue from gutter on herring fillet packaging machine	+LB	+LC	+MB	+MB	<i>L.monocytogenes</i> / <i>L.welshimeri</i>	P	2.20	+	+MB	+MB	+MB	+MB	+HB	+MB (Bac)	+MB (Bac)	<i>L.monocytogenes</i> / <i>L.welshimeri</i>	P	PA
53	c	+ Debris from grate	+LB (2col)	+LB (1col)	+HB	+LA	<i>L.monocytogenes</i> / <i>L.welshimeri</i>	P	3.50	+	+HB	+HA	+HA	+HA	+HA	+HB (Bac)	+HA	<i>L.monocytogenes</i> / <i>L.welshimeri</i>	P	PA
54	c	+ Debris from drain	+LB	+MB	+HA	+HA	<i>L.monocytogenes</i>	P	2.81	+	+MA	+MA	/	+MA	+HA	+MA	+MA	<i>L.monocytogenes</i>	P	PA
55	c	- Debris from salmon-salting area	-ME	-ME	-ME	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
56	c	+ Debris from matured salmon	+MA	+HA	+HA	+HB	<i>L.monocytogenes</i>	P	2.37	+	+HA	+HA	/	+MA	+HA	+HB (Bac)	+MA	<i>L.monocytogenes</i>	P	PA
57	c	- Sweepings	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
58	c	- Sweepings from goods-in	-LE	-LE	-ME	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
59	c	- Residue from goods-in drain	∅	∅	-LE	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
60	c	- Residue from slicer	∅	∅	∅	-LE	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
61	c	- Residue from conveyor on wrapping machine	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
62	c	- Residue from cold meats work surface	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
63	c	- Residue from sink at cheese counter	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA
64	c	- Residue from drain grate	∅	∅	∅	∅	/	A	0.00	-	/	/	/	/	/	/	/	/	A	NA

## **APPENDIX E**

### **Relative level of detection study**

#### **Raw data**

## RELATIVE LEVEL OF DETECTION STUDY

### General protocol

Caption: Bacterial burden  
Ø: no culture  
L = low  
M = moderate  
H = high

Breakdown of flora  
A = pure culture of suspect colonies  
B = mixture with a majority of suspect colonies  
C = mixture with a minority of suspect colonies  
D = mixture with rare suspect colonies  
E = absence of suspect colonies  
(x): x colonies characteristic of Listeria if  $x \leq 5$

**Meat products - Initial validation study**

Sample	Strain	Level	Contamination level (UFC/25 g or ml)	RM: NF EN ISO 11290-1					AM: VIDAS LMO2					Number of positive results per method and inoculation volume
				P1	A1	P2	A2	Final result	VT	Result	Confirmation		Fianl result	
											P	Chromogenic media		
Rillettes: TVC: 5.7 x 10 <sup>7</sup> CFU/g	Listeria monocytogenes 1/2c	Level 1	0	∅	∅	∅	∅	-	0.00	-	/	/	-	MR: 0/6 MA: 0/6
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				-LE	∅	∅	∅	-	0.00	-	/	/	-	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				∅	∅	-LE	∅	-	0.00	-	/	/	-	
		∅	∅	∅	∅	-	0.00	-	/	/	-	MR: 2/6 MA: 1/6		
		∅	∅	+MA	+MA	+	0.34	+	+MA	+	+			
		∅	∅	∅	∅	-	0.00	-	/	/	-			
		∅	∅	+MB	+MA	+	0.00	-	∅	∅	-			
		∅	∅	∅	∅	-	0.00	-	/	/	-			
		Level 3	0.5 [0,3-0,7]	∅	∅	+MA	+HA	+	3.08	+	+MA	+	+	MR: 4/6 MA: 4/6
				+LA (1col)	+LA (3col)	+MA	+MA	+	1.47	+	+MA	+	+	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				+LA	+LA	+MA	+MA	+	3.27	+	+HA	+	+	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
Level 4	1,1 [0,7-1,6]	+LA (4col)	+LA (2col)	+HA	+MA	+	3.26	+	+HA	+	+	MR: 5/6 MA: 5/6		
		∅	∅	+HA	∅	-	0.00	-	+HA	/	-			
		+LA	+LA	+HA	+HA	+	3.09	+	+HA	+	+			
		+LA (5col)	+LA	+HA	+MA	+	2.95	+	+HA	+	+			
		+LA	+LA	+HA	+MA	+	2.90	+	+HA	+	+			
Level 5	1,5 [1,0-2,1]	+LA	+LA	+HA	+HA	+	2.62	+	+HA	+	+	MR: 6/6 MA: 6/6		
		+LA(4col)	+LA (4col)	+HA	+MA	+	3.00	+	+HA	+	+			
		+LA	+LA	+HA	+HA	+	2.86	+	+HA	+	+			
		+MA	+LA	+MA	+MA	+	2.64	+	+HA	+	+			
		+MA	+MA	+MA	+MA	+	2.83	+	+HA	+	+			
Level 6	1,9 [1,5-2,4]	+MA	+LA	+MA	+MA	+	2.50	+	+HA	+	+	MR: 6/6 MA: 6/6		
		+MA	+LA	+MA	+MA	+	2.86	+	+HA	+	+			
		+MA	+MA	+MA	+MA	+	2.71	+	+HA	+	+			
		+LA	+LA	+HA	+MA	+	2.32	+	+HA	+	+			
		+MA	+MA	+MA	+MA	+	2.40	+	+HA	+	+			
Level 7	5.9 [4,8-7,2]	+MA	+LA	+MA	+MA	+	2.18	+	+HA	+	+	MR: 6/6 MA: 6/6		
		+MA	+LA	+MA	+MA	+	2.22	+	+HA	+	+			
		+MA	+MA	+MA	+LA	+	2.21	+	+HA	+	+			
		+MA	+MA	HA	+MA	+	2.40	+	+HA	+	+			
		+MA	+MA	+MA	+MA	+	2.35	+	+HA	+	+			
Level 7	5.9 [4,8-7,2]	+MA	+MA	+MA	+MA	+	1.86	+	+HA	+	+	MR: 6/6 MA: 6/6		
		+MA	+MA	+MA	+MA	+	1.92	+	+HA	+	+			
		+MA	+MA	+HA	+MA	+	2.04	+	+HA	+	+			
		+LA	+MA	+MA	+MA	+	2.16	+	+HA	+	+			

**Dairy products - Initial validation study**

Sample	Strain	Level	Contamination level (UFC/25 g or ml)	RM: NF EN ISO 11290-1					AM: VIDAS LMO2					Number of positive results per method and inoculation volume
				P1	A1	P2	A2	Final result	VT	Result	Confirmation		Fianl result	
											p	Chromogenic media		
Raw milk	Listeria monocytogenes 1/2b	Level 1	0	+LA	-ME	+HA	-ME	- (*)	0.00	-	/	/	-	MR: 0/6 MA: 0/6
				+LA	-LE	+MA	-ME	- (*)	0.00	-	/	/	-	
				+LA	-ME	+HA	-ME	- (*)	0.00	-	/	/	-	
				+LA	-LE	+MA	-LE	- (*)	0.00	-	/	/	-	
				+LA	-ME	+MA	-ME	- (*)	0.00	-	/	/	-	
		Level 2	0,2 [0,1-0,3]	+LB	+LB	+HB	+HB	+	2.70	+	+HB	+	+	MR: 1/6 MA: 1/6
				+LA	-LE	+MA	-HE	- (*)	0.00	-	/	/	-	
				+LA	-LE	+HA	-ME	- (*)	0.00	-	/	/	-	
				+LA	-LE	+MA	-HE	- (*)	0.00	-	/	/	-	
				+LA	-LE	+MA	-ME	- (*)	0.00	-	/	/	-	
		Level 3	0.4 [0,2-0,6]	+MA	-ME	+MA	-ME	- (*)	0.00	-	/	/	-	MR: 2/6 MA: 2/6
				+LA	-ME	+MA	-ME	- (*)	0.00	-	/	/	-	
				+LC	+LC	+HB	+HB	+	1.85	+	+HB	+	+	
				+LA	-MA	+MA	-ME	- (*)	0.00	-	/	/	-	
				+MB	+MB	+HB	+HB	+	3.11	+	+HB	+	+	
		Level 4	0.7 [0,5-1,1]	+MA	+MA	+MA	-ME	- (*)	0.00	-	/	/	-	MR: 6/6 MA: 6/6
				+MB	+MB	+HB	+MB	+	2.63	+	+HB	+	+	
				+MB	+MB	+HB	+HB	+	3.21	+	+HB	+	+	
				+MB	+MB	+HB	+MB	+	3.22	+	+HB	+	+	
				+MB	+MB	+HB	+HB	+	2.84	+	+HB	+	+	
		Level 5	2.2 [1,5-3,1]	+MB	+MB	+HB	+HB	+	2.46	+	+HB	+	+	MR: 6/6 MA: 6/6
				+MB	+MB	+HB	+HB	+	2.51	+	+HB	+	+	
				+LB	+LB	+HB	+HB	+	2.57	+	+HB	+	+	
				+MB	+LB	+HB	+HB	+	2.31	+	+HB	+	+	
				+LB	+MB	+HB	+MB	+	3.13	+	+HB	+	+	

TVC: 1.4 x 10<sup>6</sup> CFU/g

(\*) Listeria seeligeri



### Vegetal products - Initial validation study

Sample	Strain	Level	Contamination level (UFC/25 g or ml)	RM: NF EN ISO 11290-1					AM: VIDAS LMO2					Number of positive results per method and inoculation volume
				P1	A1	P2	A2	Final result	VT	Result	Confirmation		Final result	
											P	Chromogenic media		
Red cabbage	Listeria monocytogenes 4b	Level 1	0	∅	∅	∅	∅	-	0.00	-	/	/	-	MR: 0/6 MA: 0/6
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
		Level 2	0.6 [0,4-0,8]	∅	∅	∅	∅	-	0.00	-	/	/	-	MR: 2/6 MA: 2/6
				+LA	+LA	+HA	+HA	+	2.29	+	+HA	+	+	
				+LA	+LA	+HA	+HA	+	2.24	+	+HA	+	+	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
		Level 3	1,0 [0,7-1,3]	+LA	+LA	+MA	+MA	+	2.11	+	+HA	+	+	MR: 5/6 MA: 5/6
				∅	∅	∅	∅	-	0.00	-	∅	/	-	
				+LA	+LA	+MA	+MA	+	2.30	+	+HA	+	+	
				+LA	+LA	+HA	+HA	+	2.23	+	+HA	+	+	
				+LA	+LA	+HA	+HA	+	2.36	+	+MA	+	+	
		Level 4	2.9 [2,1-3,8]	+LA	+LA	+MA	+MA	+	1.82	+	+HA	+	+	MR: 6/6 MA: 6/6
				+LA	+LA	+HA	+HA	+	1.93	+	+HA	+	+	
				+LA	+LA	+MA	+MA	+	2.07	+	+HA	+	+	
				+LA	+LA	+HA	+HA	+	2.25	+	+HA	+	+	
				+MA	+LA	+HA	+HA	+	2.26	+	+HA	+	+	

TVC: 4.2 x 10<sup>6</sup> CFU/g

### Seafood products - Initial validation study

Sample	Strain	Level	Contamination level (UFC/25 g or ml)	RM: NF EN ISO 11290-1					AM: VIDAS LMO2					Number of positive results per method and inoculation volume
				P1	A1	P2	A2	Final result	VT	Result	Confirmation		Final result	
											P	Chromogenic media		
Smoked salmon	Listeria monocytogenes 1/2a	Level 1		∅	∅	∅	∅	-	0.00	-	/	/	-	MR: 0/6 MA: 0/6
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
		Level 2	0,2 [0,1-0,3]	+MA	+LA	+HA	+MA	+	2.01	+	+HA	+	+	MR: 1/6 MA: 1/6
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				∅	∅	-ME	∅	-	0.00	-	/	/	-	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
		Level 3	0,3 [0,2-0,5]	+MA	+MA	+HA	+HA	+	2.03	+	+HA	+	+	MR: 2/6 MA: 2/6
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				+MA	+MA	+HA	+HA	+	2.48	+	+HA	+	+	
				∅	∅	-LE	∅	-	0.00	-	/	/	-	
		Level 4	1,2 [0,9-1,6]	∅	∅	∅	∅	-	0.00	-	/	/	-	MR: 6/6 MA: 6/6
				+LA	+LA	+HA	+MA	+	2.18	+	+HA	+	+	
				+LA	+LA	+HA	+HA	+	2.30	+	+HA	+	+	
				+MA	+MA	+HA	+MA	+	2.42	+	+HA	+	+	
				+LA	+LA	+HA	+MA	+	2.28	+	+HA	+	+	
		Level 5	3,5 [2,7-4,5]	+MA	+MA	+HA	+MA	+	2.12	+	+HA	+	+	MR: 6/6 MA: 6/6
				+MA	+MA	+HA	+HA	+	2.23	+	+HA	+	+	
				+MA	+HA	+HA	+HA	+	2.34	+	+HA	+	+	
				+MA	+MA	+HA	+HA	+	2.40	+	+HA	+	+	
				+LA	+LA	+HA	+HA	+	2.91	+	+HA	+	+	
				+MA	+MA	+HA	+MA	+	1.89	+	+HA	+	+	

TVC: 2.0 x 10<sup>5</sup> CFU/g

**Environmental samples - Initial validation study**

Sample	Strain	Level	Contamination level (UFC/25 g or ml)	RM: NF EN ISO 11290-1					AM: VIDAS LMO2					Number of positive results per method and inoculation volume
				P1	A1	P2	A2	Final result	VT	Result	Confirmation		Fianl result	
											P	Chromogenic media		
Process water (washing machine draining)	Listeria monocytogenes 1/2c	Level 1		∅	∅	∅	∅	-	0.00	-	/	/	-	MR: 0/6 MA: 0/6
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
		Level 2	0.9 [0,6-1,3]	∅	∅	∅	+MA	-	0.00	-	/	/	-	MR: 3/6 MA: 3/6
				+LA (1col)	∅	+HA	∅	+	2.69	+	+HA	+	+	
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				+LA (1col)	∅	+HA	+HA	+	2.67	+	+HA	+	+	
				+LA (1col)	∅	+MA	+MA	+	2.66	+	+HA	+	+	
		Level 3	2.5 [1,8-3,3]	∅	∅	∅	+MA	-	0.00	-	/	/	-	MR: 5/6 MA: 5/6
				+LA (4col)	+LA (3col)	+MA	+HA	+	1.80	+	+HA	+	+	
				+LA	+LA	+HA	+MA	+	1.84	+	+HA	+	+	
				+LA	+LA	+HA	+MA	+	1.97	+	+HA	+	+	
				+LA	+LA	+HA	+MA	+	2.00	+	+HA	+	+	
		Level 4	2.7 [1,9-3,7]	+LA	+LA	+HA	+MA	+	2.11	+	+HA	+	+	MR: 4/6 MA:4/6
				∅	∅	∅	∅	-	0.00	-	/	/	-	
				∅	∅	+HA	+MA	+	2.38	+	+HA	+	+	
				∅	∅	+MA	+MA	+	1.92	+	+MA	+	+	
				∅	+LA (1col)	+HA	+MA	+	2.56	+	+HA	+	+	
		Level 5	5.0 [3,7-6,6]	∅	∅	∅	+MA	+	0.00	-	/	/	-	MR: 6/6 MA: 6/6
				+LA (5col)	+LA	+HA	+HA	+	1.85	+	+HA	+	+	
				+LA	+LA	+HA	+MA	+	1.91	+	+HA	+	+	
				+LA	+LA	+HA	+MA	+	1.97	+	+HA	+	+	
				+LA	+LA	+HA	+HA	+	2.04	+	+HA	+	+	
+LA	+LA	+HA	+MA	+	2.06	+	+HA	+	+					
+LA	+LA	+HA	+MA	+	2.12	+	+HA	+	+					

TVC: 2.6 x 10<sup>5</sup> CFU/g

## RLoD - COMPOSITE FOODS

### RAW RESULTS

Caption:

ST : sample type  
SN : sample number  
# : sample identity  
◊ : 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  
∅ : 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  
∅ / L / M / H : level of annex flora, from absence to high  
h+/h-: oresence or absence of halo  
I : result after re-isolation  
(XXX) : number of typical colonies

