



ipl santé,  
environnement  
durables

Nord  
filiale de l'Institut Pasteur de Lille



ACCREDITATION  
N°1-2215  
PORTEE  
DISPONIBLE SUR  
WWW.COFRAC.FR

**AFNOR Validation Certification of the VIDAS *Salmonella*  
(VIDAS SLM - ref. 30702)  
Single selective enrichment for the rapid detection  
of *Salmonella***

Certificate number : BIO 12/10 – 09/02

*Comparative and interlaboratory studies according to the  
EN ISO 16140 standard*

**SUMMARY REPORT**

Validation date:	18/09/2002
Renewal dates:	15/09/2006 20/05/2010
End of validity :	18/09/2014

VIDAS SLM SV - Summary 2010 v01

IPL Santé Environnement Durables Nord –1 rue du Professeur Calmette – 59 046 LILLE cedex – France

This report may be reproduced only under the size of full photographic facsimile. The Cofrac accreditation gives evidence only of the competence of the laboratory for the assays or the analyses identified by one « # » on the present document. The conclusions and the other results are not covered by the accreditation. Scope available on [www.cofrac.fr](http://www.cofrac.fr).

## Contents

<b>1</b>	<b>Introduction .....</b>	<b>2</b>
1.1	Validation references .....	2
1.2	Protocol and principle of the alternative method.....	2
1.2.1	Protocol .....	2
1.2.2	Principle of the alternative method.....	2
1.3	Application scope.....	3
1.4	Reference method.....	3
1.5	Background of certification.....	3
<b>2</b>	<b>Comparative study of methods.....</b>	<b>3</b>
2.1	Relative accuracy, relative specificity and relative sensitivity.....	3
2.1.1	Number and nature of the samples.....	3
2.1.2	Artificial contamination of the samples and percentage.....	4
2.1.3	Results.....	4
2.1.4	Calculation of relative accuracy (AC), relative specificity (SP) and relative sensitivity (SE).....	5
2.1.5	Analysis of discrepant results.....	6
2.2	Relative detection level.....	6
2.3	Inclusivity / exclusivity.....	6
2.3.1	Protocols.....	6
2.3.2	Results and conclusion.....	6
<b>3</b>	<b>Interlaboratory study.....</b>	<b>7</b>
3.1	Study organization.....	7
3.2	Control of experimental parameters.....	7
3.2.1	Contamination levels obtained after artificial inoculation.....	7
3.2.2	Problems of temperature recorded during transport, temperature on reception and reception times .....	7
3.2.3	Conclusion.....	7
3.3	Results.....	8
3.3.1	Results obtained by cooperating laboratories.....	8
3.3.2	Conclusion with comments (discordances with expected results, exclusion... for instance).....	8
3.4	Calculations.....	8
3.4.1	Specificity (%SP) and sensitivity (%SE) for both methods.....	8
3.4.2	Relative accuracy (AC) .....	9
3.4.3	Analysis of discrepant results .....	9
3.5	Interpretation.....	9
3.5.1	Comparison of relative accuracy (AC), specificity (SP) and sensitivity (SE) values.....	9
3.5.2	Accordance (DA) .....	10
3.5.3	Concordance.....	10
3.5.4	Odds Ratio (COR) .....	10
<b>4</b>	<b>Praticability.....</b>	<b>10</b>
<b>5</b>	<b>General conclusion.....</b>	<b>12</b>

### Appendices

Study realized by :

**IPL Santé Environnement Durables Nord**  
1 rue du Professeur Calmette  
59046 LILLE cedex  
FRANCE

For :

**BIOMERIEUX**  
Chemin de l'Orme  
69280 MARCY L'ETOILE  
FRANCE

## 1 Introduction

### 1.1 Validation references

The VIDAS SLM method (Single selective enrichment) has been validated in September 2002 according to the AFNOR current requirements, with respect to the reference method EN ISO 6579 (2002), for all human food products and for animal food products, and according to EN ISO 16140 (2003) since renewal in 2006.

### 1.2 Protocol and principle of the alternative method

#### 1.2.1 Protocol

The diagram summarising the method is shown in appendix A.

The method consists of :

- A pre-enrichment of x g (or x ml) sample in 9 x ml of Buffered Peptone Water (BPW) incubated for **16 to 20 hours at 37°C ± 1°C** ,
- Then, an enrichment
  - ↳ transfer of **0.1 ml** pre-enrichment **into 10 ml of Rappaport Vassiliadis Soy broth (RVS)**, incubated **6 to 8 hours at 41.5°C ± 1.0°C**
- Followed by a post-enrichment
  - ↳ inoculation of **1 ml RVS broth into 10 ml M broth**, incubated **16 to 20 hours at 41.5°C ± 1.0°C**

After incubation, homogenize the M Broth.

VIDAS SLM test is then performed from an 1 ml M broth aliquot heated for 15 ± 1 minutes at 95-100°C.

Positive results with VIDAS SLM tests have to be confirmed by isolation of RVS broth incubated for 16-20 hours on *Salmonella* selective medium and realization of tests described in the standardized methods by the CEN, ISO or AFNOR (including the purification step).

Note: Protocol reference is 06984 version (Q).

#### 1.2.2 Principle of the alternative method

The VIDAS<sup>®</sup> *Salmonella* (SLM) assay is an enzyme- immunoassay, for use on the automated VIDAS<sup>®</sup> instruments (see the Operator's Manual) for the detection of *Salmonella* antigens using the ELFA technique (Enzyme Linked Fluorescent Assay).

Each test is composed of two parts :

- the Solid Phase Receptacle (SPR<sup>®</sup>) serves as the solid phase as well as the pipetting device. The interior of the SPR<sup>®</sup> is coated with anti- *Salmonella* antibodies adsorbed onto its surface.
- the strip which contains all the ready-to-use for the assay : pre-wash solution, wash buffer, antibodies anti- *Salmonella* conjugate with alkaline phosphatase and substrate.

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

Part of the enrichment broth is dispensed into the reagent strip. The antigens present will bind to the anti-*Salmonella* antibodies coating the interior of the SPR<sup>®</sup>.

Unbound sample components are eliminated during the washing steps. Antibodies conjugated with alkaline phosphatase are cycled in and out of the SPR<sup>®</sup> and will bind to any *Salmonella* antigens which are themselves bound to the antibodies on the SPR<sup>®</sup> wall. A final wash step removes unbound conjugate.

During the final detection step, the substrate (4-Methyl-umbelliferyl phosphate) is cycled in and out of the SPR<sup>®</sup>. The conjugate enzyme catalyzes the hydrolysis of this substrate into a fluorescent product (4-Methyl-umbelliferone), the fluorescence of which is measured at 450 nm.

At the end of the assay, the results are automatically analyzed by the instrument which calculates a test value for each sample. This value is compared to internal references (thresholds) and each result is interpreted (positive, negative). The RFV (Relative Fluorescence Value) is calculated by subtracting the background reading from the final result. The RFV obtained for each sample is interpreted by the VIDAS<sup>®</sup> system as follows :

Test value(TV) = sample RFV / standard RFV.

If TV < 0.23,      Test is negative  
and  
If TV ≥ 0.23,      Test is positive

## 1.3 Application scope

- First validation (September 2002): all human food products and pet food.
- Extension studies (September 2006 and 2010): compliance with new standard EN ISO 16140 (2003).

## 1.4 Reference method

The validation study was carried out by NF EN ISO 6579: 2002 "Microbiology of food and animal feeding stuffs. Horizontal method for the detection of *Salmonella* spp.» (#)  
The diagram of the method is shown in appendix A.

## 1.5 Background of certification

The modifications intervened in the VIDAS SLM method concern only the validation standard of the method. So, elements kept by the study 2002 as well as the complements to study of 2006 and 2010 renewals of validation of the method VIDAS *Salmonella* are thus realized according to the EN ISO 16140 standard (2003).

Other validation : AOAC OMA 2004.03 Validation

Reference : Evaluation of VIDAS Salmonella (SLM) immunoassay method with Rappaport-Vassiliadis (RV) medium for detection of Salmonella in foods : collaborative study.

McMahon WA, Schultz AM, Johnson RL. J AOAC Int. 2004 Jul-Aug;87(4):867-83.

Standard method used in this study was described in BAM 8<sup>th</sup> edition.

## 2 Comparative study of methods

### 2.1 Relative accuracy, relative specificity and relative sensitivity

The aim of the study, according to the reference document NF EN ISO 16140, is to compare the performances of the two methods :

- the reference method EN ISO 6579: 2002,
  - the VIDAS<sup>®</sup> *Salmonella* (SLM) method,
- on samples naturally contaminated and not contaminated with *Salmonella*.

#### 2.1.1 Number and nature of the samples

According to the EN ISO 16140 standard, a minimum of 60 products per category must be analyzed, with around 50% of positive products (at least 30 results) and 50% of negative products.

During the 2002 initial validation and 2006 extension study, samples distributed in five categories were analyzed according current standard EN ISO 6579: 2002.

**189** results of initial validation (2002) were preserved (134 negative results and 55 naturally positive samples) and were completed during last renewal study (2006) by **139** results, to obtain 60 products required by category, distributed in the various types.

Each category was divided into various types and the results are displayed as follows:

Categories	Types	Positive*		Negative		Total
		2002	2006	2002	2006	
Meat products	Raw meats	16	0	17	0	33
	Poultry	10	0	8	0	18
	Delicatessen, ...	4	0	8	0	12
	<b>Total</b>	<b>30</b>	<b>0</b>	<b>33</b>	<b>0</b>	<b>63</b>
Dairy products	Raw milk cheeses	2	8	15	0	25
	Pasteurized milk cheeses and ice cream	0	10	8	0	18
	Milks and milk powders	4	6	8	5	23
	<b>Total</b>	<b>6</b>	<b>24</b>	<b>31</b>	<b>5</b>	<b>66</b>
Seafood products and vegetables	Fish fillets and shellfish	0	10	9	1	20
	Raw vegetables and spices	0	10	10	8	28
	Ready-to-eat vegetables	0	10	3	4	17
	<b>Total</b>	<b>0</b>	<b>30</b>	<b>22</b>	<b>13</b>	<b>65</b>
Miscellaneous	Egg products	7	5	8	0	20
	Pastries / chocolate	5	5	26	0	36
	Ready-to-eat meals	0	10	2	4	16
	<b>Total</b>	<b>12</b>	<b>20</b>	<b>36</b>	<b>4</b>	<b>72</b>
Feed	Pâtés	2	10	2	9	23
	Meals and dry pet foods	0	10	3	7	20
	Raw meat for animals	5	3	7	4	19
	<b>Total</b>	<b>7</b>	<b>23</b>	<b>12</b>	<b>20</b>	<b>62</b>
<b>TOTAL</b>		<b>55</b>	<b>97</b>	<b>134</b>	<b>42</b>	<b>328</b>

\*these are positive results by either one or two methods

### 2.1.2 Artificial contamination of the samples and percentage

Artificial contamination was achieved by using stressed bacterial suspensions, the stress treatment and efficiency of which have been determined according to EN ISO 16140 and AFNOR validation rules.

87 samples were positive after artificial contamination on a total of 152 positive results of *Salmonella*.

In total, 57 % of positive results were obtained as a result of artificial contamination.

### 2.1.3 Results

All samples were analyzed **in single** by the **two methods**.

Individual results (328 samples) are presented in appendix B.

The overall results are shown in the summary table below :

	Positive reference method (R+)	Negative reference method (R-)	Total
Positive alternative method (A+)	Positive agreement (A+/R+) <b>PA = 150</b>	Positive deviation (R-/A+) <b>PD = 0</b>	150
Negative alternative method (A-)	Negative deviation (A-/R+) <b>ND = 2*</b>	Negative agreement (A-/R-) <b>NA = 176*</b>	178
Total	152	176	328

Legend:

A+ = positive confirmed

A- = immediate negatives **and** negatives after confirmation when presumed positive

\* not including any non-confirmed positive VIDAS SLM result

The results by samples categories are presented below :

Meat products (63)	Positive reference method (R+)	Negative reference method (R-)
Positive alternative method (A+)	Positive agreement (A+/R+) <b>PA = 30</b>	Positive deviation (R-/A+) <b>PD = 0</b>
Negative alternative method (A-)	Negative deviation (A-/R+) <b>ND = 0</b>	Negative agreement (A-/R-) <b>NA = 33</b>

Dairy products (66)	<b>Positive reference method (R+)</b>	<b>Negative reference method (R-)</b>
<b>Positive alternative method (A+)</b>	Positive agreement (A+/R+) <b>PA = 29</b>	Positive deviation (R-/A+) <b>PD = 0</b>
<b>Negative alternative method (A-)</b>	Negative deviation (A-/R+) <b>ND = 1</b>	Negative agreement (A-/R-) <b>NA = 36</b>

Seafood (20) and vegetables (45)	<b>Positive reference method (R+)</b>	<b>Negative reference method (R-)</b>
<b>Positive alternative method (A+)</b>	Positive agreement (A+/R+) <b>PA = 30</b>	Positive deviation (R-/A+) <b>PD = 0</b>
<b>Negative alternative method (A-)</b>	Negative deviation (A-/R+) <b>ND = 0</b>	Negative agreement (A-/R-) <b>NA = 35</b>

Miscellaneous (72)	<b>Positive reference method (R+)</b>	<b>Negative reference method (R-)</b>
<b>Positive alternative method (A+)</b>	Positive agreement (A+/R+) <b>PA = 31</b>	Positive deviation (R-/A+) <b>PD = 0</b>
<b>Negative alternative method (A-)</b>	Negative deviation (A-/R+) <b>ND = 1</b>	Negative agreement (A-/R-) <b>NA = 40</b>

Feed (62)	<b>Positive reference method (R+)</b>	<b>Negative reference method (R-)</b>
<b>Positive alternative method (A+)</b>	Positive agreement (A+/R+) <b>PA = 30</b>	Positive deviation (R-/A+) <b>PD = 0</b>
<b>Negative alternative method (A-)</b>	Negative deviation (A-/R+) <b>ND = 0</b>	Negative agreement (A-/R-) <b>NA = 32</b>

#### 2.1.4 Calculation of relative accuracy (AC), relative specificity (SP) and relative sensitivity (SE)

All previous results were used to calculate the relative accuracy, relative sensitivity and relative specificity for each category, according to the EN ISO 16140 standard.

