

**NF VALIDATION**  
**Validation of alternative analytical methods**  
*Application in food microbiology*

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

**MicroSEQ® *Salmonella* spp method**  
(Certificate number: ABI 29/02 - 09/10)  
for the detection of *Salmonella* spp. in a broad range of food,  
feed products (including pet food) and primary production samples










**Qualitative method**

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This report consists of 111 pages, including 9 appendices.  
Only copies including the totality of this report are authorised.

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

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Quality Assurance documents related to this study can be consulted upon request from **THERMO FISHER SCIENTIFIC**.

The technical protocol and the result interpretation were carried out according to the EN ISO 16140-2:2016 and the AFNOR technical rules (PR Revision 7).

<b>Validation protocols</b>	<ul style="list-style-type: none"> <li>▪ ISO 16140-1 (2016): Microbiology of the food chain - Method validation — <i>Part 1: Vocabulary</i></li> <li>▪ ISO 16140-2(2016): Microbiology of the food chain - Method validation — <i>Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method</i></li> <li>▪ AFNOR technical rules (PR Revision 7)</li> </ul>
<b>Reference methods<sup>♦</sup></b>	<ul style="list-style-type: none"> <li>▪ ISO 6579-1 (February 2017) - Microbiology of the food chain - Horizontal method for the detection, enumeration and serotyping of <i>Salmonella</i> spp. - Part 1: detection of <i>Salmonella</i> spp</li> <li>▪ ISO 6579-1/A1 (March 2020): Microbiology of the food chain - Horizontal method for the detection, enumeration and serotyping of <i>Salmonella</i> spp. - Part 1: detection of <i>Salmonella</i> spp. Amendment 1: Broader range of incubation temperatures, amendment to the status of Annex D, and correction of the composition of MSRV and SC</li> </ul>
<b>Alternative method</b>	<b>MicroSEQ® <i>Salmonella</i> spp.</b>
<b>Scope</b>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> <b>A broad range of food</b></li> <li><input checked="" type="checkbox"/> <b>Feed products (including pet food)</b></li> <li><input checked="" type="checkbox"/> <b>Primary production samples</b></li> </ul>
<b>Certification organism</b>	AFNOR Certification ( <a href="http://nf-validation.afnor.org/">http://nf-validation.afnor.org/</a> )

<sup>♦</sup> Analyses performed according to the COFRAC accreditation

## 1 INTRODUCTION

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The **MicroSEQ® *Salmonella* method** was initially validated in September 2010 (certificate number ABI 29/02 – 09/10) according to the ISO 16140 (2003).

A summary of the different validation studies is given in **Table 1**.

**Table 1 - Summary of the different validation studies**

Date	Study	ISO method	ISO validation standard
September 2010	Initial validation study: Human food and feed using the manual extraction protocol (PrepSEQ Rapid Spin) Certificate: ABI 29/02 – 09/10	ISO 6579 (2002)	ISO 16140 (2003)
May 2012	Extension for primary production samples Manual (PrepSEQ Rapid Spin) and automated extraction protocol (PrepSEQ NA)	ISO 6579 (2002)	ISO 16140 (2003)
July 2013	Extension for the automated extraction protocol (PrepSEQ NA) for meat	ISO 6579 (2002)	ISO 16140 (2003)
July 2014	Renewal	ISO 6579 (2002)	ISO 16140 (2003)
March 2018	Extension for the use of the Thermo Fisher Scientific KingFisher™ Flex-96 Deep Well Magnetic Particle Processor	/	ISO 16140-2 (2016)
December 2018	Renewal study according to ISO 16140-2 (2016)	ISO 6579-1 (2017)	ISO 16140-2 (2016)
June 2022	Renewal study according to ISO 16140-2 (2016)	ISO 6579-1 (2017)	ISO 16140-2 (2016)

## 2 METHOD PROTOCOLS

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### 2.1 Alternative method

#### 2.1.1 Principle

The MicroSEQ® *Salmonella* spp. method is based on real time PCR technology with TaqMan® probes.

### 2.1.2 Protocol

The following protocols were validated:

- **For food and feed products (See Appendix 1)**
  - Enrichment step in BPW at 34-38 °C for 18 h ± 2 h
  - Nucleic Acid extraction using PrepSEQ™ Rapid Spin Sample Preparation Kit (750µl)
  - Real time PCR detection (30µl)
  - Confirmation by:
    - the protocol described in the reference method,
    - or by performing a second enrichment step in RVS (0.1 mL BPW in 10 mL RVS) for 24 h ± 3 h at 41,5°C ± 1°C before streaking (10µl) onto 1 selective agar. The isolated typical colonies are confirmed by a latex test (OXOID) without a purification step.
    - Any appropriate ISO 16140-6:2019 validated method.
  