## RLoD - Composite foods

#	Sample	Contamination strain or serovar and level (CFU/25 g)		RM: NF EN ISO 11290-1						AM: VIDAS LMO 2						Global results	
				Half Fraser		Fraser		Confir- mation	Final result	Vidas LMO2		Conf. 1	Conf. 2	Final result		RM	AM
				ALOA	PALCAM	ALOA	PALCAM			VT	Result			ALOA	after purif.		
T01	salade piémontaise au jambon	/	0.0	0;M	0;M	/	/	A	A	0.00	-	/	/	A	A	0 / 5	0 / 5
T02	salade piémontaise au jambon	/	0.0	0;M	0;M	/	/	A	A	0.00	-	/	/	A	A		
T03	salade piémontaise au jambon	/	0.0	0;M	0;M	/	/	A	A	0.00	-	/	/	A	A		
T04	salade piémontaise au jambon	/	0.0	0;M	0;L	/	/	A	A	0.00	-	/	/	A	A		
T05	salade piémontaise au jambon	/	0.0	0;M	0;M	/	/	A	A	0.00	-	/	/	A	A		
M1	salade piémontaise au jambon	LIS.4.5	0.5	0;L	0;L	0;M	0;H	A	A	0.00	-	0;L	/	A	A	5 / 20	5 / 20
M2	salade piémontaise au jambon	LIS.4.5	0.5	3h+;∅	3;L	2h+;∅	2;L	P	P	2.80	+	2;∅	L. monocytogenes	P	P		
M3	salade piémontaise au jambon	LIS.4.5	0.5	0;L	0;L	0;M	0;H	A	A	0.00	-	0;L	/	A	A		
M4	salade piémontaise au jambon	LIS.4.5	0.5	0;∅	0;L	0;M	0;H	A	A	0.00	-	0;L	/	A	A		
M5	salade piémontaise au jambon	LIS.4.5	0.5	0;∅	0;L	0;M	0;H	A	A	0.00	-	0;L	/	A	A		
M6	salade piémontaise au jambon	LIS.4.5	0.5	0;∅	0;L	0;M	0;H	A	A	0.00	-	0;L	/	A	A		
M7	salade piémontaise au jambon	LIS.4.5	0.5	0;L	0;L	0;M	0;M	A	A	0.00	-	0;L	/	A	A		
M8	salade piémontaise au jambon	LIS.4.5	0.5	3h+;∅	3;L	3h+;∅	3;L	P	P	2.79	+	2;∅	L. monocytogenes	P	P		
M9	salade piémontaise au jambon	LIS.4.5	0.5	0;L	0;L	0;M	0;M	A	A	0.00	-	0;L	/	A	A		
M10	salade piémontaise au jambon	LIS.4.5	0.5	0;∅	0;L	0;M	0;H	A	A	0.00	-	0;L	/	A	A		
M11	salade piémontaise au jambon	LIS.4.5	0.5	2h+;∅	2;∅	2h+;∅	3;M	P	P	2.66	+	3h+;∅	L. monocytogenes	P	P		
M12	salade piémontaise au jambon	LIS.4.5	0.5	2h+;∅	2;∅	2h+;∅	3;L	P	P	2.70	+	2h+;∅	L. monocytogenes	P	P		
M13	salade piémontaise au jambon	LIS.4.5	0.5	0;L	0;L	0;M	0;H	A	A	0.00	-	0;L	/	A	A		
M14	salade piémontaise au jambon	LIS.4.5	0.5	0;L	0;L	0;L	0;H	A	A	0.00	-	0;L	/	A	A		
M15	salade piémontaise au jambon	LIS.4.5	0.5	0;L	0;L	0;M	0;H	A	A	0.00	-	0;L	/	A	A		
M16	salade piémontaise au jambon	LIS.4.5	0.5	2h+;∅	2;L	2h+;∅	3;M	P	P	2.94	+	2h+;∅	L. monocytogenes	P	P		
M17	salade piémontaise au jambon	LIS.4.5	0.5	0;∅	0;L	0;H	0;H	A	A	0.00	-	0;L	/	A	A		
M18	salade piémontaise au jambon	LIS.4.5	0.5	0;L	0;L	0;M	0;H	A	A	0.00	-	0;∅	/	A	A		
M19	salade piémontaise au jambon	LIS.4.5	0.5	0;L	0;L	0;M	0;H	A	A	0.00	-	0;L	/	A	A		
M20	salade piémontaise au jambon	LIS.4.5	0.5	0;∅	0;L	0;M	0;H	A	A	0.00	-	0;L	/	A	A		
FR1	salade piémontaise au jambon	LIS.4.5	3.6	1h+;∅	1;L	3h+;∅	3;M	P	P	2.79	+	3h+;∅	L. monocytogenes	P	P	5 / 5	5 / 5
FR2	salade piémontaise au jambon	LIS.4.5	3.6	1h+;∅	1;L	3h+;∅	3;M	P	P	2.78	+	3h+;∅	L. monocytogenes	P	P		
FR3	salade piémontaise au jambon	LIS.4.5	3.6	1h+;∅	1;L	3h+;∅	3;M	P	P	2.75	+	3h+;∅	L. monocytogenes	P	P		
FR4	salade piémontaise au jambon	LIS.4.5	3.6	1h+;∅	1;L	3h+;∅	3;M	P	P	2.73	+	3h+;∅	L. monocytogenes	P	P		
FR5	salade piémontaise au jambon	LIS.4.5	3.6	1h+;∅	1;L	3h+;∅	3;M	P	P	2.67	+	3h+;∅	L. monocytogenes	P	P		

TVC: 9.4 x 10<sup>4</sup> CFU/g

## **APPENDIX F**

### **Inclusivity and Exclusivity Studies**

## Inclusivity study - Target strains

#	Strains	Origin	Test value	Result
1	<i>L.monocytogenes 1/2a</i>	Munster cheese	1.85	+
2	<i>L.monocytogenes 1/2a</i>	Maroilles cheese	1.82	+
3	<i>L.monocytogenes 1/2a</i>	Chicken cutlet	1.89	+
4	<i>L.monocytogenes 1/2a</i>	Minced beef burger	1.84	+
5	<i>L.monocytogenes 1/2a</i>	Dried sausage	1.95	+
6	<i>L.monocytogenes 1/2a</i>	Rabbit terrine	2.12	+
7	<i>L.monocytogenes 1/2a</i>	Smoked lardons	1.99	+
8	<i>L.monocytogenes 1/2a</i>	Salmon with dill	1.73	+
9	<i>L.monocytogenes 1/2a</i>	Rillettes	1.77	+
10	<i>L.monocytogenes 1/2a</i>	Fried potatoes	1.60	+
11	<i>L.monocytogenes 1/2a</i>	Pizza	1.88	+
12	<i>L.monocytogenes 1/2a</i>	Munster cheese	1.60	+
13	<i>L.monocytogenes 1/2a</i>	Munster cheese	1.63	+
14	<i>L.monocytogenes 1/2a</i>	Collection	2.05	+
15	<i>L.monocytogenes 1/2a</i>	Smoked salmon	1.71	+
16	<i>L.monocytogenes 1/2b</i>	Pork tongue	2.02	+
17	<i>L.monocytogenes 1/2b</i>	Chicken liver mousse	1.90	+
18	<i>L.monocytogenes 1/2b</i>	Blood sausage	1.83	+
19	<i>L.monocytogenes 1/2b</i>	Collection	2.35	+
20	<i>L.monocytogenes 1/2b</i>	Matured cheese	1.73	+
21	<i>L.monocytogenes 1/2b</i>	Pig's ear	1.65	+
22	<i>L.monocytogenes 1/2b</i>	Minced beef burger	1.73	+
23	<i>L.monocytogenes 1/2c</i>	Beef bourguignon	1.68	+
24	<i>L.monocytogenes 1/2c</i>	Minced meat	2.28	+
25	<i>L.monocytogenes 1/2c</i>	Beef	1.68	+
26	<i>L.monocytogenes 1/2c</i>	Pork belly	1.67	+
27	<i>L.monocytogenes 1/2c</i>	Munster cheese	1.70	+
28	<i>L.monocytogenes 1/2c</i>	Minced beef burger	2.02	+
29	<i>L.monocytogenes 3b</i>	Collection	1.81	+
30	<i>L.monocytogenes 3c</i>	Collection	2.75	+
31	<i>L.monocytogenes 4a</i>	Collection	2.17	+
32	<i>L.monocytogenes 4b</i>	Salad	2.09	+
33	<i>L.monocytogenes 4b</i>	Munster cheese	2.01	+
34	<i>L.monocytogenes 4b</i>	Collection	1.90	+
35	<i>L.monocytogenes 4b</i>	Collection	1.72	+
36	<i>L.monocytogenes 4d</i>	Collection	1.81	+
37	<i>L.monocytogenes 4e</i>	Collection	1.96	+
38	<i>L.monocytogenes 4e</i>	Reblochon cheese	1.87	+
39	<i>L.monocytogenes 4e</i>	Munster cheese	1.96	+
40	<i>L.monocytogenes 7</i>	Collection	2.28	+
41	<i>L.monocytogenes</i>	Herring fillet	1.92	+
42	Non-typable <i>L.monocytogenes</i>	Dried sausage	1.99	+
43	Non-typable <i>L.monocytogenes</i>	Smoked salmon	2.02	+
44	<i>L.monocytogenes</i>	Minced beef burger	1.71	+
45	<i>L.monocytogenes</i>	Dried sausage	1.80	+
46	<i>L.monocytogenes</i>	Mozzarella	1.99	+
47	<i>L.monocytogenes</i>	Neufchâtel cheese	1.70	+
48	<i>L.monocytogenes</i>	Spinach	1.72	+
49	<i>L.monocytogenes</i>	Fillet of perch	1.90	+
50	<i>L.monocytogenes</i>	Frozen vegetables	1.70	+

## Exclusivity study - Non-target strains

#	Strains	Origin	Test value	Result
1	<i>E.coli</i>	Crépinette sausage parcel	0.00	-
2	<i>Enterobacter cloacae</i>	Dairy product	0.00	-
3	<i>Hafnia alvei</i>	Parsley	0.00	-
4	<i>Klebsiella oxytoca</i>	Milk	0.00	-
5	<i>K.pneumoniae</i>	Celery	0.00	-
6	<i>P.fluorescens</i>	Mineral water	0.00	-
7	<i>Proteus mirabilis</i>	Poultry	0.00	-
8	<i>Serratia marcescens</i>	Raw milk	0.00	-
9	<i>Yersinia enterocolitica</i>	Biscuit	0.00	-
10	<i>Yersinia intermedia</i>	Collection	0.00	-
11	<i>Bacillus cereus</i>	Egg	0.00	-
12	<i>Bacillus cereus</i>	Beetroot	0.00	-
13	<i>Bacillus cereus</i>	Vegetable	0.00	-
14	<i>B.stearothermophilus</i>	Dairy product	0.00	-
15	<i>B.sphaericus</i>	Meat product	0.00	-
16	<i>B.coagulans</i>	Meat product	0.00	-
17	<i>S.aureus</i>	Cheese	0.00	-
18	<i>S.epidermidis</i>	Yogurt	0.00	-
19	<i>Brochotrix thermosphacta</i>	Minced meat	0.00	-
20	<i>Rhodococcus equi</i>	Meat product	0.00	-
21	<i>Enterococcus faecalis</i>	Egg	0.00	-
22	<i>Enterococcus faecalis</i>	Collection	0.00	-
23	<i>Micrococcus</i>	Meat product	0.00	-
24	<i>Streptococcus bovis</i>	Meat product	0.00	-
25	<i>Candida albicans</i>	Collection	0.00	-
26	<i>S.cerevisiae</i>	Pastries	0.00	-
27	<i>Rhodotorula rubra</i>	Pastries	0.00	-
28	<i>L.innocua</i>	Munster cheese	0.00	-
29	<i>L.innocua</i>	Boulette d'Avesnes cheese	0.00	-
30	<i>L.innocua</i>	Rooster	0.00	-
31	<i>L.innocua 6a</i>	Toulouse sausage	0.00	-
32	<i>L.innocua 6b</i>	Minced beef burger	0.00	-
33	<i>L.innocua</i>	Époisses cheese	0.00	-
34	<i>L.innocua</i>	Époisses cheese	0.00	-
35	<i>L.innocua</i>	Spinach	0.00	-
36	<i>L.ivanovii</i>	Roquefort cheese	0.00	-
37	<i>L.welshimeri</i>	Rosette dried sausage	0.00	-
38	<i>L.welshimeri 6a</i>	Dried sausage	0.00	-
39	<i>L.welshimeri 6b</i>	Collection	0.00	-
40	<i>L.welshimeri 6b</i>	Minced beef burger	0.00	-
41	<i>L.seeligeri 1/2b</i>	Tongue	0.00	-
42	<i>L.seeligeri</i>	Minced beef burger	0.00	-
43	<i>Jonesia denitrificans</i>	Collection	0.00	-



# APPENDIX G

## SENSITIVITY STUDY

### RAW RESULTS

Caption:

- ∅ : level determined by 5 enumerations
- sp : spiking
- se : seeding
- nc : naturally contaminated
- cm: contamination by mixture
- + / Pos : positive result
- / Neg : negative result
- / : test not realized
- ∅ : 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
- ∅ / 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 innocua*
- L.iv: *Listeria ivanovii*
- L.s : *Listeria seeligeri*
- Conf. 1 : streaking on ALOA + ISO 11290-1 confirmation (case n°1)
- Conf. 2 : streaking on ALOA + visual reading (case n°2)