The results are summarised in the table below:

Catégorie	PA	NA	ND	PD	Sum N	Relative accuracy AC (%) [100x(PA+NA)]/N	N+ PA + ND	Relative sensitivity SE (%) [100xPA]/N+	N- NA + PD	Relative specificity SP (%) [100xNA]/N-
Meat products	30	33	0	0	63	100.0	30	100.0	33	100.0
Dairy products	29	36	1	0	66	98.5	30	96.7	36	100.0
Seafood & vegetables	30	35	0	0	65	100.0	30	100.0	35	100.0
Miscellaneous	31	40	1	0	72	98.6	32	96.9	40	100.0
Feed	30	32	0	0	62	100.0	30	100.0	32	100.0
<b>TOTAL</b>	<b>150</b>	<b>176</b>	<b>2</b>	<b>0</b>	<b>328</b>	<b>99.4</b>	<b>152</b>	<b>98.7</b>	<b>176</b>	<b>100.0</b>

The percentage values of the alternative method calculated for the following three criteria according to the EN ISO 16140 standard were :

Relative accuracy: AC	<b>99.4 %</b>
Relative specificity : SP	<b>100.0 %</b>
Relative sensitivity : SE	<b>98.7 %</b>

The AFNOR technical committee asks the sensitivity of both methods to be calculated with consideration of all the confirmed positives (this includes the additional positives of the alternative method) :

	<b>Alternative method</b>	<b>Reference method</b>
Sensibility	$(PA + PD) / (PA + PD + ND) = 98.7 \%$	$(PA + ND) / (PA + PD + ND) = 100.0 \%$

### 2.1.5 Analysis of discrepant results

According to annex F of the EN ISO 16140 standard, the minimum number of discordances for which a statistical test must be conducted in order to compare the two methods is 6.

The number of discrepant results between the reference method and the alternative method was 2. No statistical test was performed.

Both methods are **not different** in statistical terms.

## 2.2. Relative detection level

The objective was to determine the level of contamination that can be detected in the sample in 50% occasions by the alternative and reference methods.

Different « food matrix strain » associations were studied in parallel with the reference method and the VIDAS SLM method (single enrichment), for the five representative studied categories.

The artificial contaminations were realized according to EN ISO 16140 and AFNOR validation rules.

The levels of detection, calculated according to the Spearman – Kärber<sup>(1)</sup> method (LOD<sub>50</sub>), obtained for each combination “matrix-strain” are the following:

Matrix	Strain	Relative detection level(CFU/ 25 g or 25 ml) with confidence interval <sup>(2)</sup> LOD <sub>50</sub>	
		Reference method	Alternative method
Poultry minced meat	<i>Salmonella</i> Hadar	0,5 [0,3 – 0,9]	0,5 [0,3 – 0,9]
Raw meat	<i>Salmonella</i> Typhimurium	0,7 [0,4 – 1,1]	0,9 [0,5 – 1,7]
Fish fillet	<i>Salmonella</i> Enteritidis	0,7 [0,3 – 1,4]	0,7 [0,3 – 1,4]
Liquid raw egg	<i>Salmonella</i> Virchow	0,4 [0,3 – 0,5]	0,4 [0,3 – 0,5]
Pâté for animals	<i>Salmonella</i> Senftenberg	0,7 [0,5 – 1,1]	0,7 [0,5 – 1,1]

<sup>(1)</sup>Hitchins A. *Proposed Use of a 50% Limit of Detection Value in Defining Uncertainty Limits in the Validation of Presence-Absence Microbial Detection Methods, Draft 10<sup>th</sup> December, 2003.*

<sup>(2)</sup> LOD<sub>50</sub>: estimation of level of contamination enabling positive detection by alternative method in 50 % of cases

The level of detection of the reference method was between 0.3 and 1.4 CFU/25 g. That of the VIDAS SLM method was between 0.3 and 1.7 CFU/ 25 g.

## 2.3 Inclusivity / exclusivity

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

The study of specificity was performed in general in 2006. A complement of inclusivity (11 strains) was done in 2010 renewal.

### 2.3.1 Protocols

#### Protocol for inclusivity

A culture of each *Salmonella* strains was prepared in a Buffered Peptone Water (BPW). A new BPW was inoculated with around 10 *Salmonella* per 225 ml and incubated at 37°C, and enrichment protocol (inoculation in RVS, then in M broth) was realized before performing VIDAS SLM test.

#### Protocol for exclusivity

The different negative strains were cultivated in non selective broth from levels of around 10<sup>5</sup> CFU/ml before performing VIDAS SLM test.

### 2.3.2 Results and conclusion

The results are presented in appendix C.

All the 62 strains of *Salmonella* tested were detected.

The study of 30 strains not belonging to the genus *Salmonella* showed cross reactions with two strains of *Citrobacter* (*Citrobacter diversus* and *Citrobacter freundii*). These strains were not detected by reference method.

### 3 Interlaboratory study

The aim of the interlaboratory study was to determine the variability of the results obtained in different laboratories using identical samples and to compare these results with those obtained in the methods comparison study.

#### 3.1 Study organization

- Number of participating laboratories: The inter-laboratory study was conducted in 2006 with 15 participating laboratories.
- Matrix used: pasteurized milk (25 ml).
- Strain: *Salmonella* Typhimurium (origin "dairy products").
- Number of samples per laboratory: 24 samples per laboratory were prepared to represent 3 levels of contamination, with 8 samples per level for each method.

#### 3.2 Control of experimental parameters

##### 3.2.1 Contamination levels obtained after artificial contamination

The following table shows the contamination rates obtained and estimated precisions :

Level	Samples	Targeted theoretical rate (CFU/25ml)	Real rate (CFU/25ml)	Estimated lower contamination limit per 25 ml sample	Estimated upper contamination limit per 25 ml sample
Level 0 (L0)	1-4-7-10-11-16-19-22	0	0	/	/
Low level (L1)	2-5-8-12-13-17-20-23	3	4.0	1.1	10.3
High level (L2)	3-6-9-14-15-18-21-24	30	42.9	30.6	58.4

##### 3.2.2 Problems of temperature recorded during transport, temperature on reception and reception times

###### a) Analysis of temperature monitoring curves during transport

Temperatures registered by thermo button during shipment were stables and inferior to 8°C until the reception date (D+1).

###### b) Temperatures on reception and reception times

The temperatures obtained are recorded in the following table:

Laboratory	Temperatures at receipt (°C)		Comments
	Measured by the laboratory	Thermobutton record	
A	16.4	8.8	Reception at D2
B	/	/	Reception at D2
C	8.0	7.7	
D	9.7	3.7	
E	7.0	8.2	
F	Not communicated	2.7	
G	/	16.3	Reception at D2
H	Not communicated	Not received	
I	3.9	4.5	
J	1.1	5.2	
K	1.0	1.2	
L	3.0	2.7	
M	8.0	3.7	
N	3.4	7.7	
O	8.8	3.7	

##### 3.2.3 Conclusion

Among the 15 laboratories, 12 laboratories received samples the day after the sending. After analysis of temperature curves, the delivery temperatures were acceptable for all of them.

Note: The laboratory H received samples for the deadlines, but did not communicate us its temperature with reception. And we don't receive thermoprobe. Nevertheless, consider temperatures reception obtained by the other laboratories and the profiles of temperature during the transport, its results are exploitable.

So **12 laboratories** performed the analysis.

## 3.3 Results

### 3.3.1 Results obtained by cooperating laboratories

Laboratory F did not analyze samples according to VIDAS SLM single enrichment method. The results are summarized in the following tables for 11 laboratories.

**Positive results obtained with the reference method**

Laboratory	Levels of contamination					
	L0		L1		L2	
	Positive results	Total samples	Positive results	Total samples	Positive results	Total samples
C	0	8	8	8	8	8
D	0	8	8	8	8	8
E	8	8	8	8	8	8
H	0	8	8	8	8	8
I	0	7	8	8	8	8
J	0	8	8	8	8	8
K	0	8	8	8	8	8
L	0	8	8	8	8	8
M	0	8	8	8	8	8
N	0	8	8	8	8	8
O	0	8	8	8	8	8
Total	8	87	88	88	88	88
	(a)		(b)		(c)	

**Positive results obtained with the alternative method**

Laboratory	Levels of contamination					
	L0		L1		L2	
	Positive results	Total samples	Positive results	Total samples	Positive results	Total samples
C	0	8	8	8	8	8
D	0	8	8	8	8	8
E	7	8	8	8	8	8
H	0	8	8	8	8	8
I	0	8	8	8	8	8
J	0	8	8	8	8	8
K	0	8	8	8	8	8
L	0	8	8	8	8	8
M	0	8	8	8	8	8
N	0	8	8	8	8	8
O	0	8	8	8	8	8
Total	7	88	88	88	88	88
	(a)		(b)		(c)	

(a) : False positive

(b) : True positive at level 1

(c) : True positive at level 2

### 3.3.2 Conclusion with comments (discordances with expected results, exclusions... for instance)

Results of lab E were all positive including not contaminated samples. The *Salmonella* strain found in the not contaminated samples was the same that introduced into the contaminated samples. An intercontamination credibly took place, either during the preparation of the pre-enrichment, or at the time of the inoculation of RVS and MKTTn, or of the transfer of the RVS in M broth. Thus laboratory E was excluded of the results.

So, the **results** of the reference method and the alternative method **were in agreement** for 10 laboratories that performed the analyses.

## 3.4 Calculations

The results of 10 laboratories were considered.

*Note : the positive results of the alternative method were all confirmed.*

### 3.4.1 Specificity percentage (% SP) and sensitivity percentage (% SE) for both methods

The percentages of specificity (SP) and sensitivity (SE) were calculated according to the EN ISO 16140.

**At level L0**, the specificity percentage (%SP) is calculated as follows:

$$SP = \{1 - (FP/N_-)\} \times 100$$

where FP, number of false positives  
N-, total number of tests L0

At levels L1 and L2, the sensitivity percentage (%SE) is calculated as follows:

$$SE = (TP/N+) \times 100$$

where TP, number of true positives  
N+, total number of tests L1 or L2

The results are given in the following table :

Level	Reference method		Alternative method	
	SP/SE	LCL* %	SP/SE	LCL* %
L0	SP% = 100	98	SP% = 100	98
L1	SE% = 100	98	SE% = 100	98
L2	SE% = 100	98	SE% = 100	98
L1+L2	SE% = 100	98	SE% = 100	98

\* LCL : low critical value, defined by EN ISO 16140 standard

### 3.4.2 Relative accuracy (AC)

The relative accuracy is calculated using the following formula:

$$AC = \{(PA + NA) / N\} \times 100$$

where PA, number of positive agreements  
NA, number of negative agreements

The results for all the samples are resumed below.

	Positive reference method (R+)	Negative reference method (R-)	Total
<b>Positive alternative method (A+)</b>	Positive agreement (A+/R+) PA = 160	Positive Deviation (R-/A+) PD = 0	<b>(N+) = 160</b>
<b>Negative alternative method (A-)</b>	Negative deviation (A-/R+) ND = 0*	Negative agreement (A-/R-) NA = 79*	<b>(N-) = 79</b>
<b>Total</b>	<b>(N+) = 160</b>	<b>(N-) = 79</b>	<b>N = 239</b>

\* including none not confirmed positive VIDAS SLM test

In this study, **relative accuracy was 100%**.

### 3.4.3 Analysis of discrepant results

As defined in annex F of the EN ISO 16140 standard, the minimum number of discordances beyond which a statistical test must be carried out to compare the two methods is 6.

No statistical test was performed, because there was no discrepant result between the reference method and the alternative method.

## 3.5 Interpretation

### 3.5.1 Comparison of relative accuracy (AC), specificity (SP) and sensitivity (SE) values

The values obtained in the two parts of the validation study are given in the following table:

	Interlaboratory study	Comparative study
<b>Relative accuracy (AC)</b>	100.0 %	99.4 %
<b>Sensitivity (SE)</b>	100.0 %	98.7 %
<b>Specificity (SP)</b>	100.0 %	100.0 %

The values obtained following the interlaboratory study are similar to the values obtained during the preliminary study.

The AFNOR Technical Committee requests the calculation of the **sensitivity** of the both methods with consideration of all confirmed positives (true positive results):

Alternative method	Reference method
$(PA + PD) / (PA + PD + ND) = 100 \%$	$(PA + ND) / (PA + PD + ND) = 100\%$

### 3.5.2 Accordance (DA)

The accordance is the percentage chance of finding the same result from two identical test portions analyzed in the same laboratory under repeatability conditions : a single operator using the same instrument and the same reagents within the shortest feasible time interval.

The first step to calculate the accordance is to calculate the probability that two identical samples give the same result for each of the participating laboratories, and then to determine the average of the probabilities of all laboratories.

The different tables used to determine the accordance are given in appendix D and the accordance of each method at each level is given in the following table:

Level	Reference method	Alternative method
L0	DA % = 100 %	DA % = 100 %
L1	DA % = 100 %	DA % = 100 %
L2	DA % = 100 %	DA % = 100 %

### 3.5.3 Concordance

The concordance is the percentage chance of finding the same result for two identical samples analyzed in two different laboratories. The objective is to calculate the percentage of all pairs giving the same results on all possible pairs of results. Result of the calculations are shown in tables in appendix E and the concordance of each method at each level is given in the following table:

Level	Reference method	Alternative method
L0	Concordance % = 98.8 %*	Concordance % = 100 %
L1	Concordance % = 100.0 %	Concordance % = 100 %
L2	Concordance % = 100.0 %	Concordance % = 100 %

\* The percentage of concordance of L0 level was lower than 100 %, due to the fact that the laboratory I supplied only 7 results on 8 for the reference method, because of a problem during the assays.

### 3.5.4 Odds Ratio (COR)

The concordance odds ratio is calculated using the following formula:

$$COR = \frac{\text{accordance} \times (100 - \text{concordance})}{\text{concordance} \times (100 - \text{accordance})}$$

The concordance odds ratio of each method and at each level is given in the following table:

Level	Reference method	Alternative method
L0	COR % = 1.01	COR % = 1.00
L1	COR % = 1.00	COR % = 1.00
L2	COR % = 1.00	COR % = 1.00

A value of 1.00 for the Odds ratio means that accordance and concordance are equal. When the Odds ratio increases, the interlaboratory variation becomes more predominant.