- **For primary production samples (See Appendix 2)**
  - Pre-enrichment step in TT broth + I<sub>2</sub>KI + Brilliant Green at 34-38°C for 18 h ± 2 h, followed by a sub-culture in BPW (1 ml/9 ml) for 4 h to 6 h at 34-38°C,
  - Nucleic Acid extraction using:
    - The PrepSEQ™ Rapid Spin sample preparation protocol (750µl),
    - The automated PrepSEQ™ NA Extraction- Sample Preparation System (MagMAX™ Express-96 or KingFisher Flex-96 instruments) (100µl),
  - Real time PCR detection (30µl)
  - Confirmation by subculture of the BPW (0.1 ml/10 ml) in RVS, before streaking (10µl) onto XLD and a second chromogenic agar. The isolated typical colonies are confirmed by a latex test (OXOID) without a purification step. Or any appropriate ISO 16140-6:2019 validated method.
  
- **For meat products (See Appendix 3)**
  - Pre-enrichment step in BPW at 34-38°C for 18 h ± 2 h
  - Nucleic Acid extraction using the automated PrepSEQ™ NA Extraction- Sample Preparation System (MagMAX™ Express-96 or KingFisher Flex-96 instruments),
  - Real time PCR detection (30 µl)

- Confirmation by subculture in RVS (0.1 mL BPW in 10 mL RVS) for 6 h to 24 h  $\pm$  3 h at 41.5°C  $\pm$  1°C before streaking (10 $\mu$ l) onto XLD and a second chromogenic agar. The isolated typical colonies are confirmed by a latex test (OXOID) without a purification step. Or any appropriate ISO 16140-6:2019 validated method.

**In order to provide sufficient practicability to the users, it is possible to store the enriched BPW broths for 72 hours at 5°C  $\pm$  3°C, before proceeding to PCR and confirmatory tests.**

### **PCR and Interpretation**

The PCR is run using the Applied Biosystems™ 7500 Fast instrument with the Applied Biosystems™ RapidFinder™ Express 2.0 software for interpretation.

#### **2.1.3 Restriction**

The sprouts are excluded from the scope of the validation.

## **2.2 Reference method**

The reference method (See **Appendix 4**) used for the renewal study are:

- ISO 6579-1 (April 2017) – Microbiology of the food chain– Horizontal method for the detection, enumeration and serotyping of *Salmonella* spp. – Part 1: detection of *Salmonella* spp.
- ISO 6579-1/A1 (March 2020): Microbiology of the food chain - Horizontal method for the detection, enumeration and serotyping of *Salmonella* spp. - Part 1: detection of *Salmonella* spp. Amendment 1: Broader range of incubation temperatures, amendment to the status of Annex D, and correction of the composition of MSR.V and SC.

## 2.3 Study design

For Primary Production Samples (PPS), **it is an unpaired study design** as the enrichment step for the reference method and the alternative method is different (use of TT broth + I<sub>2</sub>KI +Brilliant Green broth)

For all other categories, **it is a paired study design** as the reference method and the alternative method have the same enrichment step (BPW 18h ± 2h at 34-38°C).

## 3 INITIAL VALIDATION, EXTENSION AND RENEWAL STUDIES

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### 3.1 Method comparison study

***The method comparison study is a study performed by the expert laboratory to compare the alternative method with the reference method.***

*The study was carried out on a diversity of samples and strains representative of agri-food products. This does not constitute an exhaustive list of the different matrices included in the scope.*

*For any comment on the alternative method, please contact AFNOR Certification at <http://nf-validation.afnor.org/contact-2/>.*

#### 3.1.1 Sensitivity study

*The sensitivity (SE) is the ability of the method to detect the analyte by either the reference or alternative method.*

##### 3.1.1.1 Number and nature of samples

540 samples were tested with the PrepSEQ™ Rapid Spin protocol providing 220 positive and 320 negative results, and 152 samples with PrepSEQ™NA Extraction protocol providing 60 positive and 92 negative results.

The distribution per tested category and type is given in Table 2.

**Table 2 – Distribution per tested category and type**

Category		Type	Positive samples	Negative samples	Total
1	Ready-to-eat (RTE), Ready-to-reheat (RTRH)	a RTE	8	14	22
		b RTRH	16	10	26
		c Marinated, smoked	7	14	21
		<b>Total</b>	<b>31</b>	<b>38</b>	<b>69</b>
2	Meat products	a Poultry	10	23	33
		b Pork	10	37	47
		c Beef and others	10	10	20
		<b>Total</b>	<b>30</b>	<b>70</b>	<b>100</b>
3	Dairy products	a Milk and fermented milk	10	16	26
		b Cheeses	10	16	26
		c Dessert, milk powder, ice creams	10	14	24
		<b>Total</b>	<b>30</b>	<b>46</b>	<b>76</b>
4	Egg products	a Egg powders	8	12	20
		b Liquid egg products	13	14	27
		c Egg based products	9	11	20
		<b>Total</b>	<b>30</b>	<b>37</b>	<b>67</b>
5	Seafood and vegetables (except sprouts)	a Fish and seafood	11	13	24
		b Produces	10	11	21
		c Raw vegetables	12	12	24
		<b>Total</b>	<b>33</b>	<b>36</b>	<b>69</b>
6	Feed samples	a Raw	10	10	20
		b Dried	8	13	21
		c Heated	14	11	25
		<b>Total</b>	<b>32</b>	<b>34</b>	<b>66</b>
7	Meat products	a Raw	14	9	23
		b Delicatessen	8	12	20
		c RTE, RTRH	8	12	20
		<b>Total</b>	<b>30</b>	<b>33</b>	<b>63</b>
8	Primary production samples (PPS)	a Faeces	21	29	50
		b Non faeces	13	30	43
		<b>Total</b>	<b>34</b>	<b>59</b>	<b>93</b>
	PPS	a Faeces	18	30	48
		b Non faeces	12	29	41
		<b>Total</b>	<b>30</b>	<b>59</b>	<b>89</b>
<b>Total Rapid Spin Protocol</b>			<b>220</b>	<b>320</b>	<b>540</b>
<b>Total NA Extraction protocol</b>			<b>60</b>	<b>92</b>	<b>152</b>