## Meat products

#	Sample	Contamination strain or serovar, level (CFU/25 g) and type (nc,sp,se or cm)			RM: NF EN ISO 11290-1								AM: VIDAS LMO2										Confirmation ISO/FDIS 16140-2 : 2015 on MA negative samples				Concordance RM /AM			
													LPT 1 mL					LPT 0,1 mL					LPT 1 mL		LPT 0.1 mL		Final result			
					Half Fraser		Fraser		Confir- mation	Final result	VIDAS result		Conf. 1	Conf. 2	Final result (1 mL)		VIDAS result		Conf. 1	Conf. 2	Final result (0.1 mL)		Conf. 1	Final result	Conf. 1	Final result	1 mL		0.1 mL	
					ALO	Palcam	ALO	Palcam			VT	Result			Conf. 1	Conf. 2	VT	Result			Conf. 1	Conf. 2					Conf. 1	Conf. 2	Conf. 1	Conf. 2
3	Raw minced beef 5% fat	LIS.4.5	se	3.0	1 M	1 M	4 Ø	4 Ø	+(L.m)	P	0.00	-	-(L.w)	-(0 M)	A	A	0.00	-	-(L.w)	-(0 M)	A	A	-(L.w)	A	-(L.w)	A	ND	ND	ND	ND
4	Raw minced beef 15% fat	LIS.4.9	se	3.0	1 M	1 M	1 H	1 H	+(L.m)	P	0.64	+	+(L.m)	+(1 M)	P	P	0.19	+	+(L.m)	+(1 M)	P	P	/	/	/	/	PA	PA	PA	PA
5	Deep-frozen raw veal	LIS.4.9	se	3.0	1 Ø	1 L	1 Ø	1 Ø	+(L.m)	P	3.26	+	+(L.m)	+(4 Ø)	P	P	2.68	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA
6	Raw chicken brochette	LIS.4.11	se	3.0	2 L	0 Ø	4 Ø	4 Ø	+(L.m)	P	2.81	+	+(L.m)	+(4 Ø)	P	P	2.70	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA
10	Raw Charolais sirloin	LIS.4.9	se	0.6	0 Ø	0 Ø	0 Ø	0 Ø	/	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	NA	NA	NA	NA
16	Sliced Serrano ham	LIS.4.27	se	3.0	3 Ø	3 Ø	4 L	4 L	+(L.m)	P	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	ND	ND	ND	ND
17	Sliced saucisson	LIS.4.27	se	3.0	0 Ø	0 Ø	0 L	0 L	/	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	NA	NA	NA	NA
18	Raw backbone chop pork	LIS.4.27	se	3.0	4 Ø	4 Ø	3 L	3 L	+(L.m)	P	2.83	+	+(L.m)	+(4 Ø)	P	P	3.17	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA
20	Ham with rind	/	nc	/	2 M	2 M	2 H	4 M	+(L.m)	P	3.36	+	+(L.m)	+(4 L)	P	P	3.43	+	+(L.m)	+(3 L)	P	P	/	/	/	/	PA	PA	PA	PA
21	Nanjing salted duck	/	nc	/	2 M	2 L	0 H	4 L	+(L.m + L.w)	P	1.95	+	+(L.m)	+(3 L)	P	P	1.63	+	+(L.m)	+(3 L)	P	P	/	/	/	/	PA	PA	PA	PA
22	Peking duck 1	/	nc	/	4 L	4 Ø	2 H	4 L	+(L.m)	P	2.35	+	+(L.m + L.w)	+(2 M)	P	P	2.35	+	+(L.m)	+(2 M)	P	P	/	/	/	/	PA	PA	PA	PA
23	Peking duck 2	/	nc	/	3 M	4 Ø	2 H	4 Ø	+(L.m + L.w)	P	1.17	+	+(L.m + L.w)	+(3 L)	P	P	1.48	+	+(L.m + L.w)	+(3 M)	P	P	/	/	/	/	PA	PA	PA	PA
24	Peking duck 3	/	nc	/	3 M	3 L	2 H	4 M	+(L.m)	P	2.84	+	+(L.m)	+(4 L)	P	P	2.75	+	+(L.m)	+(4 L)	P	P	/	/	/	/	PA	PA	PA	PA
25	Peking duck 4	/	nc	/	0 H	3 M	0 H	3 H	-(L.w)	A	0.00	-	-	-(0 H)	A	A	0.00	-	-	-(0 H)	A	A	-	A	-	A	NA	NA	NA	NA
29	Sweet casinese (fresh italian sausages)	/	nc	/	3 M	3 L	2 H	2 H	+(L.m)	P	3.26	+	+(L.m)	+(4 Ø)	P	P	2.74	+	+(L.m)	+(4 L)	P	P	/	/	/	/	PA	PA	PA	PA
30	Sliced smoked poultry delicatessen	/	nc	/	4 Ø	4 Ø	4 Ø	4 Ø	+(L.m)	P	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	ND	ND	ND	ND
31	Deep-frozen boneless skinless chicken leg	/	nc	/	4 L	2 M	3 M	3 M	+(L.m)	P	3.24	+	+(L.m)	+(4 L)	P	P	3.03	+	+(L.m)	+(4 L)	P	P	/	/	/	/	PA	PA	PA	PA
32	Salted pork ribs	/	nc	/	0 M	0 M	0 L	0 H	+(L.m)	P	0.01	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	ND	ND	ND	ND
33	Raw duck wings	/	nc	/	4 Ø	4 L	4 L	4 L	+(L.m)	P	3.10	+	+(L.m)	+(4 Ø)	P	P	3.07	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA
34	Deep-frozen chicken leg with skin	/	nc	/	0 L	0 M	0 M	0 M	/	A	3.33	+	+(L.m)	+(4 Ø)	P	P	3.21	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PD	PD	PD	PD
35	Peking duck 5	/	nc	/	0 L	2 L	0 M	3 M	-	A	0.00	-	-	-(0 H)	A	A	0.00	-	-	-(0 H)	A	A	-	A	-	A	NA	NA	NA	NA
36	Peking duck 6	/	nc	/	0 M	3 M	0 H	2 H	-(L.w)	A	3.10	+	+(L.m)	+(4 M)	P	P	2.78	+	+(L.m)	+(4 L)	P	P	/	/	/	/	PD	PD	PD	PD
38	Minced pork	/	nc	/	3 L	2 L	3 M	4 H	+(L.m)	P	1.18	+	+(L.m)	+(2 H)	P	P	0.64	+	+(L.m)	+(2 H)	P	P	/	/	/	/	PA	PA	PA	PA
39	Sliced leg of lamb	LIS.4.33	se	2.4	0 L	0 M	0 L	0 M	-	A	2.74	+	+(L.m)	+(2 H)	P	P	3.22	+	+(L.m)	+(2 H)	P	P	/	/	/	/	PD	PD	PD	PD
40	Veal cutlet	LIS.4.33	se	2.4	0 L	1 M	1 H	2 H	+(L.m)	P	1.94	+	+(L.m)	+(2 H)	P	P	3.22	+	+(L.m)	+(2 H)	P	P	/	/	/	/	PA	PA	PA	PA
54	Raw minced beef 5% fat	/	/	/	0 Ø	0 Ø	0 H	4 Ø	-	A	0.00	-	-	-(0 H)	A	A	0.00	-	-	-(0 H)	A	A	-	A	-	A	NA	NA	NA	NA
56	Tex-mex chicken wings	/	cm	/	3 H	4 Ø	1 H	1 H	+(L.m)	P	1.56	+	+(L.m)	+(1 H)	P	P	2.27	+	+(L.m)	+(1 H)	P	P	/	/	/	/	PA	PA	PA	PA
57	Ready-to-eat chicken meal	/	cm	/	4 M	4 Ø	1 H	2 M	+(L.m)	P	2.63	+	+(L.m)	+(1 H)	P	P	2.67	+	+(L.m)	+(1 H)	P	P	/	/	/	/	PA	PA	PA	PA
58	Ready-to-eat pork meal	/	cm	/	0 H	4 Ø	0 H	4 Ø	-(L.w)	A	0.04	-	-	-(0 H)	A	A	0.01	-	-	-(0 H)	A	A	-	A	-	A	NA	NA	NA	NA
59	Grated chicken	/	/	/	0 Ø	0 L	0 Ø	0 Ø	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	NA	NA	NA	NA
60	Block of cooked ham	/	/	/	0 Ø	0 Ø	0 L	3 Ø	-	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 H)	A	A	-	A	-	A	NA	NA	NA	NA
61	Block of cooked pork shoulder	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA
62	Chicken fillet	/	/	/	0 Ø	0 L	0 L	0 L	-	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	NA	NA	NA	NA
63	Extra lean skinless smoked lardons	/	nc	/	0 L	0 H	0 L	0 L	-	A	2.63	+	+(L.m)	+(3 H)	P	P	1.00	+	+(L.m)	+(4 M)	P	P	/	/	/	/	PD	PD	PD	PD
64	Tomato stuffing (pork 52% / beef 28%)	/	/	/	0 M	3 L	0 L	1 L	-(L.iv)	A	0.08	+/-/+	-(L.iv)	-(0 M)	A (FP)	A (FP)	0.08	+/-/+	-(L.iv)	-(0 M)	A (FP)	A (FP)	-	A	-	A	NA (PP)	NA (PP)	NA (PP)	NA (PP)

# Meat products

#	Sample	Contamination strain or serovar, level (CFU/25 g) and type (nc,sp,se or cm)			RM: NF EN ISO 11290-1						AM: VIDAS LMO2												Confirmation ISO/FDIS 16140-2 : 2015 on MA negative samples				Concordance RM /AM								
											LPT 1 mL						LPT 0.1 mL						LPT 1 mL		LPT 0.1 mL		Final result								
					Half Fraser		Fraser		Confir- mation	Final result	VIDAS result		Conf. 1	Conf. 2	Final result (1 mL)		VIDAS result		Conf. 1	Conf. 2	Final result (0.1 mL)		Conf. 1	Final result	Conf. 1	Final result	1 mL		0.1 mL						
					ALO	Palcam	ALO	Palcam			VT	Result			Conf. 1	Conf. 2	VT	Result			Conf. 1	Conf. 2					Conf. 1	Conf. 2	Conf. 1	Conf. 2	Conf. 1	Conf. 2	Conf. 1	Conf. 2	
65	Pure pork sausage meat	/	/	/	1M	1H	0L	0L	-	A	0.00	-	-	-(0 H)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA					
66	Extra lean skinless nature lardons	/	/	/	0L	0H	0L	0M	-	A	0.01	-	-	-(0 M)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA					
67	Pâté de campagne	/	/	/	0H	0H	0L	0M	-	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	NA	NA	NA	NA					
68	Sliced smoked bacon fillet	/	/	/	0L	0H	0Ø	0L	-	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	NA	NA	NA	NA					
69	Cooked smoked sausages for hot dog	/	/	/	0Ø	0L	0Ø	0L	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	NA	NA	NA	NA					
70	Cooked knuckle of ham	/	/	/	0Ø	0Ø	0Ø	0Ø	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	NA	NA	NA	NA					
74	Bolognese lasagna	/	/	/	0H	0M	0L	0L	-	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	NA	NA	NA	NA					
75	Cordon bleu	/	/	/	0H	0H	0L	0M	-	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	NA	NA	NA	NA					
77	Bœuf bourguignon	/	/	/	0Ø	0Ø	0Ø	0Ø	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA					
85	Pork rillettes	/	/	/	0L	0L	0Ø	0Ø	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA					
100	Pork rillettes	LIS.4.43	se	1.2	1Ø	1Ø	2Ø	2Ø	+	(L.m)	P	3.20	+	+	(L.m)	+	(3 Ø)	P	P	3.20	+	+	(L.m)	+	(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA
119	Raw chicken fillet	/	/	/	0H	0M	0L	0L	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA					
120	Raw chicken fillet	LIS.4.45	se	0.2	0H	0M	0L	0L	-	A	0.00	-	-	-(0 H)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	NA	NA	NA	NA					
121	Salami	/	/	/	0L	0H	0L	0L	-	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	NA	NA	NA	NA					
122	Frozen beef meat	/	/	/	0L	0L	0L	0L	-	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	NA	NA	NA	NA					
123	Raw veal	/	/	/	0H	0H	0M	0H	-	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	NA	NA	NA	NA					
124	Cured ham off-cuts	/	/	/	0L	0H	0L	0L	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	NA	NA	NA	NA					
125	Cured ham 1	/	/	/	0Ø	0L	0Ø	0Ø	-	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 H)	A	A	-	A	-	A	NA	NA	NA	NA					
126	Cured ham 2	/	/	/	0L	0L	0Ø	0Ø	-	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	NA	NA	NA	NA					
150	Blanquette de veau	/	nc	/	1Ø	1Ø	2Ø	2Ø	+	P	0.46	+	+	(L.m)	+	(2 H)	P	P	3.39	+	+	(L.m)	+	(1 H)	P	P	/	/	/	/	PA	PA	PA	PA	
151	Hachis Parmentier	/	nc	/	0Ø	0Ø	0Ø	0Ø	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA					
152	Raw cartilage of pork	/	nc	/	0H	0H	0M	0H	-	A	3.38	+	+	(L.m)	+	(1 H)	P	P	2.73	+	+	(L.m)	+	(1 H)	P	P	/	/	/	/	PD	PD	PD	PD	
153	Pork delicatessen	/	nc	/	0Ø	0Ø	0Ø	0Ø	-	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	NA	NA	NA	NA					
154	Salted pork ribs 1	/	nc	/	1L	1M	3M	3M	+	P	3.12	+	+	(L.m)	+	(4 L)	P	P	3.34	+	+	(L.m)	+	(4 L)	P	P	/	/	/	/	PA	PA	PA	PA	
162	Ham	/	/	/	0Ø	0Ø	0Ø	0Ø	-	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	NA	NA	NA	NA					
182	Raw sausage 1	/	nc	/	0H	0H	0L	0M	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	NA	NA	NA	NA					
183	Raw sausage 2	/	nc	/	3H	3M	4L	3M	+	P	2.71	+	+	(L.m)	+	(4 L)	P	P	3.26	+	+	(L.m)	+	(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
184	Raw sausage 3	/	nc	/	2L	2M	3L	3M	+	P	2.18	+	+	(L.m)	+	(3 Ø)	P	P	2.59	+	+	(L.m)	+	(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
185	Raw sausage 4	/	nc	/	0M	0H	0L	0M	-	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	NA	NA	NA	NA					
186	Raw sausage 5	/	nc	/	0H	0H	0M	0M	-	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 H)	A	A	-	A	-	A	NA	NA	NA	NA					
187	Raw sausage 6	/	nc	/	0M	1M	0L	3L	-	(L.w)	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	NA	NA	NA	NA				
188	Salted pork ribs 2	/	nc	/	0M	0M	0H	0H	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA					
189	Smoked lardons 1	/	nc	/	0M	0M	0H	0H	-	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	NA	NA	NA	NA					
190	Smoked lardons 2	/	nc	/	0L	0M	0L	0H	-	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	NA	NA	NA	NA					
191	Smoked lardons 3	/	nc	/	0M	0L	0L	0M	-	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	NA	NA	NA	NA					

Dairy products

#	Sample	Contamination strain or serovar, level (CFU/25 g) and type (nc,sp,se or cm)				RM: NF EN ISO 11290-1						AM: VIDAS LMO2										Confirmation ISO/FDIS 16140-2 : 2015 on MA negative samples				Concordance RM /AM					
						Half Fraser		Fraser		Confir- mation	Final result	VIDAS result		Conf. 1	Conf. 2	Final result (1 mL)		VIDAS result		Conf. 1	Conf. 2	Final result (0.1 mL)		LPT 1 mL		LPT 0.1 mL		Final result			
						ALO A	Palcam	ALO A	Palcam			VT	Result			Conf. 1	Conf. 2	VT	Result			Conf. 1	Conf. 2	Conf. 1	Conf. 2	Conf. 1	Final result	Conf. 1	Final result	1 mL	
										Conf. 1	Conf. 2			Conf. 1	Conf. 2					Conf. 1	Conf. 2									Conf. 1	Conf. 2
1	Camembert	LIS.4.23	se	3.0	0 Ø	0 Ø	0 Ø	0 Ø	/	A	2.30	+	+(L.m)	+(3 Ø)	P	P	1.55	+	+(L.m)	+(3 Ø)	P	P	3 L	A	-(L.w)	A	PD	PD	PD	PD	
2	Goat cheese	LIS.4.23	se	3.0	0 Ø	0 Ø	0 Ø	0 Ø	/	A	0.12	+	+(L.m)	+(1 M)	P	P	0.02	-/-	+(L.m)	+(4 Ø)	A (FN)	A (FN)	/	/	4 Ø	P	PD	PD	NA	NA	
7	Raw milk Comté 1	LIS.4.23	se	3.0	3 M	2 M	3 L	3 H	+(L.m)	P	1.01	+	+(L.m)	+(4 Ø)	P	P	1.46	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
8	Raw milk Comté 2	LIS.4.32	se	3.0	3 L	2 M	3 Ø	2 H	+(L.m)	P	2.74	+	+(L.m)	+(3 Ø)	P	P	2.50	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
9	Raw milk Comté 3	LIS.4.32	se	3.0	3 L	3 M	2 Ø	3 M	+(L.m)	P	1.96	+	+(L.m)	+(4 Ø)	P	P	2.58	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
12	Microfiltered milk	LIS.4.32	se	3.0	3 Ø	3 Ø	4 Ø	4 Ø	+(L.m)	P	3.09	+	+(L.m)	+(4 Ø)	P	P	2.61	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
13	Raw milk camembert	LIS.4.56	se	2.0	0 Ø	0 Ø	0 L	0 L	/	A	0.00	-	-(0 M)	A	A	0.00	-	-(0 L)	A	A	-	A	-	A	-	A	NA	NA	NA	NA	
14	Pressed and cooked cow raw milk cheese	LIS.4.56	se	2.0	0 M	0 M	0 L	0 M	/	A	3.30	+	+(L.m)	+(4 Ø)	P	P	3.16	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PD	PD	PD	PD	
19	Raw milk Pont L'Evêque	/	nc	/	0 H	0 L	1 M	1 M	+(L.m)	P	0.00	-	-(0 M)	A	A	0.00	-	-(0 M)	A	A	-	A	-	A	-	A	ND	ND	ND	ND	
41	Saint-Paulin cheese	LIS.4.59	se	3.0	2 M	0 L	0 H	0 H	+(L.m)	P	0.00	-/-	+(L.m)	+(3 M)	A (FN)	A (FN)	0.00	-/-	+(L.m)	+(2 M)	A (FN)	A (FN)	+	P	+	P	ND	ND	ND	ND	
42	Mixed milk pasteurized cheese	LIS.4.59	se	3.0	3 Ø	3 Ø	4 L	4 Ø	+(L.m)	P	3.05	+	+(L.m)	+(4 Ø)	P	P	2.72	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
43	Livarot cheese	LIS.4.59	se	3.0	1 M	2 L	3 M	3 H	+(L.m)	P	3.44	+	+(L.m)	+(4 Ø)	P	P	3.04	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
44	Nature yoghourt	LIS.4.60	se	2.0	3 Ø	3 Ø	3 L	3 L	+(L.m)	P	3.54	+	+(L.m)	+(4 Ø)	P	P	3.56	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
48	Raw milk Abondance (cheese)	LIS.4.62	se	2.2	2 Ø	1 L	4 Ø	4 L	+(L.m)	P	2.60	+	+(L.m)	+(4 Ø)	P	P	2.70	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
55	Raw milk Pont L'Evêque 1	/	/	/	0 L	0 L	0 L	1 L	-(L.in)	A	0.00	-	-(3 M)	A	A	0.00	-	-(0 L)	A	A	-	A	-	A	-	A	NA	NA	NA	NA	
78	Raw milk fourme d'Ambert	/	/	/	0 L	0 H	0 L	0 H	-	A	0.00	-	-(0 Ø)	A	A	0.00	-	-(0 L)	A	A	-	A	-	A	-	A	NA	NA	NA	NA	
79	Raw milk Brillat Savarin	/	/	/	0 M	0 M	0 L	0 Ø	-	A	0.00	-	-(0 Ø)	A	A	0.00	-	-(0 L)	A	A	-	A	-	A	-	A	NA	NA	NA	NA	
80	Raw milk Roquefort	/	/	/	0 L	0 M	0 L	0 L	-	A	0.00	-	-(0 L)	A	A	0.00	-	-(0 L)	A	A	-	A	-	A	-	A	NA	NA	NA	NA	
83	Raw milk 1	/	nc	/	0 M	0 M	0 L	0 L	-	A	0.00	-	-(0 Ø)	A	A	0.00	-	-(0 Ø)	A	A	-	A	-	A	-	A	NA	NA	NA	NA	
84	Raw milk 2	/	nc	/	0 M	0 L	0 Ø	0 L	-	A	0.00	-	-(0 Ø)	A	A	0.00	-	-(0 Ø)	A	A	-	A	-	A	-	A	NA	NA	NA	NA	
87	Tzatziki	/	nc	/	0 M	0 M	0 M	0 Ø	-	A	2.18	+	-(0 M)	P	P	2.67	+	-(0 M)	P	P	-	A	-	A	-	A	PD	PD	PD	PD	
88	Dice of pasteurized cheese garlic, herbs	/	/	/	0 H	0 H	0 H	0 L	-	A	0.00	-	-(0 M)	A	A	0.00	-	-(0 M)	A	A	-	A	-	A	-	A	NA	NA	NA	NA	
94	Cancoillotte	/	/	/	0 L	0 L	0 L	0 L	-	A	0.00	-	-(0 M)	A	A	0.00	-	-(0 M)	A	A	-	A	-	A	-	A	NA	NA	NA	NA	
103	Dice of pasteurized cheese garlic, herbs	LIS.4.63	se	2.5	1 L	1 L	2 L	2 M	+(L.m)	P	3.26	+	+(L.m)	+(1 M)	P	P	3.31	+	+(L.m)	+(2 M)	P	P	/	/	/	/	PA	PA	PA	PA	
109	Cancoillotte	LIS.4.63	se	2.5	1 L	1 Ø	2 L	1 M	+(L.m)	P	2.74	+	+(L.m)	+(1 H)	P	P	2.81	+	+(L.m)	+(2 M)	P	P	/	/	/	/	PA	PA	PA	PA	
115	Raw milk Reblochon	/	nc	/	0 L	0 L	0 L	0 L	-	A	0.00	-	-(0 Ø)	A	A	0.00	-	-(0 Ø)	A	A	-	A	-	A	-	A	NA	NA	NA	NA	
116	Raw milk Brie	/	nc	/	0 M	0 M	0 M	0 M	-	A	0.00	-	-(0 Ø)	A	A	0.00	-	-(0 Ø)	A	A	-	A	-	A	-	A	NA	NA	NA	NA	
117	Raw milk 3	/	nc	/	0 L	0 M	0 L	0 H	-	A	0.00	-	-(0 L)	A	A	0.00	-	-(0 L)	A	A	-	A	-	A	-	A	NA	NA	NA	NA	
118	Raw milk 4	/	/	/	0 L	0 M	0 L	0 L	-	A	0.00	-	-(0 Ø)	A	A	0.00	-	-(0 Ø)	A	A	-	A	-	A	-	A	NA	NA	NA	NA	
133	Raw milk 5	LIS.4.64	se	2.0	3 Ø	3 Ø	4 Ø	4 Ø	+(L.m)	P	2.71	+	+(L.m)	+(4 Ø)	P	P	3.26	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	