## 4 Praticability

Praticability is studied as a function of the 13 criteria defined by the technical committee in comparing the reference method to the VIDAS SLM single enrichment method.

The criteria defined by the AFNOR are informed below:

<p>1. <i>Packaging mode of the components of the method (cf package insert)</i></p> <p>2. <i>Reagent volumes (cf package insert and vial packaging)</i></p>	<p>The VIDAS SLM kits contain the quantity of reagent necessary for 60 analyses :</p> <ul style="list-style-type: none"> <li>- the SLM strips composed of 10 wells covered with a labelled, foil seal, with ready-to-use reagents</li> <li>- the SLM SPR® in 30 units per pouch (ready-to-use)</li> <li>- one vial of SLM standard (S1) : ready-to-use 1x 6 ml</li> <li>- one vial of SLM Positive Control (C1) : ready-to-use 1x 6 ml</li> <li>- one vial of SLM Negative Control (C2) : ready-to-use 1x 6 ml</li> </ul>
<p>3. <i>Storage conditions of the components (cf package insert) – Expiry of products not opened (cf package insert)</i></p>	<p>The storage temperature of the VIDAS SLM kit is at 2°C - 8°C. Store all unused reagent at 2°C - 8°C.</p> <p>The kit expiry date is shown on the box label and on the different vials.</p>

4. Modalities of use after first use (cf package insert)	The kit components should be stored between +2°C and +8°C. If stored according to the recommended conditions (pouch correctly resealed with desiccant after use...), all components are stable until the expiration date indicated on the label.
5. Equipments or necessary specific premises (cf package insert)	Normal configuration of and common material of a laboratory of microbiology Necessary equipment : - mixer typifies to stomacher, - an air incubator at 37°C ± 1°C, - an air incubator at 41.5°C ± 1.0°C, - a water bath at 95-100°C or equivalent system, - a VIDAS® instrument
6. Reagents ready for use or to be reconstituted (cf package insert)	All the reagents are ready-to-use.
7. Duration of training of the operator not familiar with the method	For an operator trained in standard techniques of microbiology, training in the technique requires less than 1 day.

#### 8. Real time handling – Flexibility of the technique relative to the number of samples to be analysed

Steps	Average time for a sample (min)		Average time for 30 samples(min)	
	Norme	Alternative	Norme	Alternative
Preparation, weighing, dilution in BPW and crushing	7	7	90	90
Transfer to selective broths: - RVS and MKTTn - RVS and M broth	3	1	45	25
VIDAS SLM test (heating, washing, OD reading...)	/	1	/	25
Streaking of RVS and MKTTn after 24h incubation on two selective media, including plates notes and readings	10	/	150	/
<b>TOTAL</b>	20 minutes 0h20	9 minutes 0h09	285 minutes 4h40	140 minutes 2h20

These times correspond to negative samples for which no confirmation is necessary.

In the case of positive samples, it is necessary to add the time necessary for the confirmations.

For alternative method, in case of positive samples, the requested time for isolation of enrichment onto selective media must be added (approximately 1 minute per sample).

And the average time for the confirmation of a typical colony by reference method tests can be evaluated to approximately 5 minutes.

The interest of the alternative method is the possibility of screening the negative samples and of reducing the number of confirmations.

#### 9. Time to result

Step	Time required (Day) VIDAS SLM <i>single</i> enrichment method	Time required (Day) Reference method ISO 6579 (#)
Realization of pre-enrichment	D0	D0
Inoculations of enrichment broths (Rappaport-Vassiliadis Soja, MKTTn, M)	D1	D1
VIDAS SLM test procedure	D2	/
Streaking of RVS and MKTTn on selective media	/	D2
Reading the plates	/	D3 to J4
<b>Test result</b>		
<b>Obtaining negative results</b> (if negative test, if no characteristic colony or after negative confirmation if necessary)	<b>D2</b>	<b>D3 to D7</b>
Tests de confirmation	/	D3 to D7
<b>Obtaining positive results</b> (after confirmation of typical colonies)	<b>D5 to D7</b>	<b>D5 to D7</b>
Confirmation by reference method tests (including purification)	D5 to D7	D5 to D7

10. Type of qualification of the operator	Same as for the reference method.
11. Steps common to the reference method	Pre-enrichment in BPW Confirmations
12. Traceability of the analysis results	1 MLE card (Master Lot Entry) : specifications sheet containing the factory master calibration data required to calibrate the test. A result sheet is printed with the reagents lot numbers, time, test result, and sample identification and interpretation.
13. Maintenance by the laboratory	The VIDAS user's guide explains some problems. BioMerieux offers a phone customer technical support for the possible problems. Different maintenance contracts are possible.

## 5 General conclusion

The validation study of the methods was conducted according to the reference document EN ISO 16 140 (2003).

The **comparative study** allows assessing :

- the relative accuracy, the relative sensitivity and the relative specificity,
- the relative detection level,
- the inclusivity and the exclusivity.

The performances of the VIDAS SLM single enrichment method were compared with those in the reference method EN ISO 6579 (2002) by the analysis of 328 samples distributed in five categories of products.

The relative accuracy obtained was 99.4 %, the relative sensitivity 98.7 % and the relative specificity 100.0 %, according to the calculations required by the EN ISO 16140 standard.

Because the positive samples by the alternative method are positive confirmed samples, the sensitivities were recalculated relative to all positive results according to the calculations recommended by the AFNOR and are of 98.7 % for the alternative method and 100.0 % for the reference method.

In final, no discordance was observed, both methods were considered as statistically equivalent.

The relative level of detection of the VIDAS SLM single enrichment method and of the reference method was evaluated by artificial contaminations of five different products, representative of five categories tested.

It was between 0.3 and 1.7 *Salmonella* cells per 25 g or ml for alternative method and between 0.3 and 1.4 *Salmonella* cells per 25 g or ml for the reference method.

All the strains of *Salmonella* were detected (inclusivity) and one cross reaction was observed with a strain of *Citrobacter diversus* (exclusivity).

The **interlaboratory study** results obtained for all of the 10 selected laboratories show that the alternative method and the reference method have comparable values of relative accuracy, specificity and sensitivity and are of the same order as those obtained during the preliminary study.

The variability of the alternative method (accordance, concordance, Odds ratio) is comparable with the variability of the reference method.

Set of results led to **AFNOR VALIDATION certification and extension of AFNOR VALIDATION** according to EN ISO 16140, of the VIDAS SLM single enrichment method (certificate n°BIO 12/10 – 09/02), for the detection of *Salmonella* in all human food products and for animal food products, **for a 4 years period**.

Lille, December 23th 2010

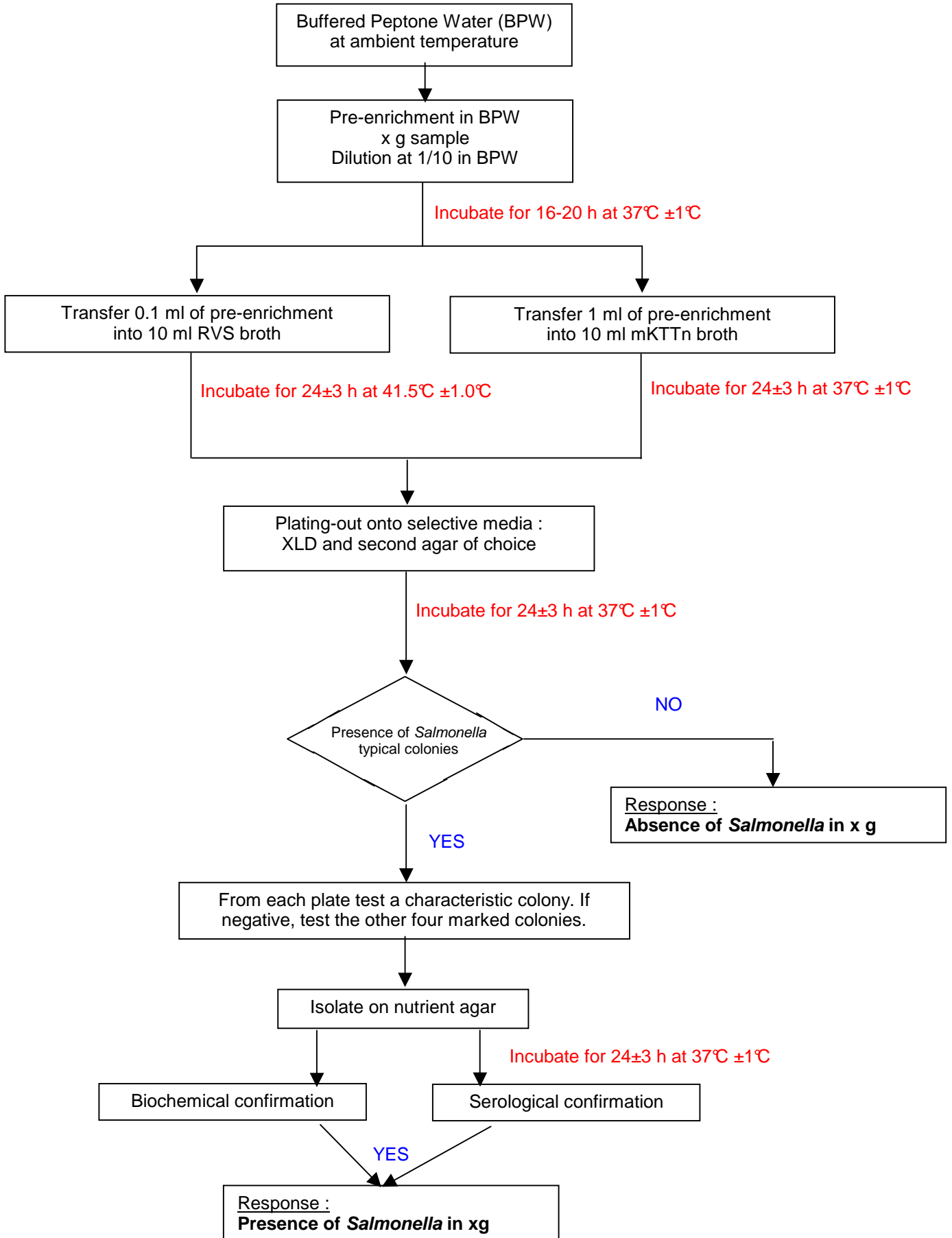
Virginie Ewe  
Technical manager

# APPENDICES

## APPENDIX A

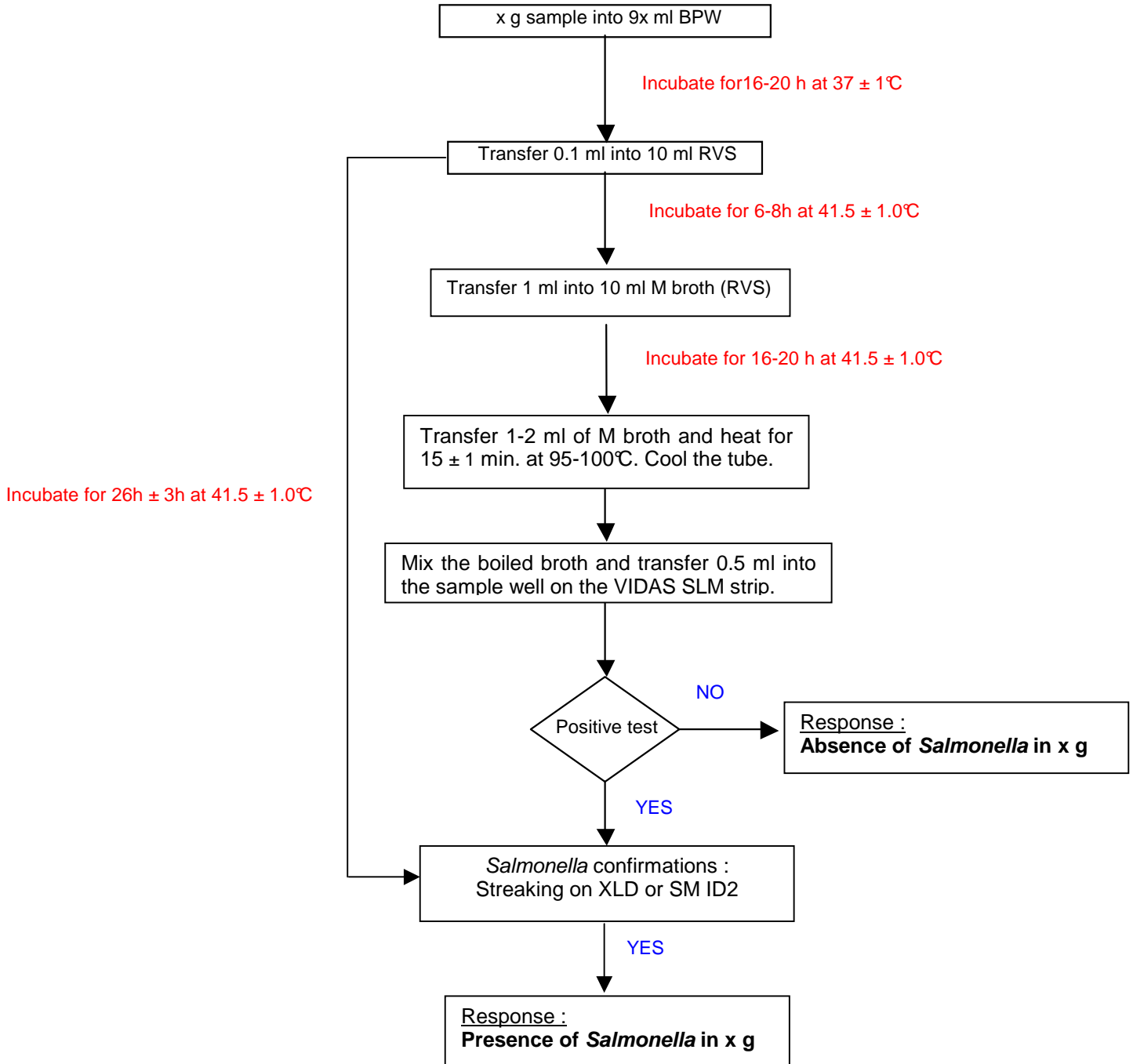
# ANALYTICAL PROTOCOLS

# EN ISO STANDARD 6579 :2002



# ALTERNATIVE METHOD

## VIDAS SLM – Single enrichment protocol



## APPENDIX B

RELATIVE ACCURACY, RELATIVE SPECIFICITE,  
RELATIVE SENSITIVITY

-

DETAILED RESULTS TABLES  
FOR EACH SAMPLE CATEGORY

## LEGEND

### Total bacteria growth

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

### Distribution of flora

A = pure culture of suspicious colonies  
B = mix with a majority of suspicious colonies  
C = mix with a minority of suspicious colonies  
D = mix with rare suspicious colonies  
E = absence of suspicious colonies  
(x) : x typical colonies of *Salmonella* if  $x \leq 5$