	PrepSEQ™ Rapid Spin protocol
	PrepSEQ™ NA Extraction protocol



### 3.1.1.2 Artificial contamination of samples

270 samples were artificially contaminated; 150 samples gave positive results with the PrepSEQ™ Rapid Spin protocol and 29 samples were positive with the PrepSEQ™ NA Extraction protocol.

Artificial contamination was performed by seeding or spiking protocol: the strains were stressed using various injury protocols depending on the inoculated food matrix; the injury efficiency was evaluated by comparing enumeration done onto selective (XLD plate) and non-selective agars (TSYE plate). The artificial contaminations are presented in **Appendix 5**.

The repartition of positive naturally and artificially contaminated samples, per contamination protocol and inoculation level after excluding the samples with high inoculation level, is provided in **Table 3**.

**Table 3 - Repartition per contamination protocol and inoculation level**

PrepSEQ™ Rapid Spin protocol							
	Naturally contaminated	Artificially contaminated					Total
		Spiking protocol			Seeding protocol		
		≤ 5 CFU	5 < x ≤ 10 CFU	>10 CFU	≤ 3 CFU	3 < x ≤ 10 CFU	
Number of samples	70	59	35	13	37	6	220
%	31,7%	26,7%	15,8%	5,9%	16,8%	2,7%	100,0%

PrepSEQ™ NA Extraction protocol							
	Naturally contaminated	Artificially contaminated					Total
		Spiking protocol			Seeding protocol		
		≤ 5 CFU	5 < x ≤ 10 CFU	>10 CFU	≤ 3 CFU	3 < x ≤ 10 CFU	
Number of samples	31	15	12	2	0	0	60
%	51,7%	25,0%	20,0%	3,3%	0,0%	0,0%	100,0%

70 and 31 naturally contaminated samples were tested with the PrepSEQ™ Rapid Spin protocol and PrepSEQ™ NA Extraction respectively.

**31.7 % and 51.7 % of the samples were naturally contaminated respectively with the PrepSEQ™ Rapid Spin protocol and PrepSEQ™ NA Extraction respectively.**

### 3.1.1.3 Protocols applied during the validation study

#### **Incubation time**

The minimum incubation time was applied:

- For food and feed (PrepSEQ™ Rapid Spin protocol): 16 h in BPW;
- For PPS (PrepSEQ™ NA Extraction protocol): 16 h in TT broth + I<sub>2</sub>KI + Brilliant Green + 4 h in BPW;
- For meat (PrepSEQ™ Rapid Spin protocol or PrepSEQ™ NA Extraction protocol): 16 h in BPW + 6 h **and** 24 h in RVS.

#### **Extraction protocol**

For the extension studies run in 2012 and 2013 the MagMAX™ Express-96 system was used. The KingFisher Flex-96 instrument was used for the renewal study performed in 2018. This concerns the meat and primary production categories.

The PrepSEQ™ Rapid Spin protocol was used for food and feed products and for primary production samples.

#### **Confirmations**

For the food and feed samples (PrepSEQ™ Rapid Spin protocol):

- Tests described in the ISO method,
- Subcultures in RVS broth, followed by streaking (10µl) on XLD agar.
- Isolated typical colonies were confirmed by performing a latex test (OXOID) without a purification step.

For the PPS samples (both extraction protocols):

- Subculture of BPW into RVS broth (0.1 ml + 10 ml) incubated at 24 h ± 3 h at 41.5°C ± 1°C, followed by streaking (10µl) onto XLD and IRIS *Salmonella* (or ASAP) agar plates.
- Typical colonies were then confirmed by performing a latex test (OXOID) and the confirmatory tests described in the ISO 6579 method.

For the Meat products (PrepSEQ™ NA Extraction protocol):

- Subculture in RVS broth (0.1 ml + 10 ml) for 6 h to 24 h (both incubation times tested during the validation study) at  $41.5^{\circ}\text{C} \pm 1^{\circ}\text{C}$  and then streaking (10 $\mu\text{l}$ ) onto selective agar plates (XLD and IRIS or ASAP).
- Isolated typical colonies were confirmed by performing a latex test (OXOID) without a purification step.

 **Enrichment broth storage**



The enrichment broths of the positive samples were tested again after storage for 72h at  $5^{\circ}\text{C} \pm 3^{\circ}\text{C}$  (PCR and confirmatory tests).

### 3.1.1.4 Test results

Raw data per category are given in **Appendix 6**. The results are given in **Table 4**.