## Dairy products

#	Sample	Contamination strain or serovar, level (CFU/25 g)Ø and type (nc,sp,se or cm )				RM: NF EN ISO 11290-1						AM: VIDAS LMO2										Confirmation ISO/FDIS 16140-2 : 2015 on MA negative samples				Concordance RM /AM									
												LPT 1 mL					LPT 0.1 mL					LPT 1 mL		LPT 0.1 mL		Final result									
						Half Fraser		Fraser		Confir- mation	Final result	VIDAS result		Conf. 1	Conf. 2	Final result (1 mL)		VIDAS result		Conf. 1	Conf. 2	Final result (0.1 mL)		Conf. 1	Final result	Conf. 1	Final result	1 mL		0.1 mL					
						ALO	Palcam	ALO	Palcam			VT	Result			Conf. 1	Conf. 2	VT	Result			Conf. 1	Conf. 2					Conf. 1	Conf. 2	Conf. 1	Conf. 2	Conf. 1	Conf. 2	Conf. 1	Conf. 2
134	Raw milk 6	LIS.4.64	se	2.0	2 L	2 L	4 Ø	3 Ø	+	(L.m)	P	2.18	+	+	(L.m)	+	(3 Ø)	P	P	2.59	+	+	(L.m)	+	(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA
135	Raw milk 7	LIS.4.64	se	2.0	3 Ø	3 Ø	4 Ø	4 Ø	+	(L.m)	P	3.18	+	+	(L.m)	+	(4 Ø)	P	P	2.70	+	+	(L.m)	+	(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA
136	Raw milk goat cheese 1	/	nc	/	3 Ø	4 Ø	4 Ø	4 Ø	+	(L.m)	P	0.00	-	-	-	(0 L)	A	A	0.00	-	-	-	-	(0 L)	A	A	-	A	-	A	ND	ND	ND	ND	
137	Raw milk goat cheese 2	/	nc	/	0 M	0 M	0 L	0 L	-	A	A	0.00	-	-	-	(0 Ø)	A	A	0.00	-	-	-	-	(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
138	Raw milk goat cheese 3	/	nc	/	2 M	0 L	0 H	0 H	+	(L.m)	P	3.53	+	+	(L.m)	+	(4 Ø)	P	P	3.54	+	+	(L.m)	+	(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA
139	Raw milk goat cheese 4	/	nc	/	3 M	3 L	2 M	2 H	+	(L.m)	P	3.49	+	+	(L.m)	+	(3 M)	P	P	2.96	+	+	(L.m)	+	(2 M)	P	P	/	/	/	/	PA	PA	PA	PA
140	Raw milk Pont L'Evêque 2	LIS.4.56	se	2.0	4 L	4 L	4 Ø	4 Ø	+	(L.m)	P	3.05	+	+	(L.m)	+	(4 Ø)	P	P	2.60	+	+	(L.m)	+	(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA
141	Raw milk camembert	LIS.4.60	se	2.0	0 M	0 M	0 L	0 L	-	A	A	2.65	+	+	(L.m)	+	(3 H)	P	P	2.68	+	+	(L.m)	+	(3 M)	P	P	/	/	/	/	PD	PD	PD	PD
142	Raw milk Saint-Nectaire	LIS.4.60	se	2.0	3 M	2 M	3 L	3 H	+	(L.m)	P	3.15	+	+	(L.m)	+	(3 Ø)	P	P	3.20	+	+	(L.m)	+	(3 Ø)	P	P	/	/	/	/	PA	PA	PA	PA
143	Whipped cream cake 1	/	nc	/	3 L	2 L	3 M	4 H	+	(L.m)	P	2.66	+	+	(L.m)	+	(2 H)	P	P	2.70	+	+	(L.m)	+	(2 M)	P	P	/	/	/	/	PA	PA	PA	PA
144	Whipped cream cake 2	/	nc	/	0 M	0 M	0 L	0 L	-	A	A	0.00	-	-	-	(0 Ø)	A	A	0.00	-	-	-	-	(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
145	Whipped cream cake 3	/	nc	/	3 M	3 L	3 H	4 M	+	(L.m)	P	0.46	+	+	(L.m)	+	(4 M)	P	P	3.39	+	+	(L.m)	+	(4 L)	P	P	/	/	/	/	PA	PA	PA	PA
147	Goat raw milk 1	/	nc	/	3 M	1 L	1 H	1 H	+	(L.m)	P	1.52	+	+	(L.m)	+	(3 Ø)	P	P	1.59	+	+	(L.m)	+	(3 Ø)	P	P	/	/	/	/	PA	PA	PA	PA
148	Goat raw milk 2	/	nc	/	4 L	4 L	4 Ø	4 Ø	+	(L.m)	P	2.06	+	+	(L.m)	+	(4 Ø)	P	P	1.76	+	+	(L.m)	+	(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA
149	Goat raw milk 3	/	nc	/	3 Ø	3 Ø	4 Ø	4 Ø	+	(L.m)	P	2.01	+	+	(L.m)	+	(4 Ø)	P	P	2.27	+	+	(L.m)	+	(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA
157	Ribot milk	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	A	0.00	-	-	-	(0 Ø)	A	A	0.00	-	-	-	-	(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
158	Ewe raw milk 1	/	/	/	0 L	0 Ø	0 Ø	0 Ø	-	A	A	0.00	-	-	-	(0 Ø)	A	A	0.00	-	-	-	-	(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
159	Ewe raw milk 2	/	/	/	0 Ø	0 L	0 Ø	0 Ø	-	A	A	0.00	-	-	-	(0 Ø)	A	A	0.00	-	-	-	-	(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
170	Ewe raw milk 3	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	A	0.00	-	-	-	(0 Ø)	A	A	0.00	-	-	-	-	(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
171	Raw milk cream 1	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	A	0.00	-	-	-	(0 Ø)	A	A	0.00	-	-	-	-	(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
172	Raw milk cream 2	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	A	0.00	-	-	-	(0 Ø)	A	A	0.00	-	-	-	-	(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
173	Vanilla ice-cream	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	A	0.00	-	-	-	(0 Ø)	A	A	0.00	-	-	-	-	(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
174	Chocolate ice-cream	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	A	0.00	-	-	-	(0 Ø)	A	A	0.00	-	-	-	-	(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
175	Coffee ice-cream	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	A	0.00	-	-	-	(0 Ø)	A	A	0.00	-	-	-	-	(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
176	Slices of pasteurized caow milk cheese	/	/	/	0 L	0 L	0 L	0 L	-	A	A	0.00	-	-	-	(0 L)	A	A	0.00	-	-	-	-	(0 L)	A	A	-	A	-	A	NA	NA	NA	NA	
177	Pasteurized goat milk cheese	/	/	/	0 Ø	0 M	0 Ø	0 L	-	A	A	0.00	-	-	-	(0 M)	A	A	0.00	-	-	-	-	(0 L)	A	A	-	A	-	A	NA	NA	NA	NA	
178	Raw milk yoghurt 1	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	A	0.00	-	-	-	(0 Ø)	A	A	0.00	-	-	-	-	(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
179	Raw milk yoghurt 2	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	A	0.00	-	-	-	(0 Ø)	A	A	0.00	-	-	-	-	(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
180	Pasteurized ewe milk cheese 1	/	/	/	0 L	0 Ø	0 L	0 M	-	A	A	0.00	-	-	-	(0 L)	A	A	0.00	-	-	-	-	(0 L)	A	A	-	A	-	A	NA	NA	NA	NA	
181	Pasteurized ewe milk cheese 2	/	/	/	0 Ø	0 L	0 L	0 L	-	A	A	0.00	-	-	-	(0 Ø)	A	A	0.00	-	-	-	-	(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	

# Fishery products

#	Sample	Contamination strain or serovar, level (CFU/25 g)Ø and type (nc,sp,se or cm )			RM: NF EN ISO 11290-1							AM: VIDAS LMO2												Confirmation ISO/FDIS 16140-2 : 2015 on MA negative samples				Concordance RM /AM			
												LPT 1 mL						LPT 0.1 mL						LPT 1 mL		LPT 0.1 mL		Final result			
					Half Fraser		Fraser		Confir- mation	Final result	VIDAS result		Conf. 1	Conf. 2	Final result (1 mL)		VIDAS result		Conf. 1	Conf. 2	Final result (0.1 mL)		Conf. 1	Final result	Conf. 1	Final result	1 mL		0.1 mL		
					ALOA	Palcam	ALOA	Palcam			VT	Result			Conf. 1	Conf. 2	VT	Result			Conf. 1	Conf. 2					Conf. 1	Conf. 2	Conf. 1	Conf. 2	Conf. 1
11	Back of raw cod (fresh)	LIS.4.15	se	3.0	3 Ø	3 Ø	4 Ø	4 Ø	+(L.m)	P	3.17	+	+(L.m)	+(4 Ø)	P	P	2.61	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
15	Smoked salmon	LIS.4.25	se	2.0	4 Ø	3 Ø	4 Ø	4 Ø	+(L.m)	P	3.11	+	+(L.m)	+(4 Ø)	P	P	3.15	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
26	Organic smoked salmon	/	nc	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
27	Smoked tuna 1	/	nc	/	3 L	3 Ø	4 L	4 L	+(L.m)	P	3.09	+	+(L.m)	+(4 L)	P	P	2.62	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
28	Norway smoked salmon off-cuts	/	nc	/	4 Ø	4 Ø	4 Ø	4 L	+(L.m)	P	3.10	+	+(L.m)	+(4 L)	P	P	2.49	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
37	Salmon tartare 1	/	nc	/	3 L	2 L	3 M	4 H	+(L.m)	P	2.70	+	+(L.m)	+(4 Ø)	P	P	2.70	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
45	Coley fillet	LIS.4.31	se	2.2	4 L	4 M	4 L	4 M	+(L.m)	P	2.75	+	+(L.m)	+(4 Ø)	P	P	3.02	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
46	Whiting fillet	LIS.4.31	se	2.2	4 L	4 L	4 Ø	4 Ø	+(L.m)	P	2.64	+	+(L.m)	+(4 L)	P	P	2.98	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
47	Desalinated cod fillet	LIS.4.47	se	2.4	4 Ø	4 Ø	4 Ø	4 L	+(L.m)	P	2.66	+	+(L.m)	+(4 Ø)	P	P	2.59	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
49	Salmon fillet 1	/	nc	/	3 M	3 Ø	3 Ø	3 Ø	+(L.m)	P	2.95	+	+(L.m)	+(4 Ø)	P	P	2.54	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
50	Salmon fillet 2	/	nc	/	4 Ø	4 Ø	4 Ø	4 Ø	+(L.m)	P	3.07	+	+(L.m)	+(4 Ø)	P	P	2.51	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
51	Salmon fillet 3	/	nc	/	4 M	4 Ø	4 L	4 L	+(L.m)	P	2.83	+	+(L.m)	+(4 Ø)	P	P	3.01	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
52	Salmon fillet 4	/	nc	/	1 Ø	1 Ø	4 Ø	4 Ø	+(L.m)	P	3.18	+	+(L.m)	+(4 Ø)	P	P	3.13	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
53	Salmon tartare 2	/	nc	/	4 Ø	4 Ø	4 Ø	4 Ø	+(L.m)	P	3.15	+	+(L.m)	+(4 Ø)	P	P	3.17	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA	
71	Marinated smoked herring	/	/	/	0 Ø	0 Ø	0 L	0 Ø	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
72	Crab sticks (surimi)	/	/	/	0 Ø	0 H	0 L	0 L	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
73	Grenadier fish fillet	/	/	/	0 M	0 H	0 L	0 L	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
76	Surimi crumbs	/	/	/	0 Ø	0 Ø	0 L	0 Ø	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
81	Dab fillet	/	/	/	0 L	0 H	0 Ø	0 L	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	NA	NA	NA	NA	
82	Cod brandade	/	/	/	0 L	0 L	0 L	0 M	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	NA	NA	NA	NA	
86	Two salmons rillettes	/	/	/	0 L	0 L	0 L	0 H	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
89	Salmon lasagna	/	/	/	0 Ø	0 Ø	0 H	0 H	-	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
90	Seafood salad	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	NA	NA	NA	NA	
91	Fish gratin	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	NA	NA	NA	NA	
92	Salmon lardons	/	/	/	0 M	0 M	0 Ø	0 L	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
93	Haddock	/	/	/	0 M	0 M	0 H	0 H	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
95	Anchovy fillets	/	/	/	0 M	0 M	0 L	0 Ø	-	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
96	Tuna rillettes	/	/	/	0 Ø	0 L	0 Ø	0 Ø	-	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	
97	Catalan mussels	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	NA	NA	NA	NA	
98	Rollmops	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA	