*Cf* : *Citrobacter freundii*  
*Ec* : *Escherichia coli*  
*En* : *Enterobacter*  
*Ha* : *Hafnia alvei*  
*Pm* : *Proteus mirabilis*

*a* : incubation of M broth for 24h of overtime  
*b* : realization of a new M broth from RVS broth incubated 24h

CA : artificial contamination

### Categories of samples :

MP : Meat Products  
DP : Dairy Products  
SF : Seafood  
V : Vegetables  
D : Diverse food products  
F : Animal feed

**Meat products**

Reference	Sample	Cat.	CA	EN ISO 6579 standard #						VIDAS SLM Single Enrichment Alternative method							Comparison
				RVS		MKTTn		Identification	Result	RFV	VT	Test result	Confirmation			Result	
				XLD	SM ID2	XLD	SM ID2						XLD	SM ID2	Identification		
								XLD	SM ID2	Identification	Result						
2002	Pork belly	MP1	No	-ME	-ME	-HE	-ME	/	-		0.03	-	/	/	/	-	=
2002	Pork tongue	MP1	No	-ME	-LE	-ME	-ME	/	-		0.03	-	/	/	/	-	=
2002	Heart of ox	MP1	No	-HE	-ME	-HE	-LE	/	-		0.03	-	/	/	/	-	=
2002	Pork cheeks	MP1	No	-HE	-LE	-HE	-LE	/	-		0.04	-	/	/	/	-	=
2002	Pork kidneys	MP1	No	-LE	-LE	-HE	-LE	/	-		0.04	-	/	/	/	-	=
2002	Pork cheeks	MP1	No	-LE	-LE	-LE	-ME	/	-		0.04	-	/	/	/	-	=
2002	Pork tongue	MP1	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=
2002	Pork tongue	MP1	No	-ME	-ME	-HD (En)	-HD (Ha)	/	-		0.04	-	/	/	/	-	=
2002	Kidneys of ox	MP1	No	-LE	Ø	-LE	-HD (Ha)	/	-		0.10	-	/	/	/	-	=
2002	Kidneys of ox	MP1	No	-ME	-LE	-HD (Cf)	-HD (Cf,Ha)	/	-		0.05	-	/	/	/	-	=
2002	Calf's liver	MP1	No	-LD (Cf)	-MD (Ha)	-HE	-HE	/	-		0.09	-	/	/	/	-	=
2002	Pork's liver	MP1	No	-ME	-ME	-HE	-HE	/	-		0.04	-	/	/	/	-	=
2002	Beefsteak of horse	MP1	No	-ME	-ME	-HE	-HE	/	-		0.05	-	/	/	/	-	=
2002	Horse meat	MP1	No	-LE	-LE	-HE	-HE	/	-		0.05	-	/	/	/	-	=
2002	Bovine meat	MP1	No	-ME	-ME	-HE	-HE	/	-		0.03	-	/	/	/	-	=
2002	Pork chop	MP1	No	-ME	-ME	-ME	-ME	/	-		0.04	-	/	/	/	-	=
2002	Sirloin	MP1	No	-ME	-ME	-HE	-HE	/	-		0.04	-	/	/	/	-	=
2002	Pork cheek	MP1	No	+MD	-LD (En)	+MB	+MB	Salmonella spp	+		1.70	+	+MD	-LD (En)	Salmonella spp	+	=
2002	Pork tongue	MP1	No	+LD	+LD	+MD	+LD	Salmonella spp	+		2.60	+	+LD	+LD	Salmonella spp	+	=
2002	Roast pork	MP1	No	+LB	+LB	+HB	+MB	Salmonella spp	+		2.25	+	+LB	+LB	Salmonella spp	+	=
2002	Pork tongue	MP1	No	+LB	+LC	+LC	+LB	Salmonella spp	+		2.68	+	+LB	+LC	Salmonella spp	+	=
2002	Pork's liver	MP1	No	+LB	+LC	+HC	+MB	Salmonella spp	+		2.15	+	+LB	+LC	Salmonella spp	+	=
2002	Pork tongue	MP1	No	+MB	+MC	+HC	+HC	Salmonella spp	+		2.94	+	+MB	+MC	Salmonella spp	+	=
2002	Veal breast	MP1	No	+LC	+LC	+MB	+MB	Salmonella spp	+		2.29	+	+LC	+LC	Salmonella spp	+	=
2002	Bacon	MP1	No	+MB	+MB	+MB	+MB	Salmonella spp	+		2.49	+	+MB	+MB	Salmonella spp	+	=
2002	Pork tongue	MP1	No	+MB	+MC	+HC	+HC	Salmonella spp	+		2.94	+	+MB	+MC	Salmonella spp	+	=
2002	Pork cheeks	MP1	No	+MB	+MB	+MB	+LB	Salmonella spp	+		2.45	+	+MB	+MB	Salmonella spp	+	=
2002	Kidneys	MP1	No	+MB	+MB	+HB	+HB	Salmonella spp	+		2.20	+	+MB	+MB	Salmonella spp	+	=
2002	Minced meat	MP1	No	+MB	+MB	+MB	+MB	Salmonella spp	+		2.61	+	+MB	+MB	Salmonella spp	+	=
2002	Minced meat	MP1	No	+MB	+MB	+MB	+MB	Salmonella spp	+		2.48	+	+MB	+MB	Salmonella spp	+	=
2002	Pork kidneys	MP1	No	+MB	+MB	+MB	+MB	Salmonella spp	+		2.36	+	+MB	+MB	Salmonella spp	+	=
2002	Pork kidneys	MP1	No	+MB	+MB	+MB	+MB	Salmonella spp	+		2.92	+	+MB	+MB	Salmonella spp	+	=
2002	Minced meat of horse	MP1	No	+MB	+MB	+MB	+MB	Salmonella spp	+		3.19	+	+MB	+MB	Salmonella spp	+	=
2002	Hen	MP2	No	-ME	-LE	-HE	-LE	/	-		0.03	-	/	/	/	-	=
2002	Chicken	MP2	No	-ME	-LE	-LE	-LE	/	-		0.03	-	/	/	/	-	=
2002	Chicken liver	MP2	No	-ME	-LE	-ME	-LE	/	-		0.04	-	/	/	/	-	=
2002	Chicken liver	MP2	No	-ME	-LE	-HE	-ME	/	-		0.03	-	/	/	/	-	=
2002	Chicken liver	MP2	No	-ME	-LE	-ME	-LE	/	-		0.04	-	/	/	/	-	=
2002	Duck liver	MP2	No	-ME	-LE	-ME	-MD (En)	/	-		0.04	-	/	/	/	-	=
2002	Chicken breasts	MP2	No	-HE	-LE	-HE	-LD (En)	/	-		0.04	-	/	/	/	-	=
2002	Chicken	MP2	No	-ME	-LE	-LE	-LE	/	-		0.04	-	/	/	/	-	=
2002	Thigh of guinea fowl	MP2	No	+HD	+MB	-ME	+MB	Salmonella spp	+		2.69	+	+HD	+MB	Salmonella spp	+	=
2002	Chicken liver	MP2	No	+MB	+LC	+MC	+HB	Salmonella spp	+		2.44	+	+MB	+LC	Salmonella spp	+	=
2002	Chicken liver	MP2	No	+HB	+LB	+HB	+HB	Salmonella spp	+		2.46	+	+HB	+LB	Salmonella spp	+	=
2002	Thigh of poultry	MP2	No	+LB	+LB	+HB	+HB	Salmonella spp	+		2.66	+	+LB	+LB	Salmonella spp	+	=
2002	Thigh of can	MP2	No	+MB	+MB	+MB	+MB	Salmonella spp	+		2.75	+	+MB	+MB	Salmonella spp	+	=
2002	Chicken giblets	MP2	No	+LB	+LB	+HB	+HB	Salmonella spp	+		2.35	+	+LB	+LB	Salmonella spp	+	=
2002	Hen	MP2	No	+MB	+MB	+HB	+HB	Salmonella spp	+		2.81	+	+MB	+MB	Salmonella spp	+	=
2002	Duck	MP2	No	+MB	+MB	+MA	+MB	Salmonella spp	+		2.34	+	+MB	+MB	Salmonella spp	+	=
2002	Quails	MP2	No	+MB	+MB	+MB	+MB	Salmonella spp	+		1.68	+	+MB	+MB	Salmonella spp	+	=
2002	Turkey cutlet	MP2	No	+MB	+MB	+HB	+MB	Salmonella spp	+		3.11	+	+MB	+MB	Salmonella spp	+	=
2002	Sausage	MP3	No	-LE	-LE	-LE	-LE	/	-		0.05	-	/	/	/	-	=
2002	Lardons	MP3	No	-ME	-LE	Ø	-LE	/	-		0.08	-	/	/	/	-	=
2002	Lardons	MP3	No	-LE	Ø	Ø	Ø	/	-		0.03	-	/	/	/	-	=
2002	Calf sausage	MP3	No	-ME	-LE	-ME	-LE	/	-		0.03	-	/	/	/	-	=
2002	Bacon	MP3	No	-LE	-LE	-ME	-ME	/	-		0.04	-	/	/	/	-	=
2002	Bacon	MP3	No	-ME	-ME	-HE	-HE	/	-		0.04	-	/	/	/	-	=
2002	Smoked lardons	MP3	No	-LE	-LE	-HE	-HE	/	-		0.03	-	/	/	/	-	=
2002	Bacon	MP3	No	-ME	-ME	-HE	-HE	/	-		0.05	-	/	/	/	-	=
2002	Bacon	MP3	No	+LB	+MB	+HB	+HD	Salmonella spp	+		2.89	+	+LB	+MB	Salmonella spp	+	=
2002	Caul of pork	MP3	No	+MB	+MD	+MB	+MB	Salmonella spp	+		2.33	+	+MB	+MD	Salmonella spp	+	=
2002	Coarse pork sausage	MP3	No	+MB	+MB	+MB	+MB	Salmonella spp	+		2.78	+	+MB	+MB	Salmonella spp	+	=
2002	Chipolatas	MP3	No	+HB	+HB	+HB	+MB	Salmonella spp	+		2.80	+	+HB	+HB	Salmonella spp	+	=