**Table 4 – Interpretation of sample results between the reference and alternative method (based on the confirmed alternative method)**

Category		PA	NA*	PD	ND**	PPND	PPNA	Total
1	RTE, RTRH	30	37	0	1	0	1	69
2	Meat products	30	67	0	0	0	3	100
3	Dairy products	28	42	1	1	0	4	76
4	Egg products	30	33	0	0	0	4	67
5	Seafood and vegetables (except sprouts)	31	36	0	2	0	0	69
6	Feed samples	30	33	0	2	0	1	66
7	Meat products	29	33	0	1	0	0	63
8	PPS	20	58	9	5	0	1	93
	PPS	17	57	8	5	0	2	89
Total Rapid Spin Protocol		199	306	10	11	0	14	540
Total NA Extraction protocol		46	90	8	6	0	2	152

	PrepSEQ™ Rapid Spin protocol
	PrepSEQ™ NA Extraction protocol

\* PPNA not included

\*\* PPND not included

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

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

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

Category		Type	PA	NA	PD	ND	PPND	PPNA	SE <sub>alt</sub> %	SE <sub>ref</sub> %	RT %	FPR %
1	RTE, RTRH	a RTE	7	13	0	1	0	1	87,5	100,0	95,5	7,7
		b RTRH	16	10	0	0	0	0	100,0	100,0	100,0	0,0
		c Marinated, smoked	7	14	0	0	0	0	100,0	100,0	100,0	0,0
		<b>Total</b>	30	37	0	1	0	1	96,8	100,0	98,6	2,6
2	Meat products	a Poultry	10	21	0	0	0	2	100,0	100,0	100,0	9,5
		b Pork	10	36	0	0	0	1	100,0	100,0	100,0	2,8
		c Beef and others	10	10	0	0	0	0	100,0	100,0	100,0	0,0
		<b>Total</b>	30	67	0	0	0	3	100,0	100,0	100,0	4,3
3	Dairy products	a Milk and fermented milk	8	15	1	1	0	1	90,0	90,0	92,3	6,7
		b Cheeses	10	15	0	0	0	1	100,0	100,0	100,0	6,7
		c Dessert, milk powder, ice creams	10	12	0	0	0	2	100,0	100,0	100,0	16,7
		<b>Total</b>	28	42	1	1	0	4	96,7	96,7	97,4	8,7
4	Egg products	a Egg powders	8	9	0	0	0	3	100,0	100,0	100,0	33,3
		b Liquid egg products	13	14	0	0	0	0	100,0	100,0	100,0	0,0
		c Egg based products	9	10	0	0	0	1	100,0	100,0	100,0	10,0
		<b>Total</b>	30	33	0	0	0	4	100,0	100,0	100,0	10,8
5	Seafood and vegetables (except sprouts)	a Fish and seafood	10	13	0	1	0	0	90,9	100,0	95,8	0,0
		b Produces	9	11	0	1	0	0	90,0	100,0	95,2	0,0
		c Raw vegetables	12	12	0	0	0	0	100,0	100,0	100,0	0,0
		<b>Total</b>	31	36	0	2	0	0	93,9	100,0	97,1	0,0
6	Feed samples	a Raw	8	9	0	2	0	1	80,0	100,0	90,0	11,1
		b Dried	8	13	0	0	0	0	100,0	100,0	100,0	0,0
		c Heated	14	11	0	0	0	0	100,0	100,0	100,0	0,0
		<b>Total</b>	30	33	0	2	0	1	93,8	100,0	97,0	2,9
7	Meat products	a Raw	13	9	0	1	0	0	92,9	100,0	95,7	0,0
		b Delicatessen	8	12	0	0	0	0	100,0	100,0	100,0	0,0
		c RTE, RTRH	8	12	0	0	0	0	100,0	100,0	100,0	0,0
		<b>Total</b>	29	33	0	1	0	0	96,7	100,0	98,4	0,0

Category		Type	PA	NA	PD	ND	PPND	PPNA	SE <sub>alt</sub> %	SE <sub>ref</sub> %	RT %	FPR %
8	PPS	a Faeces	9	29	8	4	0	0	81,0	61,9	76,0	0,0
		b Non faeces	11	29	1	1	0	1	92,3	92,3	95,3	3,4
		<b>Total</b>	20	58	9	5	0	1	85,3	73,5	84,9	1,7
	PPS	a Faeces	7	28	7	4	0	2	77,8	61,1	77,1	7,1
		b Non faeces	10	29	1	1	0	0	91,7	91,7	95,1	0,0
		<b>Total</b>	17	57	8	5	0	2	83,3	73,3	85,4	3,4
<b>Total Rapid Spin Protocol</b>			199	306	10	11	0	14	95,0	95,5	96,1	4,4
<b>Total NA Extraction protocol</b>			46	90	8	6	0	2	90,0	86,7	90,8	2,2

\* PPNA not included

\*\* PPND not included

	PrepSEQ™ Rapid Spin protocol
	PrepSEQ™ NA Extraction protocol

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

**Table 6 - Summary of results**

		PrepSEQ™ Rapid Spin protocol	PrepSEQ™ NA Extraction protocol
Sensitivity for the alternative method	$SE_{alt} = \frac{(PA + PD)}{(PA + ND + PD)} \times 100\%$	95.0 %	90.0 %
Sensitivity for the reference method	$SE_{ref} = \frac{(PA + ND)}{(PA + ND + PD)} \times 100\%$	95.5 %	86.7 %
Relative trueness	$RT = \frac{(PA + NA)}{N} \times 100\%$	96.1 %	90.8 %
False positive ratio for the alternative method* FP = PPNA + PPND	$FPR = \frac{(FP)}{NA} \times 100\%$	4.4 %	2.2 %

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

### 3.1.1.6 Analysis of discordant results

The negative deviations are given in **Table 7** and the positive deviations in **Table 8**.