# Fishery products

#	Sample	Contamination strain or serovar, level (CFU/25 g) and type (nc,sp,se or cm)									RM: NF EN ISO 11290-1										AM: VIDAS LMO2								Confirmation ISO/FDIS 16140-2 : 2015 on MA negative samples				Concordance RM /AM			
											LPT 1 mL					LPT 0.1 mL					LPT 1 mL		LPT 0.1 mL		Final result											
											Half Fraser		Fraser		Confir- mation	Final result	VIDAS result		Conf. 1	Conf. 2	Final result (1 mL)		VIDAS result		Conf. 1	Conf. 2	Final result (0.1 mL)		Conf. 1	Final result	Conf. 1	Final result	1 mL		0.1 mL	
											ALOA	Palcam	ALOA	Palcam			VT	Result			Conf. 1	Conf. 2	VT	Result			Conf. 1	Conf. 2					Conf. 1	Conf. 2	Conf. 1	Conf. 2
99	Tarama	/	/	/	0 L	0 Ø	0 Ø	0 Ø	-	A	0.00	-	-	- (0 Ø)	A	A	0.00	-	-	- (0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA						
101	Two salmons rillettes	LIS.4.39	se	2.2	1 L	1 L	1 L	0 H	+(L.m)	P	3.20	+	+(L.m)	+(4 Ø)	P	P	3.20	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA						
104	Salmon lasagna	LIS.4.39	se	2.2	0 Ø	0 Ø	2 Ø	2 Ø	+(L.m)	P	3.22	+	+(L.m)	+(3 Ø)	P	P	3.24	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA						
105	Seafood salad	LIS.4.39	se	2.2	0 Ø	0 Ø	0 M	0 M	-	A	3.29	+	+(L.m)	+(4 M)	P	P	3.21	+	+(L.m)	+(4 L)	P	P	/	/	/	/	PD	PD	PD	PD						
106	Fish gratin	LIS.4.42	se	1.8	2 Ø	2 L	3 Ø	3 Ø	+(L.m)	P	2.77	+	+(L.m)	+(4 Ø)	P	P	2.77	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA						
107	Salmon lardons	LIS.4.42	se	1.8	1 Ø	0 L	3 Ø	3 L	+(L.m)	P	2.91	+	+(L.m)	+(3 L)	P	P	2.81	+	+(L.m)	+(4 L)	P	P	/	/	/	/	PA	PA	PA	PA						
108	Fish paupiette	/	nc	/	0 L	0 L	0 L	0 M	-	A	2.23	+	+(L.m)	+(2 L)	P	P	2.56	+	+(L.m)	+(2 M)	P	P	/	/	/	/	PD	PD	PD	PD						
110	Trout fillet	/	nc	/	2 Ø	1 Ø	4 Ø	4 Ø	+(L.m)	P	0.00	-	-	- (0 Ø)	A	A	0.00	-	-	- (0 Ø)	A	A	-	A	-	A	ND	ND	ND	ND						
111	Tuna rillettes	LIS.4.42	se	1.8	1 Ø	1 Ø	2 L	1 M	+(L.m)	P	2.68	+	+(L.m)	+(4 Ø)	P	P	2.63	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/	PA	PA	PA	PA						
112	Catalan mussels	LIS.4.12	se	2.6	2 Ø	1 L	2 Ø	2 Ø	+(L.m)	P	3.14	+	+(L.m)	+(3 Ø)	P	P	3.37	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/	PA	PA	PA	PA						
113	Rollmops	LIS.4.12	se	2.6	1 Ø	1 Ø	1 Ø	2 Ø	+(L.m)	P	3.31	+	+(L.m)	+(3 L)	P	P	3.45	+	+(L.m)	+(3 M)	P	P	/	/	/	/	PA	PA	PA	PA						
114	Tarama	LIS.4.12	se	2.6	2 L	2 Ø	2 Ø	3 Ø	+(L.m)	P	3.32	+	+(L.m)	+(3 Ø)	P	P	3.35	+	+(L.m)	+(3 L)	P	P	/	/	/	/	PA	PA	PA	PA						
127	Thalissini 1	/	nc	/	0 Ø	0 L	0 Ø	0 L	-	A	3.12	+	+(L.m)	+(4 Ø)	P	P	2.67	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PD	PD	PD	PD						
128	Smoked herring	/	nc	/	0 Ø	0 Ø	0 M	0 M	-	A	0.00	-	-	- (0 L)	A	A	0.00	-	-	- (0 M)	A	A	-	A	-	A	NA	NA	NA	NA						
129	Smoked mackerel filets 1	/	nc	/	0 L	0 Ø	0 L	0 Ø	-	A	0.00	-	-	- (0 L)	A	A	0.00	-	-	- (0 L)	A	A	-	A	-	A	NA	NA	NA	NA						
130	Smoked mackerel filets 2	/	nc	/	1 L	1 L	2 L	2 M	+(L.m)	P	3.09	+	+(L.m)	+(3 Ø)	P	P	2.92	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	PA	PA	PA	PA						
131	Smoked swordfish 1	/	nc	/	1 Ø	1 L	2 Ø	2 L	+(L.m)	P	0.00	-	-	- (0 L)	A	A	0.00	-	-	- (0 L)	A	A	-	A	-	A	ND	ND	ND	ND						
132	Smoked swordfish 2	/	nc	/	1 Ø	1 Ø	4 Ø	4 Ø	+(L.m)	P	2.96	+	+(L.m)	+(3 L)	P	P	2.46	+	+(L.m)	+(3 L)	P	P	/	/	/	/	PA	PA	PA	PA						
146	Raw salmon	/	nc	/	0 Ø	0 M	0 Ø	0 H	-	A	0.00	-	-	- (0 L)	A	A	0.00	-	-	- (0 M)	A	A	-	A	-	A	NA	NA	NA	NA						
155	Smoked trout fillet 1	/	nc	/	1 Ø	2 Ø	2 L	2 M	+(L.m)	P	1.73	+	+(L.m)	+(1 L)	P	P	1.84	+	+(L.m)	+(2 L)	P	P	/	/	/	/	PA	PA	PA	PA						
156	Smoked trout fillet 2	/	nc	/	1 L	2 L	3 L	4 M	+(L.m)	P	2.20	+	+(L.m)	+(2 M)	P	P	2.15	+	+(L.m)	+(2 L)	P	P	/	/	/	/	PA	PA	PA	PA						
160	Raw cod fillet	/	nc	/	0 M	1 H	0 L	2 M	-(L.s)	A	0.00	-	-	- (0 L)	A	A	0.00	-	-	- (0 M)	A	A	-	A	-	A	NA	NA	NA	NA						
161	Smoked trout fillet 3	/	nc	/	3 L	3 L	4 L	4 L	+(L.m)	P	2.18	+	+(L.m)	+(2 L)	P	P	2.86	+	+(L.m)	+(2 L)	P	P	/	/	/	/	PA	PA	PA	PA						
163	Raw frozen cod	/	/	/	0 L	0 Ø	0 L	0 Ø	-	A	0.00	-	-	- (0 Ø)	A	A	0.00	-	-	- (0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA						
164	Raw frozen dab	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0.00	-	-	- (0 Ø)	A	A	0.00	-	-	- (0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA						
165	Raw frozen scallops	/	/	/	0 H	0 H	0 M	0 H	-	A	0.00	-	-	- (0 M)	A	A	0.00	-	-	- (0 M)	A	A	-	A	-	A	NA	NA	NA	NA						
166	Raw frozen shrimps	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0.00	-	-	- (0 Ø)	A	A	0.00	-	-	- (0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA						
167	Raw frozen pikeperch	/	/	/	0 Ø	0 Ø	0 Ø	0 Ø	-	A	0.00	-	-	- (0 Ø)	A	A	0.00	-	-	- (0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA						
168	Raw frozen salmon	/	/	/	0 L	0 Ø	0 L	0 Ø	-	A	0.00	-	-	- (0 Ø)	A	A	0.00	-	-	- (0 Ø)	A	A	-	A	-	A	NA	NA	NA	NA						
169	Marinated anchovies	/	/	/	0 L	0 M	0 L	0 L	-	A	0.00	-	-	- (0 L)	A	A	0.00	-	-	- (0 L)	A	A	-	A	-	A	NA	NA	NA	NA						
192	Smoked salmon off-cuts	/	/	/	0 L	0 M	0 M	0 M	-	A	0.00	-	-	- (0 M)	A	A	0.00	-	-	- (0 L)	A	A	-	A	-	A	NA	NA	NA	NA						

Environmental samples (ISHA 2018)

#	Type	Time	Sample	Origin	Contamination			RM: NF EN ISO 11290-1				AM: VIDAS LMO2 (specific protocol)												Additional confirmation ISO 16140-2				Concordance RM / AM							
					Strain	Type	Level	Half Fraser		Fraser		Identific-ation	Final result	LPT 1.0 mL						LPT 0.1 mL						LPT 1 mL		LPT 0.1 mL		Final result					
								ALOA	Palcam	ALOA	Palcam			VT	RFV	Result	Palcam	O&A	Identific-ation	Final result (1 mL)	VT	RFV	Result	Palcam	O&A	Identific-ation	Final result (0.1 mL)	Conf. 1	Final result	Conf. 1	Final result	Conf. 1	Conf. 2	Conf. 1	Conf. 2
31	e1	TO	Process water 1	UHT 1	/	/	/	00	00	00	00	/	A	0.00	-4	-	00	00	/	A	0.00	-3	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
32	e1	TO	Process water 2	UHT 2	/	/	/	00	00	00	00	/	A	0.00	-4	-	00	00	/	A	0.00	-2	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
33	e1	TO	Process water 3	Microfiltration Unit 1	/	/	/	00	00	00	00	/	A	0.00	-4	-	00	00	/	A	0.00	-1	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
34	e1	TO	Process water 4	Microfiltration Unit 2	/	/	/	00	00	00	00	/	A	0.00	-5	-	00	00	/	A	0.00	-3	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
5	e1	TO	Process water 5	Microfiltration Unit 3	LIS.4.16	se	1.8	00	00	00	00	/	A	0.00	-4	-	00	00	/	A	0.00	-4	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
35	e1	TO	Process water 6	Cream separator 1	/	/	/	00	00	00	00	/	A	0.00	-3	-	00	00	/	A	0.00	-4	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
36	e1	TO	Process water 7	Cream separator 2	/	/	/	00	00	00	00	/	A	0.00	-2	-	00	00	/	A	0.00	-4	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
37	e1	TO	Process water 8	Cream separator 3	/	/	/	00	00	00	00	/	A	0.00	-1	-	00	00	/	A	0.00	-3	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
9	e1	TO	Process water 9	Pasteurizer 1	LIS.4.16	se	1.8	00	00	00	00	/	A	0.00	-3	-	00	00	/	A	0.00	-2	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
38	e1	TO	Process water 10	Pasteurizer 2	/	/	/	00	00	00	00	/	A	0.00	-4	-	00	00	/	A	0.00	-2	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
39	e2	TO	Process water 11	Drying tower 1	/	/	/	00	00	00	00	/	A	0.00	-2	-	00	00	/	A	0.00	-3	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
40	e2	TO	Process water 12	Drying tower 2	/	/	/	00	00	00	00	/	A	0.00	-4	-	00	00	/	A	0.00	-4	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
41	e2	TO	Residue 1	Residue from chopper	/	/	/	0L	00	0L	00	/	A	0.00	-4	-	0L	0L	/	A	0.00	-3	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
42	e2	TO	Residue 2	Residue fish stand	/	/	/	00	0L	00	00	/	A	0.00	-4	-	00	00	/	A	0.00	-2	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
43	e2	TO	Residue 3	Residue cheese cutting table 1	/	/	/	0L	0L	00	0L	/	A	0.00	-4	-	00	00	/	A	0.00	-1	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
44	e2	TO	Residue 4	Residue cheese cutting table 2	/	/	/	00	0L	00	00	/	A	0.00	-3	-	00	00	/	A	0.00	-4	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
45	e2	TO	Residue 5	Residue cheese production workshop 1	/	/	/	0M	0M	0M	0M	/	A	0.00	-4	-	0L	0L	/	A	0.00	-2	-	0L	00	/	A	-	A	-	A	NA	NA	NA	NA
46	e2	TO	Residue 6	Residue cheese production workshop 2	/	/	/	0L	00	00	0L	/	A	0.00	-3	-	00	00	/	A	0.00	-3	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
47	e2	TO	Residue 7	Residue cream separator 1	/	/	/	00	0L	00	00	/	A	0.00	-4	-	00	00	/	A	0.00	-4	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
18	e2	TO	Residue 8	Residue cream separator 2	LIS.4.57	se	1.8	0L	00	0L	00	/	A	0.00	-4	-	0L	0L	/	A	0.00	-4	-	0L	0L	/	A	-	A	-	A	NA	NA	NA	NA
48	e3	TO	Residue 9	Residue meat cutting table 1	/	/	/	0L	00	00	00	/	A	0.00	-4	-	00	00	/	A	0.00	-3	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
49	e3	TO	Residue 10	Residue meat cutting table 2	/	/	/	0L	0L	00	00	/	A	0.00	-3	-	00	00	/	A	0.00	-3	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
50	e3	TO	Residue 11	Dust dairy industry 1	/	/	/	0L	0L	0L	0L	/	A	0.00	-2	-	0L	0L	/	A	0.00	-3	-	0L	0L	/	A	-	A	-	A	NA	NA	NA	NA
51	e3	TO	Surface sample 1	Swab refrigerator cheese 1	/	/	/	0M	0L	0L	0L	/	A	0.00	4	-	00	0L	/	A	0.00	-3	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
52	e3	TO	Surface sample 2	Swab refrigerator cheese 2	/	/	/	0L	0M	0M	0L	/	A	0.00	-4	-	00	0L	/	A	0.00	-2	-	00	0L	/	A	-	A	-	A	NA	NA	NA	NA
53	e3	TO	Surface sample 3	Swab stainless table cheese production 1	/	/	/	0M	0L	0L	0L	/	A	0.00	-4	-	00	0L	/	A	0.00	-4	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
54	e3	TO	Surface sample 4	Swab stainless table cheese production 2	/	/	/	0M	0L	0L	0L	/	A	0.00	-4	-	0L	0L	/	A	0.00	-3	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
55	e3	TO	Surface sample 5	Sponge cold storage ground 1	/	/	/	0L	0M	0M	0M	/	A	0.00	-3	-	0L	0L	/	A	0.00	-4	-	0L	00	/	A	-	A	-	A	NA	NA	NA	NA
26	e3	TO	Surface sample 6	Sponge cold storage ground 2	LIS.4.50	se	1.8	0M	0M	0M	0L	/	A	0.00	-3	-	0L	0L	/	A	0.00	-1	-	00	0L	/	A	-	A	-	A	NA	NA	NA	NA
56	e3	TO	Surface sample 7	Swab meat production line 1	/	/	/	0L	0L	0L	0L	/	A	0.00	-3	-	00	0L	/	A	0.00	-1	-	00	0L	/	A	-	A	-	A	NA	NA	NA	NA
57	e3	TO	Surface sample 8	Swab meat production line 2	/	/	/	0L	0L	0L	0L	/	A	0.00	-4	-	0L	0L	/	A	0.00	0	-	00	00	/	A	-	A	-	A	NA	NA	NA	NA
58	e3	TO	Surface sample 9	Swab meat packer 1	/	/	/	0M	0M	0L	0L	/	A	0.00	-3	-	0L	0L	/	A	0.00	0	-	0L	00	/	A	-	A	-	A	NA	NA	NA	NA
59	e3	TO	Surface sample 10	Swab meat packer 2	/	/	/	0M	0M	0M	0L	/	A	0.00	-4	-	0L	0L	/	A	0.00	0	-	00	0L	/	A	-	A	-	A	NA	NA	NA	NA
60	e3	TO	Surface sample 11	Swab meat working plan 1	/	/	/	0L	0L	0L	0L	/	A	0.00	-4	-	0L	0L	/	A	0.00	-4	-	0L	0L	/	A	-	A	-	A	NA	NA	NA	NA
1	e1	TO	Process water 1	UHT 1	LIS.4.2	se	2.6	3h+0	30	3h+0	40	L.m	P	2.52	9714	+	40	3h+0	L.m	P	2.54	9801	+	30	3h+0	L.m	P	/	/	/	/	PA	PA	PA	PA
2	e1	TO	Process water 2	UHT 2	LIS.4.2	se	2.6	4h+0	40	4h+0	40	L.m	P	2.50	9631	+	40	4h+0	L.m	P	2.56	9873	+	30	3h+0	L.m	P	/	/	/	/	PA	PA	PA	PA
3	e1	TO	Process water 3	Microfiltration Unit 1	LIS.4.2	se	2.6	3h+0	30	4h+0	40	L.m	P	2.68	10344	+	40	4h+0	L.m	P	2.67	10302	+	30	3h+0	L.m	P	/	/	/	/	PA	PA	PA	PA
4	e1	TO	Process water 4	Microfiltration Unit 2	LIS.4.2	se	2.6	3h+0	30	3h+0	40	L.m	P	2.63	10125	+	40	3h+0	L.m	P	2.70	10404	+	30	3h+0	L.m	P	/	/	/	/	PA	PA	PA	PA
6	e1	TO	Process water 6	Cream separator 1	LIS.4.2	se	2.6	00	00	00	00	/	A	2.65	10231	+	40	4h+0	L.m	P	2.61	10071	+	40	3h+0	L.m	P	/	/	/	/	PD	PD	PD	PD
7	e1	TO	Process water 7	Cream separator 2	LIS.4.16	se	1.8	3h+0	30	3h+0	40	L.m	P	2.64	10175	+	30	3h+0	L.m	P	2.66	10270	+	30	3h+0	L.m	P	/	/	/	/	PA	PA	PA	PA
8	e1	TO	Process water 8	Cream separator 3	LIS.4.16	se	1.8	4h+0	40	4h+0	40	L.m	P	0.00	-3	-	0L	0L	/	A	0.00	-4	-	00	00	/	A	-	A	-	A	ND	ND	ND	ND
10	e1	TO	Process water 10	Pasteurizer 2	LIS.4.16	se	1.8	3h+0	30	3h+0	40	L.m	P	2.56	9875	+	40	3h+0	L.m	P	2.65	10203	+	40	3h+0	L.m	P	/	/	/	/	PA	PA	PA	PA
61	e1	TO	Process water 13	Rinse water cheese production	nc	/	/	3h+0	30	3h+0	40	L.m	P	2.68	10356	+	30	3h+0	L.m	P	2.56	9872	+	30	3h+0	L.m	P	/	/	/	/	PA	PA	PA	PA
62	e1	TO	Process water 14	Rinse water fishering	nc	/	/	3h+0	30	3h+0	40	L.m	P	2.58	9960	+	40	3h+0	L.m	P	2.47	9548	+	40	3h+0	L.m	P	/	/	/	/	PA	PA	PA	PA
11	e2	TO	Residue 1	Residue from chopper	LIS.4.44	se	2.0	3h+L	3L	3h+L	4L	L.m	P	2.61	10081	+	4L	3h+L	L.m	P	2.60	10033	+	30	3h+0	L.m	P	/	/	/	/	PA	PA	PA	PA
12	e2	TO	Residue 2	Residue fish stand	LIS.4.44	se	2.0	4h+L	4L	4h+L	4L	L.m	P	2.65	10229	+	4L	3h+L	L.m	P	2.57	9904	+	30	3h+0	L.m	P	/	/	/	/	PA	PA	PA	PA
13	e2	TO	Residue 3	Residue cheese cutting table 1	LIS.4.44	se	2.0	3h+L	3L	2h+L	4L	L.m	P	2.52	9721	+	4L	3h+L	L.m	P	2.54	9790	+	30	3h+0	L.m	P	/	/	/	/	PA	PA	PA	PA
14	e2	TO	Residue 4	Residue cheese cutting table 2	LIS.4.44	se	2.0	2h+L	3L	3h+L	4L	L.m	P	2.48	9577	+	4L	3h+L	L.m	P	2.59	9982	+	30	3h+L	L.m	P	/	/	/	/	PA	PA	PA	PA
15	e2	TO	Residue 5	Residue cheese production workshop 1	LIS.4.44	se	2.0	2h+L	4L	4h+L	4L	L.m	P	0.00	-2	-	0L	0L	/	A	0.00	-3	-	00	00	/	A	-	A	-	A				