Dairy products

Reference	Sample	Cat.	CA	EN ISO 6579 standard #					VIDAS SLM Single Enrichment Alternative method							Comparison	
				RVS		MKTn		Identification	Result	RFV	VT	Test result	Confirmation		Result		
				XLD	SM ID2	XLD	SM ID2						XLD	SM ID2			Identification
B19	Morbier cheese	DP1	Yes	+MB	+MB	+HB	+HB	Salmonella spp	+	9998	2.92	+	+MB	+MB	Salmonella spp	+	=
B20	Neufchâtel cheese	DP1	Yes	+HA	+MB	+HA	+HA	Salmonella spp	+	10240	2.99	+	+HA	+MB	Salmonella spp	+	=
B21	Roquefort	DP1	Yes	+MB	+MB	+HB	+HB	Salmonella spp	+	10679	3.12	+	+MB	+MB	Salmonella spp	+	=
B22	Munster farmer	DP1	Yes	+HB	+HB	+HB	+HB	Salmonella spp	+	10457	3.06	+	+HB	+HB	Salmonella spp	+	=
C15	Crottin de chavignol cheese	DP1	Yes	+HB	+HB	+HB	+HB	Salmonella spp	+	10525	3.08	+	+HB	+HB	Salmonella spp	+	=
C16	Valencay cheese	DP1	Yes	+HB	+HB	+HC	+HB	Salmonella spp	+	10611	3.10	+	+HB	+HB	Salmonella spp	+	=
C17	Selles sur cher cheese	DP1	Yes	+HB	+HB	+HC	+HC	Salmonella spp	+	10588	3.09	+	+HB	+HB	Salmonella spp	+	=
C18	Raw milk Crottin cheese	DP1	Yes	+HB	+HB	+HC	+HB	Salmonella spp	+	10244	2.99	+	+HB	+HB	Salmonella spp	+	=
2002	Raw milk cheese	DP1	No	-ME	-ME	+MD	+MD	Salmonella spp	+	0.04	-	-ME	-ME	-	-	FN	
2002	Raw milk cheese	DP1	No	-ME	+MD	-ME	+MD	Salmonella spp	+	2.65	+	-ME	+MD	Salmonella spp	+	=	
2002	St Nectaire cheese	DP1	No	-LE	-LE	-ME	-ME	/	-	0.07	-	/	/	/	-	=	
2002	Fourme d'Ambert cheese	DP1	No	Ø	Ø	Ø	Ø	/	-	0.04	-	/	/	/	-	=	
2002	Carré du vinage cheese	DP1	No	Ø	Ø	Ø	Ø	/	-	0.04	-	/	/	/	-	=	
2002	Carré du vinage cheese	DP1	No	-ME	-ME	-ME	-ME	/	-	0.07	-	/	/	/	-	=	
2002	Morbier in the raw milk	DP1	No	-ME	-ME	-ME	-ME	/	-	0.05	-	/	/	/	-	=	
2002	Reblochon	DP1	No	-ME	-ME	-ME	-ME	/	-	0.07	-	/	/	/	-	=	
2002	Époisses cheese	DP1	No	-LE	-LE	-HE	-HE	/	-	0.05	-	/	/	/	-	=	
2002	Munster farmer	DP1	No	-LE	-LE	-ME	-ME	/	-	0.04	-	/	/	/	-	=	
2002	Reblochon	DP1	No	-ME	-ME	-HE	-HE	/	-	0.05	-	/	/	/	-	=	
2002	Marolles cheese	DP1	No	-ME	-ME	-ME	-ME	/	-	0.04	-	/	/	/	-	=	
2002	Brie de Meaux cheese	DP1	No	-ME	-ME	-HE	-HE	/	-	0.04	-	/	/	/	-	=	
2002	Cheese farmer of goat	DP1	No	-LE	Ø	-HE	-LE	/	-	0.05	-	/	/	/	-	=	
2002	Reblochon	DP1	No	-ME	-ME	-HE	-HE	/	-	0.04	-	/	/	/	-	=	
2002	Reblochon	DP1	No	-MD (Pm)	-ME	-HE	-HE	/	-	0.04	-	/	/	/	-	=	
2002	Raw milk cheese	DP1	No	-ME	-ME	Ø	Ø	/	-	0.04	-	/	/	/	-	=	
B13	Ice cream	DP2	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	10046	2.94	+	+MA	+MA	Salmonella spp	+	=
B14	Soft cheese	DP2	Yes	+HB	+HB	+HB	+HB	Salmonella spp	+	9570	2.80	+	+HB	+HB	Salmonella spp	+	=
B15	Goat cheese	DP2	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	9922	2.90	+	+MA	+MA	Salmonella spp	+	=
B16	Brillat savarin	DP2	Yes	+HA	+HA	+HA	+HA	Salmonella spp	+	9832	2.87	+	+HA	+HA	Salmonella spp	+	=
B17	Goat cheese	DP2	Yes	+HA	+HA	+HA	+MA	Salmonella spp	+	10220	2.99	+	+HA	+HA	Salmonella spp	+	=
B18	Rollet de Picardie cheese	DP2	Yes	+HA	+HA	+HA	+HA	Salmonella spp	+	10079	2.94	+	+HA	+HA	Salmonella spp	+	=
C11	Goat cheese	DP2	Yes	+HA	+HA	+HA	+HA	Salmonella spp	+	10482	3.06	+	+HA	+HA	Salmonella spp	+	=
C12	Ewe milk cheese	DP2	Yes	+HA	+MA	+HA	+HA	Salmonella spp	+	10283	3.00	+	+HA	+MA	Salmonella spp	+	=
C13	Soft cheese	DP2	Yes	+HB	+HB	+HA	+HA	Salmonella spp	+	9972	2.91	+	+HB	+HB	Salmonella spp	+	=
C14	Soft cheese	DP2	Yes	+MB	+MB	+HA	+HA	Salmonella spp	+	9953	2.91	+	+MB	+MB	Salmonella spp	+	=
2002	Soft cheese	DP2	No	Ø	Ø	Ø	Ø	/	-	0.04	-	/	/	/	-	=	
2002	Livarot	DP2	No	-HE	-HE	-HE	-HE	/	-	0.05	-	/	/	/	-	=	
2002	Emmenthal cheese	DP2	No	Ø	Ø	Ø	Ø	/	-	0.03	-	/	/	/	-	=	
2002	Edam	DP2	No	-LE	-LE	-ME	-ME	/	-	0.04	-	/	/	/	-	=	
2002	Pont l'Évêque cheese	DP2	No	-ME	-ME	-HE	-HE	/	-	0.04	-	/	/	/	-	=	
2002	Tomme cheese of Savoy	DP2	No	Ø	Ø	-ME	-ME	/	-	0.04	-	/	/	/	-	=	
2002	Cantal	DP2	No	-ME	-ME	-ME	-ME	/	-	0.03	-	/	/	/	-	=	
2002	Comté cheese	DP2	No	Ø	Ø	Ø	Ø	/	-	0.03	-	/	/	/	-	=	
A20	Milk powder	DP3	No	-ME	-LE	-HE	-ME	/	-	154	0.04	-	-ME	-LE	/	-	=
A21	Milk powder	DP3	No	-LE	-LE	-ME	-ME	/	-	114	0.03	-	-LE	-LE	/	-	=
C19	Milk powder	DP3	Yes	+HA	+HA	+HA	+HA	Salmonella spp	+	10041	2.93	+	+HA	+HA	Salmonella spp	+	=
C20	Milk powder	DP3	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	10134	2.96	+	+MA	+MA	Salmonella spp	+	=
C21	Milk powder	DP3	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	10025	2.93	+	+MA	+MA	Salmonella spp	+	=
C22	Milk powder	DP3	Yes	-LE	Ø	-ME	Ø	/	-	113	0.03	-	-LE	Ø	/	-	=
C23	Milk powder	DP3	No	-ME	-ME	-ME	Ø	/	-	113	0.03	-	-ME	-ME	/	-	=
C24	Milk powder	DP3	No	-ME	-LE	-ME	Ø	/	-	218	0.06	-	-ME	-LE	/	-	=
F1	Milk powder	DP3	Yes	+MB	+MB	+MA	+MA	Salmonella spp	+	11052	2.90	+	+MB	+MB	Salmonella spp	+	=
F2	Milk powder	DP3	Yes	+MA	+MA	+MA	+MA	Salmonella spp	+	11335	2.97	+	+MA	+MA	Salmonella spp	+	=
F3	Milk powder	DP3	Yes	+MB	+MB	+HB	+MB	Salmonella spp	+	11436	3.00	+	+MB	+MB	Salmonella spp	+	=
2002	Milk powder	DP3	No	+MB	+LB	+MB	+HB	Salmonella spp	+	2.34	+	+MB	+LB	Salmonella spp	+	=	
2002	Raw milk	DP3	No	+MB	+MB	+MB	+MB	Salmonella spp	+	2.49	+	+MB	+MB	Salmonella spp	+	=	
2002	Milk powder	DP3	No	+HB	+MB	+MB	+MB	Salmonella spp	+	2.34	+	+HB	+MB	Salmonella spp	+	=	
2002	Raw milk	DP3	No	+MA	+MA	+MA	+MA	Salmonella spp	+	2.44	+	+MA	+MA	Salmonella spp	+	=	
2002	Raw milk	DP3	No	Ø	Ø	-LE	-LE	/	-	0.04	-	/	/	/	-	=	
2002	Raw milk	DP3	No	-LE	-LE	-HE	-HE	/	-	0.07	-	/	/	/	-	=	
2002	Raw milk	DP3	No	-ME	-ME	-HE	-HE	/	-	0.05	-	-HE	-HE	/	-	=	
2002	Raw milk	DP3	No	-ME	-ME	-HE	-HE	/	-	0.09	-	/	/	/	-	=	
2002	Raw milk	DP3	No	-ME	-ME	-HE	-HE	/	-	0.09	-	/	/	/	-	=	
2002	Raw milk	DP3	No	-LE	-LE	-ME	-ME	/	-	0.07	-	/	/	/	-	=	
2002	Milk powder	DP3	No	Ø	Ø	Ø	Ø	/	-	0.03	-	/	/	/	-	=	
2002	Whole powder milk	DP3	No	Ø	Ø	Ø	Ø	/	-	0.03	-	/	/	/	-	=	

Seafood & Vegetables

Reference	Sample	Cat.	CA	EN ISO 6579 standard #					VIDAS SLM Single Enrichment Alternative method							Comparison		
				RVS		MKTn		Identification	Result	RFV	VT	Test result	Confirmation				Result	
				XLD	SM ID2	XLD	SM ID2						RVS	XLD	SM ID2			Identification
A1	Whiting filet	SF1	Yes	+MA	+MA	+MA	+MA	Salmonella spp	+	11198	3.20	+	+MA	+MA	Salmonella spp	+	=	
A2	Scallops	SF1	Yes	+MB	+LA	+HA	+HB	Salmonella spp	+	11421	3.26	+	+MB	+LA	Salmonella spp	+	=	
A3	Piece of salmon	SF1	Yes	+MB	+MB	+MB	+HA	Salmonella spp	+	10853	3.10	+	+MB	+MB	Salmonella spp	+	=	
A4	Net of smoked mackerels	SF1	Yes	+HA	+HA	+HA	+HA	Salmonella spp	+	10984	3.14	+	+HA	+HA	Salmonella spp	+	=	
A5	Mix seafoods	SF1	Yes	+MB	+MB	+HB	+HB	Salmonella spp	+	11128	3.18	+	+MB	+MB	Salmonella spp	+	=	
A6	Coley filet	SF1	Yes	+MB	+MB	+HA	+HA	Salmonella spp	+	11025	3.15	+	+MB	+MB	Salmonella spp	+	=	
A7	Shrimps	SF1	Yes	+MB	+MA	+HB	+HA	Salmonella spp	+	11085	3.17	+	+MB	+MA	Salmonella spp	+	=	
F4	Tails of crawfishes	SF1	Yes	+HA	+MA	+HA	+HA	Salmonella spp	+	11393	2.99	+	+HA	+MA	Salmonella spp	+	=	
F5	Fillet of perch	SF1	Yes	-ME	-LE	-HE	-ME	/	-	126	0.03	-	-ME	-LE	/	-	=	
F6	Net of pomegranate	SF1	Yes	+MA	+MA	+HB	+HA	Salmonella spp	+	11896	3.12	+	+MA	+MA	Salmonella spp	+	=	
G1	Cooked whelks	SF1	Yes	+MA	+LA	+HA	+HA	Salmonella spp	+	8306	2.43	+	+MA	+LA	Salmonella spp	+	=	
2002	Smoked salmon	SF1	No	-LE	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=	
2002	Net of sole	SF1	No	Ø	Ø	-LE	-LE	/	-		0.05	-	/	/	/	-	=	
2002	Salmon	SF1	No	Ø	Ø	-LE	-LE	/	-		0.09	-	/	/	/	-	=	
2002	Fish filet	SF1	No	Ø	Ø	-ME	-ME	/	-		0.05	-	/	/	/	-	=	
2002	Net of cod	SF1	No	-LE	-HE	-ME	-HE	/	-		0.05	-	/	/	/	-	=	
2002	Net of smoked haddock	SF1	No	Ø	Ø	Ø	Ø	/	-		0.03	-	/	/	/	-	=	
2002	Fillet of perch	SF1	No	-MD (Ec)	-ME	-HE	-HE	/	-		0.04	-	/	/	/	-	=	
2002	Net of cod	SF1	No	Ø	Ø	-LE	-LE	/	-		0.04	-	/	/	/	-	=	
2002	Net of conger	SF1	No	Ø	Ø	-HE	-ME	/	-		0.07	-	/	/	/	-	=	
A17	Raw endives	V1	Yes	+MB	+MB	+HB	+MB	Salmonella spp	+	10226	2.92	+	+MB	+MB	Salmonella spp	+	=	
A22	Raw red cabbage	V1	No	-ME	-LE	-ME	-ME	/	-		164	0.04	-	-ME	-LE	/	-	=
F11	Leeks	V1	No	-ME	-ME	-HE	-HE	/	-		515	0.13	-	-ME	-ME	/	-	=
F12	Lettuce	V1	No	-LE	-ME	-HE	-HE	/	-		850	0.22	-	-LE	-ME	/	-	=
F13	Lettuce	V1	Yes	-LE	-LE	-HE	-HE	/	-		602	0.15	-	-LE	-LE	/	-	=
F14	Lettuce	V1	Yes	+MB	+MB	+HB	+HB	Salmonella spp	+	10663	2.79	+	+MB	+MB	Salmonella spp	+	=	
F15	Catalan mixture	V1	No	-ME	-LE	-HE	-HE	/	-		190	0.04	-	-ME	-LE	/	-	=
F16	Catalan mixture	V1	Yes	-ME	-ME	-HE	-HE	/	-		157	0.04	-	-ME	-ME	/	-	=
F17	Catalan mixture	V1	Yes	-ME	-ME	-HE	-HE	/	-		164	0.04	-	-ME	-ME	/	-	=
F18	Catalan mixture	V1	Yes	-LE	-LE	-HE	-HE	/	-		152	0.03	-	-LE	-LE	/	-	=
F19	Red cabbage	V1	Yes	+LA	+MA	+MA	+MA	Salmonella spp	+	9906	2.60	+	+LA	+MA	Salmonella spp	+	=	
F20	Red cabbage	V1	Yes	+MA	+MB	+HA	+MA	Salmonella spp	+	10428	2.73	+	+MA	+MB	Salmonella spp	+	=	
F21	Red cabbage	V1	Yes	+MA	+LA	+HA	+HA	Salmonella spp	+	10390	2.72	+	+MA	+LA	Salmonella spp	+	=	
F22	Red cabbage	V1	Yes	+MA	+LA	+HA	+MA	Salmonella spp	+	10375	2.72	+	+MA	+LA	Salmonella spp	+	=	
G3	Raw red cabbage	V1	Yes	+MB	+MB	+HA	+HA	Salmonella spp	+	9921	2.91	+	+MB	+MB	/	+	=	
G4	Raw tomato	V1	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	10043	2.94	+	+MA	+MA	Salmonella spp	+	=	
G5	Provençal mixture	V1	Yes	+MB	+MB	+HB	+HB	Salmonella spp	+	10124	2.96	+	+MB	+MB	/	+	=	
G6	Provençal mixture	V1	Yes	+MB	+MB	+MB	+HB	Salmonella spp	+	10062	2.95	+	+MB	+MB	/	+	=	
2002	Paprika	V1	No	Ø	Ø	Ø	Ø	/	-		0.03	-	/	/	/	-	=	
2002	Mixture of spices	V1	No	-ME	-ME	-ME	-ME	/	-		0.04	-	/	/	/	-	=	
2002	Mixture of spices	V1	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=	
2002	Curry	V1	No	-LE	-LE	-ME	-ME	/	-		0.04	-	/	/	/	-	=	
2002	Paprika	V1	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=	
2002	Rosemary	V1	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=	
2002	Mixed salad	V1	No	-LE	-LE	-HE	-HE	/	-		0.06	-	/	/	/	-	=	
2002	Frizzy salad	V1	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=	
2002	Salad of lamb's lettuce	V1	No	-LE	-LE	-HE	-HE	/	-		0.05	-	/	/	/	-	=	
2002	Tomatoes in slices	V1	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=	
A13	Cooked lenses	V2	Yes	+MA	+LA	+HA	+HA	Salmonella spp	+	10576	3.02	+	+MA	+LA	Salmonella spp	+	=	
A14	Cooked broccolis	V2	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	10982	3.14	+	+MA	+MA	Salmonella spp	+	=	
A15	Cooked French beans	V2	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	9939	2.84	+	+MA	+MA	Salmonella spp	+	=	
A16	Cooked carrots	V2	No	Ø	Ø	Ø	Ø	/	-		114	0.03	-	Ø	Ø	/	-	=
A18	Cooked red cabbage	V2	No	Ø	Ø	Ø	Ø	/	-		112	0.03	-	Ø	Ø	/	-	=
B6	Cooked French beans	V2	Yes	+MB	+MB	+HB	+HB	Salmonella spp	+	10805	3.16	+	+MB	+MB	Salmonella spp	+	=	
B7	Carrot purée	V2	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	10494	3.07	+	+MA	+MA	Salmonella spp	+	=	
B8	Roasted Potatoes	V2	Yes	+HA	+MA	+MA	+HA	Salmonella spp	+	10450	3.05	+	+HA	+MA	Salmonella spp	+	=	
B9	Pancake of vegetables	V2	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	10153	2.97	+	+MA	+MA	Salmonella spp	+	=	
F7	Spinach	V2	Yes	Ø	Ø	Ø	Ø	/	-		115	0.03	-	Ø	Ø	/	-	=
F8	Vegetables for couscous	V2	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	11007	2.88	+	+MA	+MA	Salmonella spp	+	=	
F9	Cabbage flower	V2	Yes	+HA	+HA	+HA	+HA	Salmonella spp	+	11014	2.89	+	+HA	+HA	Salmonella spp	+	=	
F10	Lenses	V2	No	Ø	Ø	Ø	Ø	/	-		120	0.03	-	Ø	Ø	/	-	=
G2	Ratatouille	V2	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	8680	2.54	+	+MA	+MA	Salmonella spp	+	=	
2002	Celery	V2	No	Ø	Ø	-HE	-HE	/	-		0.05	-	/	/	/	-	=	
2002	Carrot	V2	No	-LE	-LE	-ME	-ME	/	-		0.06	-	/	/	/	-	=	
2002	Raw vegetables	V2	No	Ø	Ø	Ø	Ø	/	-		0.09	-	/	/	/	-	=	