For the PrepSEQ™ Rapid Spin protocol, 11 negative deviations were observed: 6 for food products and 5 for primary production samples. For the food products, the confirmatory tests concluded to the presence of *Salmonella* strain in the enrichment broth.

The contamination level was probably below the detection level of the alternative method in these cases.

For the PrepSEQ™ NA Extraction protocol, 6 negative deviations were observed: 1 for meat products and 5 for primary production samples. The presence of *Salmonella* was confirmed only for the meat products.

10 positive deviations were obtained using the PrepSEQ™ Rapid Spin protocol: 1 for dairy products and 9 for primary production samples. 8 positive deviations were observed for the PrepSEQ™ NA Extraction protocol, all for primary production samples.

Table 7 - Negative deviations

Sample N°	Product	Artificial contaminations		Reference method: ISO 6579*	Alternative method: MicroSEQ <i>Salmonella</i> spp PrepSEQ Rapid Spin protocol Food and feed products				Category	Type
		Strain	Inoculation level (CFU/sample)		PCR result (Cq)	Confirmation	Final result	Agreement		
2405	Vegetable terrine	S. Typhimurium Ad1249	1,2	+	-(37,0) / +(35,6)/+(35,1)	+	-	ND	1	a
1987	Raw milk	S. Lagos 173	5,8	+	-/(36,2)/-(36,1)	+	-	ND	3	a
6508	Fish fillet	S. Senftenberg Ad355	1,0	+	-/-	+	-	ND	5	a
6591	Baby leaves (spinach)	S. Caracas Ad2322	2,4	+	-/(37,14)/-(38,13)	+	-	ND	5	b
2410	Raw bovine meat for animals	S. Dublin Ad529	2,2	+	-(36,09)/-(35,9)/+(35,40)/-(36,4)	+	-	ND	6	a
2411	Raw meat for animals 1	S. Infantis 288	1,4	+	-(36,1)/-(36,9)/-(39,1)	+	-	ND	6	a

Sample N°	English name product	Artificial contamination		Reference method: ISO 6579/A1*	U47-100	Alternative method: MicroSEQ <i>Salmonella</i> spp PrepSEQ Rapid Spin protocol and NA Extraction protocol Primary production samples						Category	Type	
		Strain	Inoculation level (CFU/sample)			PCR Rapid Spin	PCR NA	Confirmation	Final result Rapid Spin	Final result NA	Agreement RapidSpin			Agreement NA
998	Boot socks(poultry)	/	/	+	+	-	-	-	-	-	ND	ND	8	a
1000	Boot socks(poultry)	/	/	+	+	-	-	-	-	-	ND	ND	8	a
1004	Boot socks(poultry)	/	/	+	+	-	-	-	-	-	ND	ND	8	a
1005	Boot socks(poultry)	/	/	+	+	-	-	-	-	-	ND	ND	8	a
1022	Hen drinker water	S. Derby Ad 1500	6,4	+	+	-	-	-	-	-	ND	ND	8	b

Sample N°	Product	Artificial contamination		Reference method: ISO 6579 *	Alternative method: MicroSEQ <i>Salmonella</i> spp Meat products NA Extraction protocol				Category	Type
		Strain	Inoculation level (CFU/sample)		PCR (Ct)	Confirmation RVS 6h/ RVS 24h	Final result	Agreement		
2464	Raw turkey meat	/	/	+	-(36,11)	+ /+	-	ND	7	a

Table 8 - Positive deviations

Sample N°	Product	Artificial contamination		Reference method: ISO 6579*	Alternative method: MicroSEQ <i>Salmonella</i> spp-PrepSEQ Food products Rapid Spin protocol				Category	Type
		Strain	Inoculation level (CFU/sample)		PCR result (Cq)	Confirmation	Final result	Agreement		
1985	Raw milk	S. Dublin Ad531	11,4	-	+	+	+	PD	3	a