## APPENDIX G

### Study of conservation of the enriched LPT broths

#### RAW RESULTS

Caption:

- ∅ : level determined by 5 enumerations
- sp : spiking
- se : seeding
- nc : naturally contaminated
- cm: contamination by mixture
- + / Pos : positive result
- / Neg : negative result
- / : test not realized
- ∅ : 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
- ∅ / 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 innocua*
- L.iv: *Listeria ivanovii*
- L.s : *Listeria seeligeri*
- Conf. 1 : streaking on ALOA + ISO 11290-1 confirmation (case n°1)
- Conf. 2 : streaking on ALOA + visual reading (case n°2)

# Meat products

#	Sample	Contamination strain or serovar, level (CFU/25 g) and type (nc,sp,se or cm)			Final result RM: NF EN ISO 11290-1	AM: VIDAS LMO2 (D0)				Concordance RM /AM D0				AM: VIDAS LMO2 after storage 3 days at 5°C (D3)								Concordance RM /AM D3	
						Final result LPT 1 mL		Final result LPT 0.1 mL		Final result				LPT 1 mL				LPT 0.1 mL				Final result	
						Final result		Final result		1 mL		0.1 mL		VIDAS result		Conf. 2		VIDAS result		Conf. 2		Final result	
						Conf. 1	Conf. 2	Conf. 1	Conf. 2	Conf. 1	Conf. 2	Conf. 1	Conf. 2	VT	Result	Conf. 2	Final result (1 mL)	VT	Result	Conf. 2	Final result (0.1 mL)	Conf. 2	Conf. 2
3	Raw minced beef 5% fat	LIS.4.5	se	3.0	P	A	A	A	A	ND	ND	ND	ND	0.00	-	-(0 M)	A	0.00	-	-(0 M)	A	ND	ND
4	Raw minced beef 15% fat	LIS.4.9	se	3.0	P	P	P	P	P	PA	PA	PA	PA	0.32	+	-(0 M) + (1 H)	P	0.14	+	2 Ø	P	PA	PA
5	Deep-frozen raw veal	LIS.4.9	se	3.0	P	P	P	P	P	PA	PA	PA	PA	2.81	+	+(4 Ø)	P	3.29	+	+(4 Ø)	P	PA	PA
6	Raw chicken brochette	LIS.4.11	se	3.0	P	P	P	P	P	PA	PA	PA	PA	1.88	+	+(4 Ø)	P	3.46	+	+(4 Ø)	P	PA	PA
16	Sliced Serrano ham	LIS.4.27	se	3.0	P	A	A	A	A	ND	ND	ND	ND	0.00	-	-(0 Ø)	A	0.00	-	-(0 Ø)	A	ND	ND
18	Raw backbone chop pork	LIS.4.27	se	3.0	P	P	P	P	P	PA	PA	PA	PA	2.64	+	+(4 Ø)	P	2.57	+	+(4 Ø)	P	PA	PA
20	Ham with rind	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.94	+		P	3.46	+		P	PA	PA
21	Nanjing salted duck	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	1.83	+	+(2 H)	P	1.49	+	+(2 H)	P	PA	PA
22	Peking duck 1	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	0.74	+	+(2 M)	P	1.83	+	+(2 H)	P	PA	PA
23	Peking duck 2	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	0.07	+	+(4 L)	P	0.11	+	+(4 L)	P	PA	PA
24	Peking duck 3	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	0.46	+	+(4 L)	P	3.39	+	+(4 M)	P	PA	PA
29	Sweet casinese (fresh italian sausages)	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	3.38	+	+(4 L)	P	2.73	+	+(4 L)	P	PA	PA
30	Sliced smoked poultry delicatessen	/	nc	/	P	A	A	A	A	ND	ND	ND	ND	0.00	-	-(0 L)	A	0.00	-	-(0 L)	A	ND	ND
31	Deep-frozen boneless skinless chicken leg	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	3.12	+	+(3 M)	P	3.34	+	+(3 H)	P	PA	PA
32	Salted pork ribs	/	nc	/	P	A	A	A	A	ND	ND	ND	ND	0.00	-	-(0 M)	A	0.00	-	-(0 M)	A	ND	ND
33	Raw duck wings	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.65	+	+(4 L)	P	2.59	+	+(4 Ø)	P	PA	PA
34	Deep-frozen chicken leg with skin	/	nc	/	A	P	P	P	P	PD	PD	PD	PD	3.41	+	+(4 Ø)	P	2.91	+	+(4 Ø)	P	PD	PD
36	Peking duck 6	/	nc	/	A	P	P	P	P	PD	PD	PD	PD	2.90	+	+(4 L)	P	2.36	+	+(4 Ø)	P	PD	PD
38	Minced pork	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	0.09	+	+(3 H)	P	0.64	+	+(4 L)	P	PA	PA
39	Sliced leg of lamb	LIS.4.33	se	2.4	A	P	P	P	P	PD	PD	PD	PD	2.71	+	+(3 M)	P	3.16	+	+(3 M)	P	PD	PD
40	Veal cutlet	LIS.4.33	se	2.4	P	P	P	P	P	PA	PA	PA	PA	1.99	+	+(3 M)	P	3.23	+	+(3 L)	P	PA	PA
56	Tex-mex chicken wings	/	cm	/	P	P	P	P	P	PA	PA	PA	PA	1.37	+	+(2 H)	P	2.23	+	+(2 H)	P	PA	PA
57	Ready-to-eat chicken meal	/	cm	/	P	P	P	P	P	PA	PA	PA	PA	2.12	+	+(2 H)	P	2.63	+	+(2 H)	P	PA	PA
63	Extra lean skinless smoked lardons	/	nc	/	A	P	P	P	P	PD	PD	PD	PD	2.69	+	+(3 H)	P	3.49	+	+(3 H)	P	PD	PD
64	Tomato stuffing (pork 52% / beef 28%)	/	/	/	A	A (FP)	A (FP)	A (FP)	A (FP)	NA (PP)	NA (PP)	NA (PP)	NA (PP)	0.03	-	-(0 M)	A	0.03	-	-(0 M)	A	NA	NA
100	Pork rillettes	LIS.4.43	se	1.2	P	P	P	P	P	PA	PA	PA	PA	3.46	+	+(4 Ø)	P	3.03	+	+(4 Ø)	P	PA	PA
150	Blanquette de veau	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.74	+	+(3 H)	P	2.64	+	+(3 H)	P	PA	PA
152	Raw cartilage of pork	/	nc	/	A	P	P	P	P	PD	PD	PD	PD	2.81	+	+(3 H)	P	3.29	+	+(4 Ø)	P	PD	PD
154	Salted pork ribs 1	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	3.12	+	+(4 L)	P	3.16	+	+(4 Ø)	P	PA	PA
183	Raw sausage 2	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	3.15	+	+(4 Ø)	P	3.20	+	+(4 Ø)	P	PA	PA
184	Raw sausage 3	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.66	+	+(4 Ø)	P	2.70	+	+(4 Ø)	P	PA	PA

first and second streakings negative, other streakings with more suspension positive with low typical colonies

# Dairy products

#	Sample	Contamination strain or serovar, level (CFU/25 g)∅ and type (nc,sp,se or cm )			Final result RM: NF EN ISO 11290-1	AM: VIDAS LMO2 (D0)				Concordance RM /AM D0				AM: VIDAS LMO2 after storage 3 days at 5°C (D3)						Concordance RM /AM D3			
						Final result LPT 1 mL		Final result LPT 0.1 mL		Final result				LPT 1 mL			LPT 0.1 mL			Final result			
						Final result		Final result		1 mL		0.1 mL		VIDAS result		Conf. 2	Final result (1 mL)	VIDAS result		Conf. 2	Final result (0.1 mL)	1 mL	0.1 mL
						Conf. 1	Conf. 2	Conf. 1	Conf. 2	Conf. 1	Conf. 2	Conf. 1	Conf. 2	VT	Result	Conf. 2	Conf. 2	VT	Result	Conf. 2	Conf. 2	Conf. 2	Conf. 2
1	Camembert	LIS.4.23	se	3.0	A	P	P	P	P	PD	PD	PD	PD	3.03	+	+(3 Ø)	P	0.00	-	0 Ø	A	PD	NA
2	Goat cheese	LIS.4.23	se	3.0	A	P	P	A (FN)	A (FN)	PD	PD	NA	NA	0.03	-/+	+(2 L)	A (FN)	0.00	-/+	2 Ø	A	NA	NA
7	Raw milk Comté 1	LIS.4.23	se	3.0	P	P	P	P	P	PA	PA	PA	PA	1.51	+	+(3 M)	P	0.29	+	+(4 L)	P	PA	PA
8	Raw milk Comté 2	LIS.4.32	se	3.0	P	P	P	P	P	PA	PA	PA	PA	2.71	+	+(4 L)	P	3.26	+	+(4 Ø)	P	PA	PA
9	Raw milk Comté 3	LIS.4.32	se	3.0	P	P	P	P	P	PA	PA	PA	PA	2.18	+	+(3 Ø)	P	2.59	+	+(4 Ø)	P	PA	PA
12	Microfiltered milk	LIS.4.32	se	3.0	P	P	P	P	P	PA	PA	PA	PA	3.18	+	+(4 Ø)	P	2.70	+	+(4 Ø)	P	PA	PA
14	Pressed and cooked cow raw milk cheese	LIS.4.56	se	2.0	A	P	P	P	P	PD	PD	PD	PD	2.71	+	+(4 Ø)	P	2.80	+	+(4 Ø)	P	PD	PD
19	Raw milk Pont L'Evêque	/	nc	/	P	A	A	A	A	ND	ND	ND	ND	0.00	-	-(0 M)	A	0.00	-	-(0 M)	A	ND	ND
41	Saint-Paulin cheese	LIS.4.59	se	3.0	P	A (FN)	A (FN)	A (FN)	A (FN)	ND	ND	ND	ND	0.00	-	-(0 M)	A	0.00	-	-(0 M)	A	ND	ND
42	Mixed milk pasteurized cheese	LIS.4.59	se	3.0	P	P	P	P	P	PA	PA	PA	PA	3.53	+	+(4 Ø)	P	3.54	+	+(4 Ø)	P	PA	PA
43	Livarot cheese	LIS.4.59	se	3.0	P	P	P	P	P	PA	PA	PA	PA	3.49	+	+(4 Ø)	P	2.96	+	+(4 Ø)	P	PA	PA
44	Nature yoghurt	LIS.4.60	se	2.0	P	P	P	P	P	PA	PA	PA	PA	3.05	+	+(4 Ø)	P	2.60	+	+(4 Ø)	P	PA	PA
48	Raw milk Abondance (cheese)	LIS.4.62	se	2.2	P	P	P	P	P	PA	PA	PA	PA	2.65	+	+(4 Ø)	P	2.68	+	+(4 Ø)	P	PA	PA
103	Dice of pasteurized cheese garlic, herbs	LIS.4.63	se	2.5	P	P	P	P	P	PA	PA	PA	PA	3.15	+	+(2 M)	P	3.20	+	+(2 M)	P	PA	PA
109	Cancoillotte	LIS.4.63	se	2.5	P	P	P	P	P	PA	PA	PA	PA	2.66	+	+(2 M)	P	2.70	+	+(2 M)	P	PA	PA
133	Raw milk 5	LIS.4.64	se	2.0	P	P	P	P	P	PA	PA	PA	PA	3.49	+	+(4 Ø)	P	2.96	+	+(4 Ø)	P	PA	PA
134	Raw milk 6	LIS.4.64	se	2.0	P	P	P	P	P	PA	PA	PA	PA	3.05	+	+(4 Ø)	P	2.60	+	+(4 Ø)	P	PA	PA
135	Raw milk 7	LIS.4.64	se	2.0	P	P	P	P	P	PA	PA	PA	PA	2.65	+	+(4 Ø)	P	2.68	+	+(4 Ø)	P	PA	PA
136	Raw milk goat cheese 1	/	nc	/	P	A	A	A	A	ND	ND	ND	ND	0.00	-	-(0 M)	A	0.00	-	-(0 M)	A	ND	ND
138	Raw milk goat cheese 3	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.97	+	+(4 Ø)	P	2.46	+	+(4 Ø)	P	PA	PA
139	Raw milk goat cheese 4	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	3.05	+	+(2 M)	P	2.96	+	+(2 M)	P	PA	PA
140	Raw milk Pont L'Evêque 2	LIS.4.56	se	2.0	P	P	P	P	P	PA	PA	PA	PA	2.58	+	+(3 Ø)	P	2.96	+	+(3 Ø)	P	PA	PA
141	Raw milk camembert	LIS.4.60	se	2.0	A	P	P	P	P	PD	PD	PD	PD	2.70	+	+(3 H)	P	3.02	+	+(3 M)	P	PD	PD
142	Raw milk Saint-Nectaire	LIS.4.60	se	2.0	P	P	P	P	P	PA	PA	PA	PA	2.07	+	+(3 Ø)	P	3.46	+	+(3 Ø)	P	PA	PA
143	Whipped cream cake 1	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.07	+	+(3 H)	P	3.46	+	+(2 H)	P	PA	PA
145	Whipped cream cake 3	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.73	+	+(4 L)	P	2.36	+	+(4 L)	P	PA	PA
147	Goat raw milk 1	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	1.68	+	+(4 Ø)	P	2.08	+	+(4 Ø)	P	PA	PA
148	Goat raw milk 2	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.78	+	+(4 Ø)	P	3.02	+	+(4 Ø)	P	PA	PA
149	Goat raw milk 3	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.70	+	+(4 Ø)	P	2.96	+	+(4 Ø)	P	PA	PA