**Diverse food products**

Reference	Sample	Cat.	CA	EN ISO 6579 standard #						VIDAS SLM Single Enrichment Alternative method							Comparison
				RVS		MKTTn		Identification	Result	RFV	VT	Test result	Confirmation			Result	
				XLD	SM ID2	XLD	SM ID2						RVS		Identification		
								XLD	SM ID2	XLD	SM ID2						
A8	Whole liquid eggs	D1	No	+MB	+LB	+HB	+HB	Salmonella spp	+	310	0.08	-	+MB	+LB	Salmonella spp	-	FN
										1972	0.57a	+					
										8040	2.35b	+					
A9	Runny egg	D1	No	+HC	-LE	+HB	+HB	Salmonella spp	+	10981	3.14	+	+HC	-LE	Salmonella spp	+	=
													+MB	+MB	Salmonella spp		
A10	Runny egg	D1	No	+MB	+LB	+HB	+HB	Salmonella spp	+	10091	2.88	+	+MB	+LB	Salmonella spp	+	=
A11	Runny egg	D1	No	+HB	+MC	+HB	+HB	Salmonella spp	+	11256	3.22	+	+HB	+MC	Salmonella spp	+	=
A12	Runny egg	D1	No	+MB	+LB	+HC	+MB	Salmonella spp	+	10786	3.08	+	+MB	+LB	Salmonella spp	+	=
2002	Runny egg	D1	No	+MB	+HB	+HC	+HC	Salmonella spp	+		2.50	+	+MB	+HB	Salmonella spp	+	=
2002	Whole runny egg	D1	No	+HB	+MB	+HC	+HC	Salmonella spp	+		2.43	+	+HB	+MB	Salmonella spp	+	=
2002	Egg yolks	D1	No	+HB	+HB	+HC	+HC	Salmonella spp	+		2.21	+	+HB	+HB	Salmonella spp	+	=
2002	Egg yolks	D1	No	+MB	+HC	+HC	+HC	Salmonella spp	+		2.22	+	+MB	+HC	Salmonella spp	+	=
2002	Egg whites	D1	No	+MA	+MB	+HC	+HC	Salmonella spp	+		2.10	+	+MA	+MB	Salmonella spp	+	=
2002	Runny egg	D1	No	+MB	+MB	+MB	+MB	Salmonella spp	+		2.17	+	+MB	+MB	Salmonella spp	+	=
2002	Egg whites	D1	No	+MA	+MA	-HE	-HE	Salmonella spp	+		2.28	+	+MA	+MA	Salmonella spp	+	=
2002	Runny egg	D1	No	-LE	-LE	-ME	-ME	/	-		0.04	-	/	/	/	-	=
2002	Runny egg	D1	No	Ø	Ø	Ø	Ø	/	-		0.03	-	/	/	/	-	=
2002	Runny egg	D1	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=
2002	Runny egg	D1	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=
2002	Runny egg	D1	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=
2002	traditional mayonnaise	D1	No	Ø	Ø	Ø	Ø	/	-		0.03	-	/	/	/	-	=
2002	Egg whites	D1	No	-LE	-LE	-LE	-LE	/	-		0.04	-	/	/	/	-	=
B1	Red fruit eclair pastry	D2	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	9927	2.90	+	+MA	+MA	Salmonella spp	+	=
B2	Baba au rhum	D2	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	10008	2.92	+	+MA	+MA	Salmonella spp	+	=
B3	Versailles cake	D2	Yes	+MB	+MB	+HB	+HB	Salmonella spp	+	9857	2.88	+	+MB	+MB	Salmonella spp	+	=
B4	Black forest cake	D2	Yes	+MB	+MB	+HB	+HB	Salmonella spp	+	9722	2.84	+	+MB	+MB	Salmonella spp	+	=
B5	Custard tart	D2	Yes	+MA	+MB	+HA	+HA	Salmonella spp	+	10504	3.07	+	+MA	+MB	Salmonella spp	+	=
2002	Chocolate chips	D2	No	Ø	Ø	Ø	Ø	/	-		0.03	-	/	/	/	-	=
2002	Powder with cocoa	D2	No	Ø	Ø	Ø	Ø	/	-		0.03	-	/	/	/	-	=
2002	Shavings of chocolate	D2	No	Ø	Ø	Ø	Ø	/	-		0.03	-	/	/	/	-	=
2002	Chocolate-brown soft margarine	D2	No	-ME	-ME	-HE	-HE	/	-		0.04	-	/	/	/	-	=
2002	Coffee eclair pastry	D2	No	+MB	+MB	+MB	+MB	Salmonella spp	+		2.32	+	+MB	+MB	Salmonella spp	+	=
2002	Custard	D2	No	+MB	+MB	+HB	+MB	Salmonella spp	+		2.26	+	+MB	+MB	Salmonella spp	+	=
2002	Chocolate eclair	D2	No	+MB	+MB	+MB	+MB	Salmonella spp	+		2.24	+	+MB	+MB	Salmonella spp	+	=
2002	Custard	D2	No	+MB	+MB	+HB	+HB	Salmonella spp	+		2.21	+	+MB	+MB	Salmonella spp	+	=
2002	Coffee eclair pastry	D2	No	+MA	+MA	+HA	+HA	Salmonella spp	+		2.24	+	+MA	+MA	Salmonella spp	+	=
2002	"Mille feuille" pastry	D2	No	-LE	-LE	-ME	-ME	/	-		0.05	-	/	/	/	-	=
2002	Egg custard	D2	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=
2002	Chou pastry	D2	No	Ø	Ø	-ME	-HE	/	-		0.04	-	/	/	/	-	=
2002	Chocolate eclair pastry	D2	No	Ø	Ø	-ME	-ME	/	-		0.04	-	/	/	/	-	=
2002	Religious Chocolate	D2	No	-LE	Ø	-LE	Ø	/	-		0.03	-	/	/	/	-	=
2002	Egg custard	D2	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=
2002	Whipped cream	D2	No	-LE	Ø	-LE	Ø	/	-		0.04	-	/	/	/	-	=
2002	"St Honoré" cake	D2	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=
2002	Choux chantilly	D2	No	-LE	Ø	-HE	-HE	/	-		0.04	-	/	/	/	-	=
2002	"St Honoré" cake	D2	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=
2002	Cream puff	D2	No	-LE	Ø	-HE	-HE	/	-		0.03	-	/	/	/	-	=
2002	Coffee eclair pastry	D2	No	Ø	Ø	-ME	-MD (En)	/	-		0.03	-	/	/	/	-	=
2002	"Religieuse au chocolat" pastry	D2	No	Ø	Ø	Ø	Ø	/	-		0.03	-	/	/	/	-	=
2002	Profiteroles	D2	No	Ø	Ø	Ø	Ø	/	-		0.03	-	/	/	/	-	=
2002	Choux chantilly	D2	No	Ø	Ø	-HE	Ø	/	-		0.03	-	/	/	/	-	=
2002	Coffee eclair	D2	No	-LE	-LE	Ø	Ø	/	-		0.03	-	/	/	/	-	=
2002	"Religieuse" pastry	D2	No	Ø	Ø	Ø	Ø	/	-		0.03	-	/	/	/	-	=
2002	"Noiselia" cake	D2	No	Ø	Ø	-LE	-LE	/	-		0.03	-	/	/	/	-	=
2002	Princess of islands pastry	D2	No	Ø	Ø	Ø	Ø	/	-		0.03	-	/	/	/	-	=
2002	Parisian pastry cabbage	D2	No	Ø	Ø	Ø	Ø	/	-		0.03	-	/	/	/	-	=
2002	"Merveilleux" cake	D2	No	Ø	Ø	Ø	Ø	/	-		0.03	-	/	/	/	-	=
2002	"Versailles" cake	D2	No	Ø	Ø	-ME	-ME	/	-		0.04	-	/	/	/	-	=

**Diverse food products**

Reference	Sample	Cat.	CA	EN ISO 6579 standard #						VIDAS SLM Single Enrichmnt Alternative method						Comparison	
				RVS		MKTTn		Identification	Result	RFV	VT	Test result	Confirmation		Result		
				XLD	SM ID2	XLD	SM ID2						XLD	SM ID2			Identification
								XLD	SM ID2	Identification	Result						
A19	Cooked coley filet	D3	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	11180	3.19	+	+MA	+MA	Salmonella spp	+	=
B10	Scallop in the cognac	D3	Yes	+HA	+MA	+HA	+HA	Salmonella spp	+	9613	2.81	+	+HA	+MA	Salmonella spp	+	=
B11	Hake in the curry	D3	Yes	+LA	+MA	+HA	+HA	Salmonella spp	+	9623	2.81	+	+LA	+MA	Salmonella spp	+	=
B12	Salmon in mushrooms	D3	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	9691	2.83	+	+MA	+MA	Salmonella spp	+	=
C1	Salad of squids	D3	No	Ø	Ø	Ø	Ø	/	-	117	0.03	-	Ø	Ø	/	/	=
C2	Poached fish wipes océane	D3	No	Ø	Ø	Ø	Ø	/	-	113	0.03	-	Ø	Ø	/	/	=
C3	Olive of salmon	D3	No	-HE	-HE	Ø	Ø	/	-	77	0.02	-	-HE	-HE	/	/	=
C4	Cod brandade	D3	No	Ø	Ø	Ø	Ø	/	-	115	0.03	-	Ø	Ø	/	/	=
C5	Stuffed squids	D3	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	10105	2.95	+	+MA	+MA	Salmonella spp	+	=
C6	Olive of salmon	D3	Yes	+MB	+MB	+HB	+HB	Salmonella spp	+	10263	3.00	+	+MB	+MB	Salmonella spp	+	=
C7	Stuffed squids	D3	Yes	+HB	+HB	-HE	-HE	Salmonella spp	+	10048	2.94	+	+HB	+HB	Salmonella spp	+	=
C8	Sausage of cooked salmon	D3	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	10051	2.94	+	+MA	+MA	Salmonella spp	+	=
C9	Delight of salmon in the champagne	D3	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	9984	2.92	+	+MA	+MA	Salmonella spp	+	=
C10	White fish in the lemon	D3	Yes	+HA	+MA	+HA	+HA	Salmonella spp	+	10032	2.93	+	+HA	+MA	Salmonella spp	+	=
2002	Salad of shrimps	D3	No	Ø	Ø	-HE	-HE	/	-		0.03	-	/	/	/	-	=
2002	Fondant of salmon	D3	No	Ø	Ø	Ø	Ø	/	-		0.06	-	/	/	/	-	=