Sample N°	Product	Artificial contamination		Reference method: ISO 6579 /A1*	U47-100	Alternative method: MicroSEQ <i>Salmonella</i> spp PrepSEQ Rapid Spin protocol and NA Extraction protocol Primary production samples						Category	Type	
		Strain	Inoculation level (CFU/sample)			PCR Rapid Spin	PCR NA	Confirmation	Final result Rapid Spin	Final result NA	Agreement RapidSpin			Agreement NA
254	Pork faeces	S. Derby Ad1500	3,8	-	-	+	+	+	+	+	PD	PD	8	a
996	Boot socks(poultry)	/		-	-	+	+	+	+	+	PD	PD	8	a
1001	Boot socks(poultry)	/		-	-	+	i/+	+	+	+	PD	PD	8	a
1002	Boot socks(poultry)	/		-	-	+	i/+	+	+	+	PD	PD	8	a
1017	Boot socks(poultry)	/		-	-	+	+	+	+	+	PD	PD	8	a
1050	Pork faeces	S. Typhimurium ST 394	5,6	-	-	+/-	-	+	+	-	PD	NA	8	a
1053	Pork faeces	S. Typhimurium ST 394	5,6	-	-	+	+	+	+	+	PD	PD	8	a
243	Slaughterhouse poultry faeces	S. Hadar 35	12	-	-	+	+	+	+	+	PD	PD	8	a
252	Hen water	S. Typhimurium Ad1335	8,4	-	-	+	+	+	+	+	PD	PD	8	b



For the PrepSEQ™ Rapid Spin extraction protocol, 11 negative deviations were observed: 6 for food products and 5 for primary production samples. For the food products, the confirmatory tests concluded to the presence of the *Salmonella* strain in the enrichment broth.

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

**Table 9 - Analyses of discordant results**

Category	Type	N+	ND**	PPND	PD	Paired				Unpaired		Combined		
						(ND+PPND) -PD	AL	(ND+PPND) +PD	AL	(ND+PPND) -PD	AL	(ND+PPND) -PD	AL	
1	RTE, RTRH	a RTE	8	1	0	0	1		1			1		
		b RTRH	16	0	0	0	0		0			0		
		c Marinated, smoked	7	0	0	0	0		0			0		
		<b>Total</b>	31	1	0	0	1	3	1	6			1	3
2	Meat products	a Poultry	10	0	0	0	0		0			0		
		b Pork	10	0	0	0	0		0			0		
		c Beef and others	10	0	0	0	0		0			0		
		<b>Total</b>	30	0	0	0	0	3	0	6			0	3
3	Dairy products	a Milk and fermented milk	10	1	0	1	0		2			0		
		b Cheeses	10	0	0	0	0		0			0		
		c Dessert, milk powder, ice creams	10	0	0	0	0		0			0		
		<b>Total</b>	30	1	0	1	0	3	2	6			0	3
4	Egg products	a Egg powders	8	0	0	0	0		0			0		
		b Liquid egg products	13	0	0	0	0		0			0		
		c Egg based products	9	0	0	0	0		0			0		
		<b>Total</b>	30	0	0	0	0	3	0	6			0	3
5	Seafood and vegetables (except sprouts)	a Fish and seafood	11	1	0	0	1		1			1		
		b Produces	10	1	0	0	1		1			1		
		c Raw vegetables	12	0	0	0	0		0			0		
		<b>Total</b>	33	2	0	0	2	3	2	6			2	3
6	Feed samples	a Raw	10	2	0	0	2		2			2		
		b Dried	8	0	0	0	0		0			0		
		c Heated	14	0	0	0	0		0			0		
		<b>Total</b>	32	2	0	0	2	3	2	6			2	3
7	Meat products	a Raw	14	1	0	0	1		1			1		
		b Delicatessen	8	0	0	0	0		0			0		
		c RTE, RTRH	8	0	0	0	0		0			0		
		<b>Total</b>	30	1	0	0	1	3	1	6			1	3
8	PPS	a Faeces	21	4	0	8					-4		-4	
		b Non faeces	13	1	0	1					0		0	
		<b>Total</b>	34	5	0	9					-4	4	-4	3
	PPS	a Faeces	18	4	0	7					-3		-3	
		b Non faeces	12	1	0	1					0		0	
		<b>Total</b>	30	5	0	8					-3	3	-3	3
<b>Total Rapid Spin Protocol</b>		<b>220</b>	<b>11</b>	<b>0</b>	<b>10</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>16</b>	<b>-4</b>	<b>4</b>	<b>1</b>	<b>7</b>	
<b>Total NA Extraction protocol</b>		<b>60</b>	<b>6</b>	<b>0</b>	<b>8</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>6</b>	<b>-3</b>	<b>3</b>	<b>-2</b>	<b>4</b>	

\*\* PPND not included

	PrepSEQ™ Rapid Spin protocol
	PrepSEQ™ NA Extraction protocol

The observed values for (ND + PPND) – PD and ND + PPND + PD meet the acceptability limit for each individual category and for all the combined categories (calculated values  $\leq$  AL), regardless of the extraction protocol applied.

### 3.1.1.7 Enrichment broth storage at $5 \pm 3$ °C for 72 h

272 and 85 DNA extracts were tested respectively for the PrepSEQ™ Rapid Spin protocol and the PrepSEQ™ NA Extraction protocol after enrichment broth storage for 72 h at  $5^{\circ}\text{C} \pm 3^{\circ}\text{C}$ . Four changes were observed (See **Table 10**).

**Table 10 - Enrichment broth storage**

Sample N°	Product	Agreement before storage	Agreement after storage	Extraction protocol
2405	Vegetable terrine	ND	PA	PrepSEQ™ Rapid Spin
2410	Raw bovine meat	ND	PA	
6197	RTE	PA	PPND	
2464	Turkey meat	ND	PA	PrepSEQ™ NA

The analyses of discordant results become (See **Table 11**).