# Fishery products

#	Sample	Contamination strain or serovar, level (CFU/25 g) and type (nc,sp,se or cm )			Final result RM: NF EN ISO 11290-1	AM: VIDAS LMO2 (D0)				<u>Concordance RM /AM D0</u>				AM: VIDAS LMO2 after storage 3 days at 5°C (D3)						<u>Concordance RM /AM D3</u>			
						Final result LPT 1 mL		Final result LPT 0.1 mL		Final result				LPT 1 mL			LPT 0.1 mL			Final result			
						Final result		Final result		1 mL		0.1 mL		VIDAS result		Conf. 2	Final result (1 mL)	VIDAS result		Conf. 2	Final Result (0.1 mL)	1 mL	0.1 mL
						Conf. 1	Conf. 2	Conf. 1	Conf. 2	Conf. 1	Conf. 2	Conf. 1	Conf. 2	VT	Result			VT	Result			Conf. 2	Conf. 2
11	Back of raw cod (fresh)	LIS.4.15	se	3.0	P	P	P	P	P	PA	PA	PA	PA	3.32	+	+(4 Ø)	P	2.76	+	+(4 Ø)	P	PA	PA
15	Smoked salmon	LIS.4.25	se	3.0	P	P	P	P	P	PA	PA	PA	PA	2.69	+	+(4 Ø)	P	2.54	+	+(4 Ø)	P	PA	PA
27	Smoked tuna 1	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.94	+	+(4 L)	P	3.26	+	+(4 L)	P	PA	PA
28	Norway smoked salmon off-cuts	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	3.27	+	+(4 L)	P	2.59	+	+(4 L)	P	PA	PA
37	Salmon tartare 1	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.73	+	+(4 L)	P	2.70	+	+(4 Ø)	P	PA	PA
45	Coley fillet	LIS.4.31	se	2.2	P	P	P	P	P	PA	PA	PA	PA	2.78	+	+(4 Ø)	P	3.04	+	+(4 Ø)	P	PA	PA
46	Whiting fillet	LIS.4.31	se	2.2	P	P	P	P	P	PA	PA	PA	PA	2.63	+	+(4 Ø)	P	3.01	+	+(4 Ø)	P	PA	PA
47	Desalinated cod fillet	LIS.4.47	se	2.4	P	P	P	P	P	PA	PA	PA	PA	2.63	+	+(4 Ø)	P	2.59	+	+(4 Ø)	P	PA	PA
49	Salmon fillet 1	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.97	+	+(4 Ø)	P	2.46	+	+(4 Ø)	P	PA	PA
50	Salmon fillet 2	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	3.05	+	+(4 Ø)	P	2.96	+	+(4 Ø)	P	PA	PA
51	Salmon fillet 3	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.58	+	+(4 Ø)	P	2.96	+	+(4 Ø)	P	PA	PA
52	Salmon fillet 4	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.70	+	+(4 Ø)	P	3.02	+	+(4 Ø)	P	PA	PA
53	Salmon tartare 2	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.07	+	+(4 Ø)	P	3.46	+	+(4 Ø)	P	PA	PA
101	Two salmon rillettes	LIS.4.39	se	2.2	P	P	P	P	P	PA	PA	PA	PA	3.11	+	+(4 Ø)	P	2.89	+	+(4 Ø)	P	PA	PA
104	Salmon lasagna	LIS.4.39	se	2.2	P	P	P	P	P	PA	PA	PA	PA	3.03	+	+(4 Ø)	P	3.06	+	+(4 Ø)	P	PA	PA
105	Seafood salad	LIS.4.39	se	2.2	A	P	P	P	P	PD	PD	PD	PD	3.05	+	+(4 M)	P	2.97	+	+(4 M)	P	PD	PD
106	Fish gratin	LIS.4.42	se	1.8	P	P	P	P	P	PA	PA	PA	PA	2.61	+	+(4 Ø)	P	2.81	+	+(3 Ø)	P	PA	PA
107	Salmon lardons	LIS.4.42	se	1.8	P	P	P	P	P	PA	PA	PA	PA	2.51	+	+(4 M)	P	2.65	+	+(4 L)	P	PA	PA
111	Tuna rillettes	LIS.4.42	se	1.8	P	P	P	P	P	PA	PA	PA	PA	2.83	+	+(3 Ø)	P	2.89	+	+(3 Ø)	P	PA	PA
112	Catalan mussels	LIS.4.12	se	2.6	P	P	P	P	P	PA	PA	PA	PA	3.08	+	+(3 Ø)	P	3.12	+	+(3 L)	P	PA	PA
113	Rollmops	LIS.4.12	se	2.6	P	P	P	P	P	PA	PA	PA	PA	3.27	+	+(3 M)	P	3.45	+	+(3 M)	P	PA	PA
114	Tarama	LIS.4.12	se	2.6	P	P	P	P	P	PA	PA	PA	PA	3.26	+	+(3 L)	P	3.24	+	+(3 L)	P	PA	PA
127	Thalissini 1	/	nc	/	A	P	P	P	P	PD	PD	PD	PD	2.55	+	+(4 Ø)	P	3.01	+	+(3 Ø)	P	PD	PD
130	Smoked mackerel filets 2	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.83	+	+(4 Ø)	P	2.88	+	+(4 Ø)	P	PA	PA
131	Smoked swordfish 1	/	nc	/	P	A	A	A	A	ND	ND	ND	ND	0.00	-	-(0 L)	A	0.00	-	-(0 L)	A	ND	ND
132	Smoked swordfish 2	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.93	+	+(4 Ø)	P	2.59	+	+(4 Ø)	P	PA	PA
143	Fish paupiette	/	nc	/	A	P	P	P	P	PD	PD	PD	PD	2.38	+	+(4 Ø)	P	2.63	+	+(4 Ø)	P	PD	PD
144	Trout fillet	/	nc	/	P	A	A	A	A	ND	ND	ND	ND	0.00	-	-(0 Ø)	A	0.00	-	-(0 Ø)	A	ND	ND
155	Smoked trout fillet 1	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	1.52	+	+(1 M)	P	1.59	+	+(1 M)	P	PA	PA
156	Smoked trout fillet 2	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.06	+	+(1 M)	P	1.76	+	+(1 L)	P	PA	PA
161	Smoked trout fillet 3	/	nc	/	P	P	P	P	P	PA	PA	PA	PA	2.01	+	+(2 L)	P	2.27	+	+(2 L)	P	PA	PA

**Environmental sample after storage 3 days at 5°C (ISHA 2018)**

#	Type	Time	Sample	Origin	Contamination		RM: NF EN ISO 11290-1						AM: VIDAS LMO2 (specific protocol) after storage 3 days at 5°C										Concordance RM / AM				
							Half Fraser		Fraser		Identif-ication	Final result	LPT 1.0 mL				LPT 0.1 mL				Final result						
					Strain	Type	Level	ALOA	Palcam	ALOA			Palcam	VIDAS result			O&A	Identif-ication	Final result (1 mL)	VIDAS result			O&A	Identif-ication	Final result (0.1 mL)	Conf. 2	Conf. 2
											VT	RFV		Result	VT	RFV				Result							
1	e1	T72H	Process water 1	UHT 1	LIS.4.2	se	2,6	4h+Ø	4Ø	4h+Ø	4Ø	L.m	P	2,46	9504	+	3h+Ø	L.m	P	2,37	9156	+	3h+Ø	L.m	P	PA	PA
2	e1	T72H	Process water 2	UHT 2	LIS.4.2	se	2,6	4h+Ø	4Ø	4h+Ø	4Ø	L.m	P	2,51	9665	+	3h+Ø	L.m	P	2,65	10232	+	3h+Ø	L.m	P	PA	PA
3	e1	T72H	Process water 3	Microfiltration Unit 1	LIS.4.2	se	2,6	3h+Ø	3Ø	3h+Ø	3Ø	L.m	P	2,57	9918	+	3h+Ø	L.m	P	2,30	8897	+	3h+Ø	L.m	P	PA	PA
4	e1	T72H	Process water 4	Microfiltration Unit 2	LIS.4.2	se	2,6	4h+Ø	4Ø	4h+Ø	4Ø	L.m	P	2,51	9684	+	3h+Ø	L.m	P	2,70	10456	+	4h+Ø	L.m	P	PA	PA
6	e1	T72H	Process water 6	Cream separator 1	LIS.4.2	se	2,6	ØØ	ØØ	ØØ	/	A	2,49	9610	+	3h+Ø	L.m	P	2,47	9546	+	3h+Ø	L.m	P	PD	PD	
7	e1	T72H	Process water 7	Cream separator 2	LIS.4.16	se	1,8	4h+Ø	4Ø	4h+Ø	4Ø	L.m	P	2,67	10280	+	3h+Ø	L.m	P	2,40	9235	+	3h+Ø	L.m	P	PA	PA
8	e1	T72H	Process water 8	Cream separator 3	LIS.4.16	se	1,8	4h+Ø	4Ø	4h+Ø	4Ø	L.m	P	0,00	-4	-	ØØ	/	A	2,53	9782	-	ØØ	/	A	ND	ND
10	e1	T72H	Process water 10	Pasteuriseur 2	LIS.4.16	se	1,8	4h+Ø	4Ø	4h+Ø	4Ø	L.m	P	2,62	10095	+	3h+Ø	L.m	P	2,45	9467	+	3h+Ø	L.m	P	PA	PA
61	e1	T72H	Process water 13	Rinse water cheese production	nc	/	/	3h+Ø	3Ø	3h+Ø	4Ø	L.m	P	2,69	10412	+	3h+Ø	L.m	P	2,63	10154	+	3h+Ø	L.m	P	PA	PA
62	e1	T72H	Process water 14	Rinse water fishering	nc	/	/	3h+Ø	3Ø	3h+Ø	4Ø	L.m	P	2,65	10245	+	3h+Ø	L.m	P	2,56	9897	+	3h+Ø	L.m	P	PA	PA
11	e2	T72H	Residue 1	Residue from chopper	LIS.4.44	se	2,0	3h+L	3L	4h+L	4Ø	L.m	P	2,66	10266	+	3h+L	L.m	P	2,71	10482	+	3h+Ø	L.m	P	PA	PA
12	e2	T72H	Residue 2	Residue fish stand	LIS.4.44	se	2,0	3h+L	3L	3h+L	3Ø	L.m	P	2,58	9946	+	3h+L	L.m	P	2,69	10387	+	4h+Ø	L.m	P	PA	PA
13	e2	T72H	Residue 3	Residue cheese cutting table 1	LIS.4.44	se	2,0	3h+L	3L	3h+L	4Ø	L.m	P	2,53	9745	+	3h+L	L.m	P	2,08	8004	+	4h+Ø	L.m	P	PA	PA
14	e2	T72H	Residue 4	Residue cheese cutting table 2	LIS.4.44	se	2,0	4h+L	4L	4h+L	4Ø	L.m	P	2,61	10073	+	3h+L	L.m	P	2,63	10156	+	3h+L	L.m	P	PA	PA
15	e2	T72H	Residue 5	Residue cheese production workshop 1	LIS.4.57	se	1,8	3h+L	3L	4h+L	4Ø	L.m	P	0,00	-4	-	ØØ	/	A	0,00	0	-	ØØ	/	A	ND	ND
16	e2	T72H	Residue 6	Residue cheese production workshop 2	LIS.4.57	se	1,8	3h+L	3L	3h+L	3Ø	L.m	P	2,54	9777	+	4h+L	L.m	P	2,60	10048	+	3h+Ø	L.m	P	PA	PA
17	e2	T72H	Residue 7	Residue cream separator 1	LIS.4.57	se	1,8	4h+L	4L	4h+L	4Ø	L.m	P	2,59	9982	+	4h+L	L.m	P	2,53	9786	+	3h+L	L.m	P	PA	PA
19	e2	T72H	Residue 9	Residue meat cutting table 1	LIS.4.57	se	1,8	3h+L	4L	4h+L	4Ø	L.m	P	2,51	9664	+	2h+L	L.m	P	2,60	10046	+	2h+L	L.m	P	PA	PA
20	e2	T72H	Residue 10	Residue meat cutting table 2	LIS.4.57	se	1,8	3h+L	4L	4h+L	3Ø	L.m	P	2,53	9766	+	3h+L	L.m	P	2,27	8764	+	4h+L	L.m	P	PA	PA
63	e2	T72H	Residue 12	Dust dairy industry 2	nc	/	/	3h+Ø	3Ø	3h+Ø	4Ø	L.m	P	2,67	10278	+	4h+L	L.m	P	2,45	9465	+	3h+L	L.m	P	PA	PA
21	e3	T72H	Surface sample 1	Swab refrigerator cheese 1	LIS.4.68	se	2,6	3h+L	3L	3h+L	4Ø	L.m	P	2,57	9898	+	4h+L	L.m	P	2,65	10230	+	3h+Ø	L.m	P	PA	PA
22	e3	T72H	Surface sample 2	Swab refrigerator cheese 2	LIS.4.68	se	2,6	3h+L	3L	4h+L	3Ø	L.m	P	2,53	9770	+	4h+L	L.m	P	2,64	10184	+	4h+Ø	L.m	P	PA	PA
23	e3	T72H	Surface sample 3	Swab stainless table cheese production 1	LIS.4.68	se	2,6	4h+L	3L	4h+L	4Ø	L.m	P	2,52	9700	+	4h+L	L.m	P	2,58	9966	+	3h+L	L.m	P	PA	PA
24	e3	T72H	Surface sample 4	Swab stainless table cheese production 2	LIS.4.68	se	2,6	ØØ	ØØ	ØØ	/	A	2,49	9607	+	3h+L	L.m	P	2,53	9784	+	3h+Ø	L.m	P	PD	PD	
25	e3	T72H	Surface sample 5	Sponge cold storage ground 1	LIS.4.68	se	2,6	3h+L	4L	4h+L	4Ø	L.m	P	2,57	9923	+	3h+L	L.m	P	2,36	9124	+	3h+L	L.m	P	PA	PA
27	e3	T72H	Surface sample 7	Swab meat production line 1	LIS.4.50	se	1,8	3h+L	3L	3h+L	3Ø	L.m	P	2,28	8795	+	3h+L	L.m	P	2,65	10240	+	4h+L	L.m	P	PA	PA
28	e3	T72H	Surface sample 8	Swab meat production line 2	LIS.4.50	se	1,8	2h+L	2L	3h+L	4Ø	L.m	P	0,00	0	-	ØØ	/	A	0,00	-2	-	ØØ	/	A	ND	ND
29	e3	T72H	Surface sample 9	Swab meat packer 1	LIS.4.50	se	1,8	3h+L	3L	4h+L	4Ø	L.m	P	2,72	10485	+	3h+L	L.m	P	2,58	9996	+	3h+Ø	L.m	P	PA	PA
30	e3	T72H	Surface sample 10	Swab meat packer 2	LIS.4.50	se	1,8	3h+L	3L	3h+L	3Ø	L.m	P	2,08	7998	+	4h+L	L.m	P	2,17	8402	+	3h+Ø	L.m	P	PA	PA
64	e3	T72H	Surface sample 12	Swab meat working plan 2	nc	/	/	3h+L	3L	3h+L	4L	L.m	P	2,69	10418	+	4h+Ø	L.m	P	2,47		+	3h+Ø	L.m	P	PA	PA

## APPENDIX H

### RELATIVE LEVEL OF DETECTION STUDY

#### RAW RESULTS

Caption:

+ / Pos : positive result

- / Neg : negative result

/ : test not realized

∅ : absence of colonies

A : absence

P : presence

0 / 1 / 2 / 3 / 4 : level of typical flora, from absence to high

∅ / L / M / H : level of annex flora, from absence to high

I : result after re-isolation

(XXX) : number of typical colonies

L.m : *Listeria monocytogenes*

Conf. 1 : streaking on ALOA + ISO 11290-1 confirmation (case n°1)

Conf. 2 : streaking on ALOA + visual reading (case n°2)

#	Contamination level	RM: NF EN ISO 11290-1						AM: VIDAS LMO2										Confirmation ISO/FDIS 16140-2 : 2015 on AM negative samples				Number of positive results per method and inoculation volume			
								LPT 1 mL					LPT 0.1 mL					LPT 1 mL		LPT 0.1 mL		LPT 1 mL	LPT 0.1 mL		
		Half Fraser		Fraser		Confir- mation	Final result	VIDAS result		Conf. 1	Conf. 2	Final result (1 mL)		VIDAS result		Conf. 1	Conf. 2	Final result (0.1 mL)		Conf. 1	Final result			Conf. 1	Final result
		ALOA	Palcam	ALOA	Palcam			VT	Result			Conf. 1	Conf. 2	VT	Result			Conf. 1	Conf. 2			VT	Result		
PRNC1	Negative control samples: no contamination	0 L	0 M	0 L	0 M	/	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	MR: 0/5 MA: 0/5	MR: 0/5 MA: 0/5
PRNC2		0 L	0 M	0 L	0 M	/	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A		
PRNC3		0 M	0 M	0 M	0 M	/	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A		
PRNC4		0 M	0 M	0 L	0 H	/	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
PRNC5		0 L	0 L	0 L	0 M	/	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
PRLL1	Low contamination level (0,8 CFU/25g)	0 L	0 L	4 Ø	4 H	+(L.m)	P	2.93	+	+(L.m)	+(1 Ø)	P	P	1.88	+	+(L.m)	+(1 Ø)	P	P	/	/	/	/	MR: 10/20 MA: 11/20	MR: 10/20 MA: 11/20
PRLL2		1 Ø	1 L	4 Ø	4 H	+(L.m)	P	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A		
PRLL3		3 Ø	3 Ø	3 Ø	4 M	+(L.m)	P	3.02	+	+(L.m)	+(2 Ø)	P	P	2.48	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/		
PRLL4		2 Ø	3 L	4 Ø	4 H	+(L.m)	P	2.99	+	+(L.m)	+(3 Ø)	P	P	2.45	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
PRLL5		0 L	0 L	0 H	0 H	/	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A		
PRLL6		1 L	1 M	4 Ø	4 H	+(L.m)	P	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A		
PRLL7		0 L	0 M	0 M	0 M	/	A	2.51	+	+(L.m)	+(3 Ø)	P	P	2.95	+	+(L.m)	+(2 Ø)	P	P	/	/	/	/		
PRLL8		1 Ø	2 M	4 Ø	4 L	+(L.m)	P	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A		
PRLL9		0 L	0 M	0 L	0 H	/	A	2.57	+	+(L.m)	+(2 Ø)	P	P	3.14	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
PRLL10		0 L	0 M	0 L	0 H	/	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A		
PRLL11		0 L	0 H	0 L	0 H	/	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A		
PRLL12		0 L	0 H	0 L	0 H	/	A	2.39	+	+(L.m)	+(3 Ø)	P	P	2.56	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
PRLL13		3 Ø	3 L	4 Ø	4 M	+(L.m)	P	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
PRLL14		0 L	0 M	0 M	0 H	/	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A		
PRLL15		0 L	0 M	0 M	0 M	/	A	2.97	+	+(L.m)	+(3 Ø)	P	P	2.40	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/		
PRLL16		0 M	0 L	0 L	0 M	/	A	2.94	+	+(L.m)	+(2 Ø)	P	P	2.37	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
PRLL17		4 Ø	4 H	4 Ø	4 L	+(L.m)	P	2.95	+	+(L.m)	+(3 Ø)	P	P	2.86	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/		
PRLL18		0 L	0 M	0 M	0 M	/	A	2.93	+	+(L.m)	+(3 Ø)	P	P	3.02	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
PRLL19		3 Ø	3 M	4 Ø	4 M	+(L.m)	P	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
PRLL20		2 Ø	1 M	4 Ø	4 H	+(L.m)	P	2.54	+	+(L.m)	+(3 Ø)	P	P	2.95	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
PRHL1	High contamination level (4,0 CFU / 25g)	4 Ø	4 M	4 Ø	4 H	+(L.m)	P	3.37	+	+(L.m)	+(3 Ø)	P	P	3.17	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/	MR: 4/5 MA: 4/5	MR: 4/5 MA: 4/5
PRHL2		3 Ø	3 H	4 Ø	4 H	+(L.m)	P	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
PRHL3		3 Ø	3 M	4 Ø	4 M	+(L.m)	P	2.60	+	+(L.m)	+(2 Ø)	P	P	2.35	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
PRHL4		4 Ø	4 H	4 Ø	4 M	+(L.m)	P	2.54	+	+(L.m)	+(2 Ø)	P	P	2.94	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
PRHL5		0 L	0 M	0 M	0 M	/	A	2.54	+	+(L.m)	+(3 Ø)	P	P	2.92	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		