Feed

Reference	Sample	Cat.	CA	EN ISO 6579 standard #					VIDAS SLM Single Enrichmnt Alternative method						Comparison		
				RVS		MKTTn		Identification	Result	RFV	VT	Test result	Confirmation			Result	
				XLD	SM ID2	XLD	SM ID2						XLD	SM ID2			Identification
D4	Pâté in the beef	F1	Yes	+HA	+MA	+HA	+HA	Salmonella spp	+	11013	3.10	+	+HA	+MA	Salmonella spp	+	=
D5	Pâté in the beef	F1	Yes	+HA	+MA	+HA	+HA	Salmonella spp	+	11065	3.11	+	+HA	+MA	Salmonella spp	+	=
D6	Pâté in the chicken	F1	Yes	+HA	+MA	+HA	+HA	Salmonella spp	+	11053	3.11	+	+HA	+MA	Salmonella spp	+	=
D7	Pâté in the chicken	F1	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	11305	3.18	+	+MA	+MA	Salmonella spp	+	=
D8	Pâté in the lamb	F1	Yes	+HA	+HA	+HA	+HA	Salmonella spp	+	11529	3.24	+	+HA	+HA	Salmonella spp	+	=
D9	Pâté in the lamb	F1	Yes	+HA	+MA	+HA	+HA	Salmonella spp	+	10761	3.03	+	+HA	+MA	Salmonella spp	+	=
D10	Pâté in the beef	F1	No	Ø	Ø	Ø	Ø	/	-	116	0.03	-	Ø	Ø	/	-	=
D11	Pâté in the chicken	F1	No	Ø	Ø	Ø	Ø	/	-	117	0.03	-	Ø	Ø	/	-	=
D12	Pâté in the lamb	F1	No	Ø	Ø	Ø	Ø	/	-	116	0.03	-	Ø	Ø	/	-	=
E4	Pâté for cat in the trout and cod	F1	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	10688	2.80	+	+MA	+MA	Salmonella spp	+	=
E5	Pâté for cat in the liver and poultry	F1	Yes	+HA	+HA	+HA	+HA	Salmonella spp	+	10694	2.80	+	+HA	+HA	Salmonella spp	+	=
E6	Pâté for cat in the chicken	F1	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	11014	2.89	+	+MA	+MA	Salmonella spp	+	=
E7	Pâté for cat in the salmon	F1	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	10285	2.70	+	+MA	+MA	Salmonella spp	+	=
E8	Pâté for cat in the trout and cod	F1	No	Ø	Ø	Ø	Ø	/	-	127	0.03	-	Ø	Ø	/	-	=
E9	Pâté for cat in the liver and poultry	F1	No	Ø	Ø	Ø	Ø	/	-	131	0.03	-	Ø	Ø	/	-	=
E10	Pâté for cat in the chicken	F1	No	Ø	Ø	Ø	Ø	/	-	130	0.03	-	Ø	Ø	/	-	=
E11	Pâté for cat in the salmon	F1	No	Ø	Ø	Ø	Ø	/	-	129	0.03	-	Ø	Ø	/	-	=
E12	Pâté for dog in the beef	F1	No	Ø	Ø	Ø	Ø	/	-	118	0.03	-	Ø	Ø	/	-	=
E13	Pâté for dog in the lamb	F1	No	Ø	Ø	Ø	Ø	/	-	118	0.03	-	Ø	Ø	/	-	=
2002	Pâté in the beef for dog	F1	No	+LB	+MA	+MC	+HB	Salmonella spp	+		2.32	+	+LB	+MA	Salmonella spp	+	=
2002	Pâté in the beef for cat	F1	No	+MB	+MA	+HA	+HA	Salmonella spp	+		1.99	+	+MB	+MA	Salmonella spp	+	=
2002	Pâté in the beef with pieces	F1	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=
D13	Granules	F2	No	Ø	Ø	Ø	Ø	/	-	116	0.03	-	Ø	Ø	/	-	=
D14	Granules	F2	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	11107	3.13	+	+MA	+MA	Salmonella spp	+	=
D15	Flours for animals	F2	Yes	Ø	Ø	Ø	Ø	/	-	112	0.03	-	Ø	Ø	/	-	=
D16	Flours for animals	F2	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	10611	2.99	+	+MA	+MA	Salmonella spp	+	=
D17	Flours for animals	F2	No	Ø	Ø	Ø	Ø	/	-	121	0.03	-	Ø	Ø	/	-	=
D18	Fish meal for animals	F2	Yes	+HA	+HA	+HA	+HA	Salmonella spp	+	11250	3.17	+	+HA	+HA	Salmonella spp	+	=
D19	Fish meal for animals	F2	No	Ø	Ø	Ø	Ø	/	-	121	0.03	-	Ø	Ø	/	-	=
D20	Fish meal for animals	F2	No	Ø	Ø	Ø	Ø	/	-	114	0.03	-	Ø	Ø	/	-	=
D21	Flours for animals	F2	Yes	+MB	+LB	+HB	+HB	Salmonella spp	+	10335	2.91	+	+MB	+LB	Salmonella spp	+	=
D22	Flours for animals	F2	Yes	+HB	+MB	+HA	+HA	Salmonella spp	+	9928	2.79	+	+HB	+MB	Salmonella spp	+	=
D23	Granules	F2	Yes	Ø	Ø	Ø	Ø	/	-	112	0.03	-	Ø	Ø	/	-	=
D24	Granules	F2	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	10415	2.93	+	+MA	+MA	Salmonella spp	+	=
E14	Dry cat food	F2	No	Ø	Ø	Ø	Ø	/	-	119	0.03	-	Ø	Ø	/	-	=
E15	Dry cat food	F2	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	10891	2.85	+	+MA	+MA	Salmonella spp	+	=
E16	Dry cat food	F2	Yes	+MA	+MA	+HA	+HA	Salmonella spp	+	10991	2.88	+	+MA	+MA	Salmonella spp	+	=
E17	Dry cat food	F2	Yes	+MA	+HA	+HA	+HA	Salmonella spp	+	10943	2.87	+	+MA	+HA	Salmonella spp	+	=
E18	Dry cat food	F2	Yes	+HA	+HA	+HA	+HA	Salmonella spp	+	112269	2.95	+	+HA	+HA	Salmonella spp	+	=
2002	Granules	F2	No	-ME	-ME	-HE	-LE	/	-		0.08	-	/	/	/	-	=
2002	Dry cat food	F2	No	Ø	Ø	Ø	Ø	/	-		0.03	-	/	/	/	-	=
2002	Flour for fishes	F2	No	-ME	-HE	-HE	-HE	/	-		0.03	-	/	/	/	-	=
D1	Bovine meat for animals	F3	No	-LA(Ha)	-MA(Ha)	-HA(Ha)	-HA(Ha)	/	-	144	0.04	-	-LE	-ME	Hafnia alvei	-	=
D2	Bovine meat for animals	F3	Yes	-LA(Ha)	-LA(Ha)	+HA(Ha)	-HA(Ha)	/	-	144	0.04	-	-LE	-LE	Hafnia alvei	-	=
D3	Bovine meat for animals	F3	Yes	-LE	-LE	-HE	-HE	/	-	161	0.04	-	-LE	-LE	/	-	=
E1	Waste bovine meat for animals	F3	Yes	+MA	+MB	+HB	+HB	Salmonella spp	+	10355	2.71	+	+MA	+MB	Salmonella spp	+	=
E2	Waste bovine meat for animals	F3	Yes	+MA	+MB	+HB	+HB	Salmonella spp	+	10431	2.73	+	+MA	+MB	Salmonella spp	+	=
E3	Waste bovine meat for animals	F3	Yes	+MB	+MB	+HB	+HB	Salmonella spp	+	10493	2.75	+	+MB	+MB	Salmonella spp	+	=
E19	Waste bovine meat for animals	F3	No	-ME	-ME	-HE	-HE	/	-	182	0.04	-	-ME	-ME	/	-	=
2002	Meat for dog	F3	No	+MB	+MB	+MB	+HA	Salmonella spp	+		2.38	+	+MB	+MB	Salmonella spp	+	=
2002	Meat for dog	F3	No	+MB	+MB	+HB	+HA	Salmonella spp	+		2.10	+	+MB	+MB	Salmonella spp	+	=
2002	Meat for cat	F3	No	+HB	+MB	+HB	+HB	Salmonella spp	+		2.32	+	+HB	+MB	Salmonella spp	+	=
2002	Minced meat for animals	F3	No	+MC	+LB	+HB	+MB	Salmonella spp	+		2.39	+	+MC	+LB	Salmonella spp	+	=
2002	Meatball in the beef for dog	F3	No	+MB	+MB	+HA	+HA	Salmonella spp	+		2.27	+	+MB	+MB	Salmonella spp	+	=
2002	Pâté for dog in the tuna	F3	No	-HE	-HE	-HE	-HE	/	-		0.05	-	/	/	/	-	=
2002	Giblets in the ox for animals	F3	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=
2002	Giblets in the ox for animals	F3	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=
2002	Meatball in the beef for dog	F3	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=
2002	Meatball for cat	F3	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=
2002	Meatball for cat	F3	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=
2002	Meatball for dog	F3	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=
2002	Giblets in the ox for animals	F3	No	Ø	Ø	Ø	Ø	/	-		0.04	-	/	/	/	-	=

## APPENDIX C

### INCLUSIVITY / EXCLUSIVITY

**SPECIFICITY STUDY**  
**Inclusivity complement 2010**

Strain	Origin	Inoculation rate in 225 ml BPW	Alternative method			
			RFV	Test value	Result	
S158	<i>Salmonella</i> III a 48 :z4, z23 : -	Duck	16.0	10379	2.95	+
S159	<i>Salmonella</i> III a 51 :z4, z23 : -	Duck	7.5	1689	0.48	+
S160	<i>Salmonella</i> III b 38:l,v:z53	Semolina of wheat	11.0	11188	3.18	+
S148	<i>Salmonella</i> Dublin	Cow raw milk	29.0	11532	3.28	+
S49	<i>Salmonella</i> Kottbus	Olive of turkey poul	17.0	12547	3.56	+
S154	<i>Salmonella</i> London	Environment	31.0	11493	3.26	+
S156	<i>Salmonella</i> Livingstone	Environment	20.0	12033	3.42	+
S150	<i>Salmonella</i> Manhattan	Dried sausage	15.0	11610	3.30	+
S152	<i>Salmonella</i> Napoli	Duck	12.0	10163	2.89	+
S149	<i>Salmonella</i> Regent	Muscovy (internal organs)	16.0	10167	2.89	+
S151	<i>Salmonella</i> Rissen	Environment	17.0	11231	3.19	+

**SPECIFICITY STUDY**  
**2006 Inclusivity results**

Strain	Origin	Inoculation rate in 225 ml BPW	Alternative method			
			RFV	Test value	Result	
S63	<i>Salmonella</i> Agona	Beef	13.2	10193	2.93	+
S2	<i>Salmonella</i> Amsterdam	Plants	11.6	9999	2.83	+
S1	<i>Salmonella</i> Anatum	Chocolate	27.0	10294	2.92	+
S68	<i>Salmonella arizonae</i> III b 38 r:z	Breeding of goose	8.8	6202	1.78	+
S76	<i>Salmonella arizonae</i> III b 61:-:-	Turkey	9.6	4921	1.41	+
S75	<i>Salmonella arizonae</i> III b 61:i:z53	Chicken leg	10.8	6110	1.75	+
S70	<i>Salmonella arizonae</i> III b 61:k:1,5,7	Lamb's brains	8.4	10545	3.03	+
S78	<i>Salmonella arizonae</i> III b 61:z:1,5	Turkey stew	6.8	2140	0.61	+
S87	<i>Salmonella</i> Blockley	Basil	8.0	10717	3.08	+
S3	<i>Salmonella</i> Brandenburg	Country terrine	10.4	10800	3.06	+
S5	<i>Salmonella</i> Brandenburg	Pork's liver	8.8	10589	3.04	+
S6	<i>Salmonella</i> Brandenburg	Meat of kangaroo	16.4	10446	3.00	+
S8	<i>Salmonella</i> Bredeney	Pork offal	10.8	10952	3.10	+
S103	<i>Salmonella</i> Cerro	Cabbage pastry cook	8.0	10292	2.95	+
S9	<i>Salmonella</i> Cubana	Soymeal	10.0	11321	3.21	+
S10	<i>Salmonella</i> Derby	Horse meat	11.2	10980	3.11	+
S11	<i>Salmonella</i> Derby	Pork's liver	7.6	10084	2.89	+
S14	<i>Salmonella</i> Enteritidis	Pastry	11.6	10070	2.85	+
S38	<i>Salmonella</i> Enteritidis	Ovoproduit	9.2	9091	2.61	+
S41	<i>Salmonella</i> Enteritidis	Meat-based product	8.4	9143	2.62	+
S43	<i>Salmonella</i> Enteritidis	Ovoproduit	12.8	10062	2.89	+
S119	<i>Salmonella</i> Gallinarum	Collection	4.0	11091	3.25	+
S15	<i>Salmonella</i> Hadar	Meat of poultry	9.2	11155	3.20	+
S66	<i>Salmonella</i> Havana	Poultry farm	10.4	10075	2.95	+
S50	<i>Salmonella</i> Heidelberg	Poultry	8.0	10628	3.05	+
S65	<i>Salmonella</i> immobile	Meat-based product	11.2	11222	3.29	+
S45	<i>Salmonella</i> Indiana	Brie de Meaux cheese	5.6	10869	3.12	+
S19	<i>Salmonella</i> Infantis	Meat of poultry	9.2	11159	3.20	+
S52	<i>Salmonella</i> Infantis	Environment	8.4	11180	3.21	+
S80	<i>Salmonella</i> Kedougou	Tuna	9.2	9098	2.66	+
S81	<i>Salmonella</i> Kedougou	Feed	8.0	10023	2.94	+
S85	<i>Salmonella</i> Liverpool	Feed	12.8	9106	2.67	+
S67	<i>Salmonella</i> Llandoff	Feed	7.6	11158	3.27	+
S21	<i>Salmonella</i> Mbandoka	Heart of calf	4.8	10043	2.94	+
S22	<i>Salmonella</i> Michigan	Horse meat	15.6	11083	3.25	+
S23	<i>Salmonella</i> Montevideo	Meat of poultry	7.6	9566	2.80	+
S25	<i>Salmonella</i> Newport	Meat of poultry	8.4	10726	3.14	+
S90	<i>Salmonella</i> Orianenburg	Feed	8.8	9080	2.66	+
S99	<i>Salmonella</i> Paratyphi A	Collection	6.0	6324	1.85	+
S100	<i>Salmonella</i> Paratyphi B	Collection	5.2	11417	3.34	+
S101	<i>Salmonella</i> Paratyphi C	Collection	8.8	11302	3.31	+
S120	<i>Salmonella</i> Pullorum	Collection	5.3	10496	2.95	+
S13	<i>Salmonella</i> SaintPaul	Meat-based product	19.6	10608	3.01	+
S59	<i>Salmonella</i> San Diego	Dried herbs	8.4	10365	3.04	+
S111	<i>Salmonella</i> Senftenberg	Fish meal	11.2	9215	2.70	+
S71	<i>Salmonella</i> Senftenberg	Fish	7.2	9099	2.66	+
S102	<i>Salmonella</i> Typhi Typhi	Collection	17.5	11477	3.24	+
S26	<i>Salmonella</i> Typhimurium	Pork's liver	12.8	11019	3.23	+
S33	<i>Salmonella</i> Typhimurium	Ovoproduit	8.4	10495	3.07	+
S31	<i>Salmonella</i> Virchow	Shell	8.0	11165	3.21	+
S83	<i>Salmonella</i> Westhampton	Feed	8.0	8488	2.48	+