**Table 11 - Analysis of discordant results after storage 72 h at 5 ± 3°C**

Category	Type	N+	ND**	PPND	PD	Paired				Unpaired		Combined		
						(ND+PPND) -PD	AL	(ND+PPND) +PD	AL	(ND+PPND) -PD	AL	(ND+PPND) -PD	AL	
1	RTE, RTRH	a RTE	8	0	1	0	1		1			1		
		b RTRH	16	0	0	0	0		0			0		
		c Marinated, smoked	7	0	0	0	0		0			0		
		<b>Total</b>	31	0	1	0	1	3	1	6		1	3	
2	Meat products	a Poultry	10	0	0	0	0		0			0		
		b Pork	10	0	0	0	0		0			0		
		c Beef and others	10	0	0	0	0		0			0		
		<b>Total</b>	30	0	0	0	0	3	0	6		0	3	
3	Dairy products	a Milk and fermented milk	10	1	0	1	0		2			0		
		b Cheeses	10	0	0	0	0		0			0		
		c Dessert, milk powder, ice creams	10	0	0	0	0		0			0		
		<b>Total</b>	30	1	0	1	0	3	2	6		0	3	
4	Egg products	a Egg powders	8	0	0	0	0		0			0		
		b Liquid egg products	13	0	0	0	0		0			0		
		c Egg based products	9	0	0	0	0		0			0		
		<b>Total</b>	30	0	0	0	0	3	0	6		0	3	
5	Seafood and vegetables (except sprouts)	a Fish and seafood	11	1	0	0	1		1			1		
		b Produces	10	1	0	0	1		1			1		
		c Raw vegetables	12	0	0	0	0		0			0		
		<b>Total</b>	33	2	0	0	2	3	2	6		2	3	
6	Feed samples	a Raw	10	1	0	0	1		1			1		
		b Dried	8	0	0	0	0		0			0		
		c Heated	14	0	0	0	0		0			0		
		<b>Total</b>	32	1	0	0	1	3	1	6		1	3	
7	Meat products	a Raw	14	0	0	0	0		0			0		
		b Delicatessen	8	0	0	0	0		0			0		
		c RTE, RTRH	8	0	0	0	0		0			0		
		<b>Total</b>	30	0	0	0	0	3	0	6		0	3	
8	PPS	a Faeces	21	4	0	8					-4		-4	
		b Non faeces	13	1	0	1					0		0	
	<b>Total</b>	34	5	0	9					-4	4	-4	3	
	PPS	a Faeces	18	4	0	7					-3		-3	
b Non faeces		12	1	0	1					0		0		
<b>Total</b>	30	5	0	8					-3	3	-3	3		
<b>Total Rapid Spin Protocol</b>		<b>220</b>	<b>9</b>	<b>1</b>	<b>10</b>	<b>4</b>	<b>6</b>	<b>6</b>	<b>16</b>	<b>-4</b>	<b>4</b>	<b>0</b>	<b>7</b>	
<b>Total NA Extraction protocol</b>		<b>60</b>	<b>5</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>6</b>	<b>-3</b>	<b>3</b>	<b>-3</b>	<b>4</b>	

\*\* PPND not included

	PrepSEQ™ Rapid Spin protocol
	PrepSEQ™ NA Extraction protocol

**The observed values for (ND + PPND) - PD and ND + PPND + PD meet the acceptability limit for each individual category and for all the combined categories (calculated values ≤ AL), regardless of the extraction protocol applied.**

### 3.1.1.8 Confirmation

For the **food and feed products** (PrepSEQ™ Rapid Spin protocol), two confirmation protocols were tested:

- Protocol described in the reference method (RVS and MKTTn);
- Subculture in RVS broth, streaking onto XLD plates and confirmation of the typical colonies using the OXOID latex test.

For 4 samples, the confirmatory tests of the reference method allowed to confirm the positive PCR tests while the simplified protocol (RVS/XLD) gave negative results. This concerns samples n° 1968 (pork liver), 1978 and 1979 (raw milk cheeses) and 2551 (raw milk).

One sample (n° 1985: raw milk) was confirmed using MRSV.

For **primary production samples**, the BPW was streaked onto XLD and IRIS or ASAP plates.

For one sample (n° 1021: pork faeces), a subculture in MKTTn and on MSRV was necessary to confirm the presence of *Salmonella* in the sample.

For **meat products** (PrepSEQ™ NA Extraction protocol), the confirmation was carried out by proceeding to a subculture in RVS broth (6 and 24 h) at 41.5°C before streaking onto XLD and IRIS. Same results were observed for both incubation times of the RVS broth.

### 3.1.1.9 PCR inhibition

1162 DNA extract were tested, 25 inhibitions were observed representing 2.2 %. The PCR inhibitions observed are listed in Table 12.

For 19 samples, the DNA extracts were tested again without applying any dilution and a PCR result was obtained.

For 5 samples, a PCR result was obtained after a 1/5 dilution was applied. For one sample (2405), a PCR result was obtained after a 1/10 dilution.