#	Contamination level	RM: NF EN ISO 11290-1						AM: VIDAS LMO2												Confirmation ISO/FDIS 16140-2 : 2015 on AM negative samples				Number of positive results per method and inoculation volume	
								LPT 1 mL						LPT 0.1 mL						LPT 1 mL		LPT 0.1 mL		LPT 1 mL	LPT 0.1 mL
		Half Fraser		Fraser		Confir- mation	Final result	VIDAS result		Conf. 1	Conf. 2	Final result (1 mL)		VIDAS result		Conf. 1	Conf. 2	Final result (0.1 mL)		Conf. 1	Final result	Conf. 1	Final result		
		ALOA	Palcam	ALOA	Palcam			VT	Result			Conf. 1	Conf. 2	VT	Result			Conf. 1	Conf. 2					VT	Result
RMNC1	Negative control samples: no contamination	0 L	0 M	0 L	0 M	/	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	MR: 0/5 MA: 0/5	MR: 0/5 MA: 0/5
RMNC2		0 L	0 M	0 L	0 M	/	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A		
RMNC3		0 L	0 M	0 L	0 H	/	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A		
RMNC4		0 L	0 M	0 L	0 M	/	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
RMNC5		0 L	0 M	0 L	0 H	/	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
RMLL1	Low contamination level (0.6 CFU /25 g)	0 L	0 M	0 L	0 M	/	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A	MR: 6/20 MA: 5/20	MR: 6/20 MA: 5/20
RMLL2		0 L	0 M	0 L	0 M	/	A	2.99	+	+(L.m)	-(3 L)	P	P	2.72	+	+(L.m)	+(1 L)	P	P	/	/	/	/		
RMLL3		1 L	2 M	4 Ø	2 L	+(L.m)	P	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
RMLL4		0 L	0 M	0 L	0 M	/	A	0.00	-	-	-(0 H)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
RMLL5		1 L	2 M	3 Ø	2 L	+(L.m)	P	2.61	+	+(L.m)	+(2 L)	P	P	2.51	+	+(L.m)	+(3 M)	P	P	/	/	/	/		
RMLL6		0 L	0 H	0 M	0 H	/	A	0.00	-	-	-(0 H)	A	A	0.00	-	-	-(0 H)	A	A	-	A	-	A		
RMLL7		0 L	0 H	0 L	0 L	/	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 H)	A	A	-	A	-	A		
RMLL8		1 L	2 M	2 Ø	2 L	+(L.m)	P	0.00	-	-	-(0 H)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
RMLL9		0 L	0 M	0 L	0 H	/	A	0.00	-	-	-(0 H)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
RMLL10		0 L	0 M	0 L	0 H	/	A	2.94	+	+(L.m)	+(2 M)	P	P	3.04	+	+(L.m)	+(2 H)	P	P	/	/	/	/		
RMLL11		0 L	0 H	0 L	0 M	/	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
RMLL12		0 L	0 H	0 L	0 M	/	A	3.07	+	+(L.m)	+(2 L)	P	P	3.01	+	+(L.m)	+(2 M)	P	P	/	/	/	/		
RMLL13		1 L	2 M	3 Ø	3 H	+(L.m)	P	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 H)	A	A	-	A	-	A		
RMLL14		0 L	0 H	0 L	0 H	/	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
RMLL15		0 L	0 H	0 L	0 H	/	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
RMLL16		2 Ø	2 M	3 Ø	2 H	+(L.m)	P	2.59	+	+(L.m)	+(2 M)	P	P	2.53	+	+(L.m)	+(4 M)	P	P	/	/	/	/		
RMLL17		0 L	0 M	0 L	0 H	/	A	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
RMLL18		0 L	0 H	0 L	0 H	/	A	0.00	-	-	-(0 H)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
RMLL19		1 Ø	1 M	3 Ø	2 H	+(L.m)	P	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
RMLL20		0 L	0 H	0 L	0 H	/	A	0.00	-	-	-(0 H)	A	A	0.00	-	-	-(0 M)	A	A	-	A	-	A		
RMHL1	High contamination level (3,2 CFU / 25 g)	0 L	0 M	0 L	0 M	/	A	3.00	+	+(L.m)	+(2 M)	P	P	2.68	+	+(L.m)	+(2 M)	P	P	/	/	/	/	MR: 3/5 MA: 4/5	MR: 3/5 MA: 4/5
RMHL2		2 Ø	2 L	4 Ø	3 H	+(L.m)	P	0.00	-	-	-(0 M)	A	A	0.00	-	-	-(0 H)	A	A	-	A	-	A		
RMHL3		2 Ø	2 L	3 Ø	2 M	+(L.m)	P	3.06	+	+(L.m)	+(4 Ø)	P	P	2.63	+	+(L.m)	+(3 M)	P	P	/	/	/	/		
RMHL4		2 L	2 L	3 Ø	2 M	+(L.m)	P	3.02	+	+(L.m)	+(2 M)	P	P	2.56	+	+(L.m)	+(3 M)	P	P	/	/	/	/		
RMHL5		0 L	0 M	0 L	0 M	/	A	2.59	+	+(L.m)	+(3 L)	P	P	2.47	+	+(L.m)	+(2 M)	P	P	/	/	/	/		



#	Contamination level	RM: NF EN ISO 11290-1						AM: VIDAS LMO2												Confirmation ISO/FDIS 16140-2 : 2015 on AM negative samples				Number of positive results per method and inoculation volume	
								LPT 1 mL						LPT 0.1 mL						LPT 1 mL		LPT 0.1 mL		LPT 1 mL	LPT 0.1 mL
		Half Fraser		Fraser		Confir- mation	Final result	VIDAS result		Conf. 1	Conf. 2	Final result (1 mL)		VIDAS result		Conf. 1	Conf. 2	Final result (0.1 mL)		Conf. 1	Final result	Conf. 1	Final result		
		ALOA	Palcam	ALOA	Palcam			VT	Result			Conf. 1	Conf. 2	VT	Result			Conf. 1	Conf. 2					Conf. 1	Conf. 2
SRNC1	Negative control samples: no contamination	0 Ø	0 Ø	0 H	0 H	/	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	MR: 0/5 MA: 0/5	MR: 0/5 MA: 0/5
SRNC2		0 Ø	0 Ø	0 Ø	0 Ø	/	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A		
SRNC3		0 Ø	0 Ø	0 Ø	0 Ø	/	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A		
SRNC4		0 L	0 Ø	0 M	0 M	/	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A		
SRNC5		0 L	0 Ø	0 M	0 H	/	A	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A		
SRLL1	Low contamination level (1,3 CFU / 25g)	2 Ø	2 Ø	3 Ø	4 Ø	+(L.m)	P	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A	MR: 15/20 MA: 15/20	MR: 15/20 MA: 15/20
SRLL2		1 Ø	1 Ø	4 Ø	4 Ø	+(L.m)	P	2.92	+	+(L.m)	+(3 Ø)	P	P	2.53	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
SRLL3		2 Ø	1 Ø	4 Ø	4 Ø	+(L.m)	P	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 L)	A	A	-	A	-	A		
SRLL4		2 Ø	2 Ø	4 Ø	4 Ø	+(L.m)	P	2.99	+	+(L.m)	+(3 Ø)	P	P	2.48	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
SRLL5		2 Ø	2 Ø	4 Ø	4 Ø	+(L.m)	P	2.95	+	+(L.m)	+(3 Ø)	P	P	2.96	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
SRLL6		0 Ø	0 Ø	0 Ø	0 Ø	/	A	2.94	+	+(L.m)	+(4 Ø)	P	P	2.95	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
SRLL7		2 Ø	2 Ø	4 Ø	4 Ø	+(L.m)	P	0.00	-	-	-(0 L)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A		
SRLL8		2 Ø	2 Ø	4 L	1 H	+(L.m)	P	1.69	+	+(L.m)	+(2 Ø)	P	P	2.45	+	+(L.m)	+(2 Ø)	P	P	/	/	/	/		
SRLL9		0 L	0 L	0 M	0 H	/	A	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A		
SRLL10		1 Ø	1 Ø	3 Ø	3 Ø	+(L.m)	P	2.65	+	+(L.m)	+(4 Ø)	P	P	2.97	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
SRLL11		3 Ø	3 Ø	3 Ø	4 Ø	+(L.m)	P	2.50	+	+(L.m)	+(4 Ø)	P	P	2.51	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
SRLL12		2 Ø	2 Ø	4 Ø	4 Ø	+(L.m)	P	2.37	+	+(L.m)	+(4 Ø)	P	P	2.51	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/		
SRLL13		0 Ø	0 Ø	0 Ø	0 Ø	/	A	0.17	+	+(L.m)	+(2 Ø)	P	P	0.15	+	+(L.m)	+(1 Ø)	P	P	/	/	/	/		
SRLL14		3 Ø	3 Ø	4 Ø	4 Ø	+(L.m)	P	0.00	-	-	-(0 Ø)	A	A	0.00	-	-	-(0 Ø)	A	A	-	A	-	A		
SRLL15		0 Ø	0 Ø	0 M	0 H	/	A	2.88	+	+(L.m)	+(3 Ø)	P	P	2.53	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
SRLL16	1 Ø	1 Ø	4 Ø	4 Ø	+(L.m)	P	2.97	+	+(L.m)	+(3 Ø)	P	P	2.44	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/			
SRLL17	0 Ø	0 Ø	0 Ø	0 Ø	/	A	2.96	+	+(L.m)	+(4 Ø)	P	P	2.99	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/			
SRLL18	2 Ø	2 Ø	3 Ø	4 Ø	+(L.m)	P	2.89	+	+(L.m)	+(4 Ø)	P	P	3.03	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/			
SRLL19	1 Ø	1 Ø	3 L	1 H	+(L.m)	P	2.54	+	+(L.m)	+(3 Ø)	P	P	2.99	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/			
SRLL20	2 Ø	2 Ø	3 Ø	3 Ø	+(L.m)	P	2.53	+	+(L.m)	+(4 Ø)	P	P	3.04	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/			
SRHL1	High contamination level (5 CFU /25 g)	2 Ø	2 Ø	4 Ø	4 Ø	+(L.m)	P	2.38	+	+(L.m)	+(4 Ø)	P	P	2.67	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/	MR: 5/5 MA: 5/5	MR: 5/5 MA: 5/5
SRHL2		3 Ø	2 Ø	4 Ø	4 Ø	+(L.m)	P	2.36	+	+(L.m)	+(3 Ø)	P	P	2.81	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
SRHL3		3 Ø	3 Ø	3 L	1 H	+(L.m)	P	2.31	+	+(L.m)	+(4 Ø)	P	P	2.75	+	+(L.m)	+(4 Ø)	P	P	/	/	/	/		
SRHL4		1 Ø	2 Ø	3 Ø	4 Ø	+(L.m)	P	2.27	+	+(L.m)	+(4 Ø)	P	P	2.78	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		
SRHL5		3 Ø	2 Ø	3 Ø	4 Ø	+(L.m)	P	3.24	+	+(L.m)	+(3 Ø)	P	P	3.25	+	+(L.m)	+(3 Ø)	P	P	/	/	/	/		

### Environmental samples (ISHA 2018)

Category	#	Sample	Contamination			RM: NF EN ISO 11290-1						AM: VIDAS LMO2										Number of positive results per method and inoculation volume			
						Half Fraser		Fraser		Identif-ication	Final result	LPT 1.0 ml				LPT 0.1 mL									
			ALO	Palcam	ALO	Palcam	VT	Result	Conf.1			Conf.2	Final result (0.1)		VT	Result	Conf.1	Conf.2	Final result (0.1)		AM (1ml)	AM (0.1 ml)			
			Strain	Type	Level	ALO	Palcam	ALO	Palcam	Identif-ication	Final result	VT	Result	Conf.1	Conf.2	Conf. 1	Conf. 2	VT	Result	Conf.1	Conf.2	Conf. 1	Conf. 2	AM (1ml)	AM (0.1 ml)
Environmental samples	O1	Processed water 1 (origin: UHT 1)	/	/	/	0Ø	0Ø	0Ø	0Ø	/	A	0.00	-	/	/	A	A	0.00	-	/	/	A	A	0/5	0/5
	O2					0Ø	0Ø	0Ø	0Ø	/	A	0.00	-	/	/	A	A	0.00	-	/	/	A	A		
	O3					0Ø	0Ø	0Ø	0Ø	/	A	0.00	-	/	/	A	A	0.00	-	/	/	A	A		
	O4					0Ø	0Ø	0Ø	0Ø	/	A	0.00	-	/	/	A	A	0.00	-	/	/	A	A		
	O5					0Ø	0Ø	0Ø	0Ø	/	A	0.00	-	/	/	A	A	0.00	-	/	/	A	A		
	f1		3h+Ø	3Ø	4h+Ø	4Ø	L.m	P	2.49	+	L.m	L.m	P	P	2.28	+	L.m	L.m	P	P	MR: 13/20 MA: 14/20	MR: 13/20 MA: 14/20			
	f2		3h+Ø	3Ø	3h+Ø	4Ø	L.m	P	2.59	+	L.m	L.m	P	P	2.33	+	L.m	L.m	P	P					
	f3		0Ø	0Ø	0Ø	0Ø	/	A	2.57	+	L.m	L.m	P	P	2.54	+	L.m	L.m	P	P					
	f4		3h+Ø	3Ø	3h+Ø	3Ø	L.m	P	0.00	-	/	/	A	A	0.00	-	/	/	A	A					
	f5		0Ø	0Ø	0Ø	0Ø	/	A	0.00	-	/	/	A	A	0.00	-	/	/	A	A					
	f6		3h+Ø	3Ø	3h+Ø	3Ø	L.m	P	2.60	+	L.m	L.m	P	P	2.58	+	L.m	L.m	P	P					
	f7		0Ø	0Ø	0Ø	0Ø	/	A	2.57	+	L.m	L.m	P	P	2.46	+	L.m	L.m	P	P					
	f8		3h+Ø	3Ø	4h+Ø	4Ø	L.m	P	0.00	-	/	/	A	A	0.00	-	/	/	A	A					
	f9		3h+Ø	3Ø	3h+Ø	4Ø	L.m	P	2.56	+	L.m	L.m	P	P	2.42	+	L.m	L.m	P	P					
	f10		3h+Ø	3Ø	3h+Ø	3Ø	L.m	P	2.58	+	L.m	L.m	P	P	2.60	+	L.m	L.m	P	P					
	f11		0Ø	0Ø	0Ø	0Ø	/	A	0.00	-	/	/	A	A	0.00	-	/	/	A	A					
	f12		2h+Ø	2Ø	3h+Ø	3Ø	L.m	P	2.56	+	L.m	L.m	P	P	2.38	+	L.m	L.m	P	P					
	f13		3h+Ø	3Ø	3h+Ø	3Ø	L.m	P	0.00	-	/	/	A	A	0.00	-	/	/	A	A					
	f14		0Ø	0Ø	0Ø	0Ø	/	A	2.48	+	L.m	L.m	P	P	2.44	+	L.m	L.m	P	P					
	f15		0Ø	0Ø	0Ø	0Ø	/	A	2.51	+	L.m	L.m	P	P	2.50	+	L.m	L.m	P	P					
	f16		2h+Ø	2Ø	4h+Ø	4Ø	L.m	P	2.52	+	L.m	L.m	P	P	2.42	+	L.m	L.m	P	P					
	f17		3h+Ø	3Ø	3h+Ø	3Ø	L.m	P	2.49	+	L.m	L.m	P	P	2.36	+	L.m	L.m	P	P					
	f18		0Ø	0Ø	0Ø	0Ø	/	A	0.00	-	/	/	A	A	0.00	-	/	/	A	A					
	f19		3h+Ø	3Ø	4h+Ø	4Ø	L.m	P	2.47	+	L.m	L.m	P	P	2.58	+	L.m	L.m	P	P					
	f20		2h+Ø	3Ø	3h+Ø	3Ø	L.m	P	2.54	+	L.m	L.m	P	P	2.33	+	L.m	L.m	P	P					
F1	3h+Ø	3Ø	4h+Ø	3Ø	L.m	P	2.62	+	L.m	L.m	P	P	2.66	+	L.m	L.m	P	P							
F2	3h+Ø	3Ø	3h+Ø	4Ø	L.m	P	2.56	+	L.m	L.m	P	P	2.59	+	L.m	L.m	P	P							
F3	3h+Ø	3Ø	3h+Ø	4Ø	L.m	P	2.58	+	L.m	L.m	P	P	2.45	+	L.m	L.m	P	P							
F4	3h+Ø	3Ø	4h+Ø	3Ø	L.m	P	2.58	+	L.m	L.m	P	P	2.50	+	L.m	L.m	P	P							
F5	3h+Ø	3Ø	4h+Ø	3Ø	L.m	P	2.49	+	L.m	L.m	P	P	2.48	+	L.m	L.m	P	P							

TVC: 240 CFU/g (en)