**SPECIFICITY STUDY**  
**2006 Exclusivity results**

Strain	Origin	Inoculation rate in 225 ml BPW	Alternative method			Reference method				
			RFV	Test value	Result	RVS plating on		MKTTn plating on		
						XLD	SMID2	XLD	SMID2	
CIT30	<i>Citrobacter diversus</i>	Feed	1.8E+06	11150	3.27	+	-	-	-	-
			1.4E+06	10376	3.04	+	-	-	-	-
EN52	<i>Citrobacter diversus</i>	Dried herbs	1.8E+06	11427	3.35	+	-	-	-	-
CIT24	<i>Citrobacter freundii</i>	Meat-based product	1.0E+06	278	0.08	-	-	-	-	-
CIT23	<i>Citrobacter freundii</i>	Vegetables	1.0E+06	2269	0.66	+	-	-	-	-
			2.3E+05	292	0.08	-	-	-	-	-
CIT26	<i>Citrobacter freundii</i>	Fish	1.0E+06	262	0.07	-	-	-	-	-
CIT27	<i>Citrobacter freundii</i>	Milk	1.4E+06	281	0.08	-	-	-	-	-
ENT51	<i>Enterobacter cloacae</i>	Dairy product	4.0E+05	271	0.07	-	-	-	-	-
ENT59	<i>Enterobacter sakazakii</i>	Pastry	1.8E+06	274	0.08	-	-	-	-	-
EC17	<i>Escherichia coli</i>	Pork's kidney	1.4E+06	254	0.07	-	-	-	-	-
EC19	<i>Escherichia coli</i>	Red cabbage	7.5E+05	316	0.09	-	-	-	-	-
EC15	<i>Escherichia coli</i>	Caul	1.9E+06	271	0.07	-	-	-	-	-
HA31	<i>Hafnia alvei</i>	Minced meat	1.9E+06	246	0.06	-	-	-	-	-
HA32	<i>Hafnia alvei</i>	Raw milk	1.8E+06	273	0.07	-	-	-	-	-
EN71	<i>Klebsiella oxytoca</i>	Milk	6.6E+05	270	0.07	-	-	-	-	-
KL77	<i>Klebsiella pneumoniae</i>	Milk powder	1.1E+06	278	0.08	-	-	-	-	-
EN44	<i>Proteus mirabilis</i>	Chicken liver	1.5E+06	246	0.06	-	-	-	-	-
PS30	<i>Pseudomonas aeruginosa</i>	Red mullet filet	1.4E+05	290	0.07	-	-	-	-	-
PS33	<i>Pseudomonas fluorescens</i>	Minced meat	9.4E+04	288	0.08	-	-	-	-	-
EN49	<i>Serratia marcescens</i>	Raw milk	9.3E+05	270	0.07	-	-	-	-	-
EN73	<i>Shigella sonnei</i>	Meat product	7.1E+05	393	0.10	-	-	-	-	-
EN72	<i>Shigella flexneri</i>	Meat product	1.2E+06	353	0.09	-	-	-	-	-
BA1	<i>Bacillus cereus</i>	Ovoproduct	6.2E+04	168	0.04	-	-	-	-	-
ST1	<i>Staphylococcus aureus</i>	Collection	3.5E+05	178	0.05	-	-	-	-	-
ST20	<i>Staphylococcus epidermidis</i>	Collection ATCC 12228	2.0E+05	293	0.08	-	-	-	-	-
LE1	<i>Rhodotorula rubra</i>	Pastry	3.7E+05	300	0.08	-	-	-	-	-
LE5	<i>Saccharomyces cerevisiae</i>	Extract of coffee	3.5E+05	304	0.08	-	-	-	-	-
LE3	<i>Candida albicans</i>	Pastry	3.5E+04	374	0.10	-	-	-	-	-
BA16	<i>Bacillus licheniformis</i>	Custard	1.2E+05	228	0.06	-	-	-	-	-
17	<i>Erwinia spp</i>	Meat-based product	6.2E+04	261	0.07	-	-	-	-	-
20	<i>Arthrobacter nicotianae</i>	Collection	3.9E+05	294	0.08	-	-	-	-	-

Complete alternative method (BPW + RVS, MKTTn + M broth) and reference method

CIT30	<i>Citrobacter diversus</i>	Feed	3.1E+08	9728	2.77	+	-	-	-	-
EN52	<i>Citrobacter diversus</i>	Dried herbs	2.8E+08	12005	3.42	+	-	-	-	-
CIT23	<i>Citrobacter freundii</i>	Plants	3.7E+08	332	0.09	-	-	-	-	-

## APPENDIX D

# INTERLABORATORY STUDY - ACCORDANCE

**ALTERNATIVE METHOD**

**Level L0**

Laboratory	Nb of negatives expected	Nb of negatives obtained	Probability of negatives	Probability of negatives pairs	Probability of positives	Probability of positive pairs	Probability of identical result pairs
C	8	8	1.00	1.00	0.00	0.00	1.00
D	8	8	1.00	1.00	0.00	0.00	1.00
H	8	8	1.00	1.00	0.00	0.00	1.00
I	8	8	1.00	1.00	0.00	0.00	1.00
J	8	8	1.00	1.00	0.00	0.00	1.00
K	8	8	1.00	1.00	0.00	0.00	1.00
L	8	8	1.00	1.00	0.00	0.00	1.00
M	8	8	1.00	1.00	0.00	0.00	1.00
N	8	8	1.00	1.00	0.00	0.00	1.00
O	8	8	1.00	1.00	0.00	0.00	1.00
<b>Mean :</b>							<b>1.00</b>
<b>Accordance :</b>							<b>100%</b>

**Level L1**

Laboratory	Nb of positives expected	Nb of positives obtained	Probability of positives	Probability of positives pairs	Probability of negatives	Probability of negative pairs	Probability of identical result pairs
C	8	8	1.00	1.00	0.00	0.00	1.00
D	8	8	1.00	1.00	0.00	0.00	1.00
H	8	8	1.00	1.00	0.00	0.00	1.00
I	8	8	1.00	1.00	0.00	0.00	1.00
J	8	8	1.00	1.00	0.00	0.00	1.00
K	8	8	1.00	1.00	0.00	0.00	1.00
L	8	8	1.00	1.00	0.00	0.00	1.00
M	8	8	1.00	1.00	0.00	0.00	1.00
N	8	8	1.00	1.00	0.00	0.00	1.00
O	8	8	1.00	1.00	0.00	0.00	1.00
<b>Mean :</b>							<b>1.00</b>
<b>Accordance :</b>							<b>100%</b>

**Level L2**

Laboratory	Nb of positives expected	Nb of positives obtained	Probability of positives	Probability of positives pairs	Probability of negatives	Probability of negative pairs	Probability of identical result pairs
C	8	8	1.00	1.00	0.00	0.00	1.00
D	8	8	1.00	1.00	0.00	0.00	1.00
H	8	8	1.00	1.00	0.00	0.00	1.00
I	8	8	1.00	1.00	0.00	0.00	1.00
J	8	8	1.00	1.00	0.00	0.00	1.00
K	8	8	1.00	1.00	0.00	0.00	1.00
L	8	8	1.00	1.00	0.00	0.00	1.00
M	8	8	1.00	1.00	0.00	0.00	1.00
N	8	8	1.00	1.00	0.00	0.00	1.00
O	8	8	1.00	1.00	0.00	0.00	1.00
<b>Mean :</b>							<b>1.00</b>
<b>Accordance :</b>							<b>100%</b>

**REFERENCE METHOD**

**Level L0**

Laboratory	Nb of negatives expected	Nb of negatives obtained	Probability of negatives	Probability of negatives pairs	Probability of positives	Probability of positive pairs	Probability of identical result pairs
C	8	8	1.00	1.00	0.00	0.00	1.00
D	8	8	1.00	1.00	0.00	0.00	1.00
H	8	8	1.00	1.00	0.00	0.00	1.00
I	7	7	1.00	1.00	0.00	0.00	1.00
J	8	8	1.00	1.00	0.00	0.00	1.00
K	8	8	1.00	1.00	0.00	0.00	1.00
L	8	8	1.00	1.00	0.00	0.00	1.00
M	8	8	1.00	1.00	0.00	0.00	1.00
N	8	8	1.00	1.00	0.00	0.00	1.00
O	8	8	1.00	1.00	0.00	0.00	1.00
<b>Mean :</b>							<b>1.00</b>
<b>Accordance :</b>							<b>100%</b>

**Level L1**

Laboratory	Nb of positives expected	Nb of positives obtained	Probability of positives	Probability of positives pairs	Probability of negatives	Probability of negative pairs	Probability of identical result pairs
C	8	8	1.00	1.00	0.00	0.00	1.00
D	8	8	1.00	1.00	0.00	0.00	1.00
H	8	8	1.00	1.00	0.00	0.00	1.00
I	8	8	1.00	1.00	0.00	0.00	1.00
J	8	8	1.00	1.00	0.00	0.00	1.00
K	8	8	1.00	1.00	0.00	0.00	1.00
L	8	8	1.00	1.00	0.00	0.00	1.00
M	8	8	1.00	1.00	0.00	0.00	1.00
N	8	8	1.00	1.00	0.00	0.00	1.00
O	8	8	1.00	1.00	0.00	0.00	1.00
<b>Mean :</b>							<b>1.00</b>
<b>Accordance :</b>							<b>100%</b>

**Level L2**

Laboratory	Nb of positives expected	Nb of positives obtained	Probability of positives	Probability of positives pairs	Probability of negatives	Probability of negative pairs	Probability of identical result pairs
C	8	8	1.00	1.00	0.00	0.00	1.00
D	8	8	1.00	1.00	0.00	0.00	1.00
H	8	8	1.00	1.00	0.00	0.00	1.00
I	8	8	1.00	1.00	0.00	0.00	1.00
J	8	8	1.00	1.00	0.00	0.00	1.00
K	8	8	1.00	1.00	0.00	0.00	1.00
L	8	8	1.00	1.00	0.00	0.00	1.00
M	8	8	1.00	1.00	0.00	0.00	1.00
N	8	8	1.00	1.00	0.00	0.00	1.00
O	8	8	1.00	1.00	0.00	0.00	1.00
<b>Mean :</b>							<b>1.00</b>
<b>Accordance :</b>							<b>100%</b>

## APPENDIX E

# INTERLABORATORY STUDY - CONCORDANCE

**ALTERNATIVE METHOD**

Number of laboratories 10  
 Number of negatives per laboratory 8

**Level L0**

Laboratory	Nb of negatives expected	Nb of negatives obtained	Inter-laboratory pairs with the same result	Total number of inter-laboratory pairs
C	8	8	576	576
D	8	8	576	576
H	8	8	576	576
I	8	8	576	576
J	8	8	576	576
K	8	8	576	576
L	8	8	576	576
M	8	8	576	576
N	8	8	576	576
O	8	8	576	576
<b>Total</b>			<b>5760</b>	<b>5760</b>
<b>Concordance</b>	100.00%			

Number of laboratories 10  
 Number of positives per laboratory 8

**Level L1**

Laboratory	Nb of positives expected	Nb of positives obtained	Inter-laboratory pairs with the same result	Total number of inter-laboratory pairs
C	8	8	576	576
D	8	8	576	576
H	8	8	576	576
I	8	8	576	576
J	8	8	576	576
K	8	8	576	576
L	8	8	576	576
M	8	8	576	576
N	8	8	576	576
O	8	8	576	576
<b>Total</b>			<b>5760</b>	<b>5760</b>
<b>Concordance</b>	100.00%			

Number of laboratories 10  
 Number of positives per laboratory 8

**Level L2**

Laboratory	Nb of positives expected	Nb of positives obtained	Inter-laboratory pairs with the same result	Total number of inter-laboratory pairs
C	8	8	576	576
D	8	8	576	576
H	8	8	576	576
I	8	8	576	576
J	8	8	576	576
K	8	8	576	576
L	8	8	576	576
M	8	8	576	576
N	8	8	576	576
O	8	8	576	576
<b>Total</b>			<b>5760</b>	<b>5760</b>
<b>Concordance</b>	100.00%			

**REFERENCE METHOD**

Number of laboratories 10

Number of negatives per laboratory 8

**Level L0**

Laboratory	Nb of negatives expected	Nb of negatives obtained	Inter-laboratory pairs with the same result	Total number of inter-laboratory pairs
C	8	8	568	576
D	8	8	568	576
H	8	8	568	576
I	7	7	504	504
J	8	8	568	576
K	8	8	568	576
L	8	8	568	576
M	8	8	568	576
N	8	8	568	576
O	8	8	568	576
<b>Total</b>			<b>5616</b>	<b>5688</b>
<b>Concordance</b>	98.73%			

Number of laboratories 10

Number of positives per laboratory 8

**Level L1**

Laboratory	Nb of positives expected	Nb of positives obtained	Inter-laboratory pairs with the same result	Total number of inter-laboratory pairs
C	8	8	576	576
D	8	8	576	576
H	8	8	576	576
I	8	8	576	576
J	8	8	576	576
K	8	8	576	576
L	8	8	576	576
M	8	8	576	576
N	8	8	576	576
O	8	8	576	576
<b>Total</b>			<b>5760</b>	<b>5760</b>
<b>Concordance</b>	100.00%			

Number of laboratories 10

Number of positives per laboratory 8

**Level L2**

Laboratory	Nb of positives expected	Nb of positives obtained	Inter-laboratory pairs with the same result	Total number of inter-laboratory pairs
C	8	8	576	576
D	8	8	576	576
H	8	8	576	576
I	8	8	576	576
J	8	8	576	576
K	8	8	576	576
L	8	8	576	576
M	8	8	576	576
N	8	8	576	576
O	8	8	576	576
<b>Total</b>			<b>5760</b>	<b>5760</b>
<b>Concordance</b>	100.00%			