Table 12 - PCR inhibitions

Categories	Extraction protocol	Number of DNA extracts tested	Time	Sample N°	Product	PCR result	Category	Type	Number of inhibitions (%)
Food and feed	PrepSEQ™ Rapid Spin	794	After incubation	6329	Raw poultry meat	i/-*	2	a	19 (2.4%)
				6956	Raw pork meat	i/-*	2	b	
				1001	Goat raw milk	i/-	3	a	
				1061	Raw cow milk cheese	i/+i/i	3	a	
				1396	Raw milk cheese (Brie de Meaux)	i/-	3	b	
				2384	Egg yolk powder	i/i/-	4	a	
				6349	Yolk egg powder	i/-*	4	a	
				1007	Egg yolk	i/-	4	b	
				2235	Liquid egg yolk	i/-	4	b	
				<b>6504</b>	<b>Fish fillet</b>	i/-*	5	a	
				2241	Viscera flour (Feed stuff)	i/+	6	c	
			2243	Viscera flour (Feed stuff)	i/-	6	c		
			After storage 72 h at 5°C ± 3°C	6329	Raw poultry meat	i/-*	2	a	
				947	Dehydrated poultry proteins (Feedstuff)	i/+	6	c	
				948	Dehydrated poultry proteins (Feedstuff)	i/+	6	c	
				1419	Dehydrated poultry proteins	i/+	6	c	
				1421	Feedstuff(dehydrated)	i/+	6	c	
1424	Viscera flour	i/+		6	c				
2241	Viscera flour (Feed stuff)	i/+	6	c					
PPS	PrepSEQ™ Rapid Spin	140	After incubation	239	Litter (poultry)	i/-	8	b	2 (1.4%)
				952	Piped eggs	i/-	8	b	
	PrepSEQ™ NA Extraction	132	After incubation	1001	Boot socks(poultry)	i/+	8	a	3 (2.3%)
				1002	Boot socks(poultry)	i/+	8	a	
				809	Pork drinker water	i/-	8	b	
Meat products	PrepSEQ™ NA Extraction	96	After incubation and after storage	<b>2405</b>	<b>Ready to reheat (meat)</b>	i/(20,41) 1/10	7	c	1 (1%)

### 3.1.2 Relative level of detection

The relative level of detection is the level of detection at  $P = 0.50$  ( $LOD_{50}$ ) of the alternative (proprietary) method divided by the level of detection at  $P = 0.50$  ( $LOD_{50}$ ) of the reference method.

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

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

The relative detection level is the smallest number of culturable microorganisms than can be detected with 50 % of chances in the sample by the alternative and reference methods.

#### 3.1.2.1 Experimental design

Six (matrix/strain) pairs were already analysed by the reference method and by the alternative method according to the protocol defined in the ISO 16140 (2003). An additional matrix/strain pair (Deli salad) was tested using the protocol defined in the ISO 16140-2:2016 for this renewal study (See Table 13).

**Table 13 - Defined (matrix/strain) pairs for the RLOD determination**

	Category	Matrix	Strain	Origin	Storage conditions before analysis
1	Ready to eat and ready to reheat	Deli salad (macédoine)	<i>Salmonella</i> Mbandaka Ad914	Mayonnaise	48 h at $3^{\circ}\text{C} \pm 2^{\circ}\text{C}$
2	Meat products	Ground beef	<i>Salmonella</i> Infantis 128	Ground beef	/
3	Dairy products	Raw milk	<i>Salmonella</i> Montevideo 510	Raw milk	/
4	Egg products	Raw egg product	<i>Salmonella</i> Enteritidis 657	Egg product	/
5	Seafood and vegetables	Mushrooms	<i>Salmonella</i> Virchow F276	Spice	/
6	Feed products	Dog biscuits	<i>Salmonella</i> Derby 63	Feed	/
7	Meat products	Ground beef	<i>Salmonella</i> Infantis 128	Ground beef	/
8	Primary production samples	Poultry faeces	<i>Salmonella</i> Agona Ad1306	Bootsocks	/
8	Primary production samples				

	PrepSEQ™ Rapid Spin protocol
	PrepSEQ™ NA Extraction protocol

### 3.1.2.2 Calculation and interpretation of the RLOD

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

The RLOD calculations were performed using the Excel spreadsheet available at <http://standards.iso.org/iso/16140> - RLOD (clause 5-1-4-2 Calculation and interpretation of RLOD) version 06.07.2015. The RLOD are given **Table 14**.

**Table 14 – Presentation of RLOD before and after confirmation of the alternative method results**

Category	Name	RLOD	RLODL	RLODU	b=ln(RLOD)	sd(b)	z-Test statistic	p-value	AL
1	RTE (Macédoine)/ S. Mbandaka Ad914	1.000	0.430	2.327	0.000	0.422	0.000	1.000	1,5
2	Ground beef/ S. Infantis 128	1.000	0.446	2.240	0.000	0.403	0.000	1.000	
3	Raw milk/ S. Montevideo 510	1.000	0.466	2.146	0.000	0.382	0.000	1.000	
4	Raw egg product/ S. Enteritidis 657	1.000	0.466	2.146	0.000	0.382	0.000	1.000	
5	Mushrooms / S. Virchow F276	1.000	0.456	2.195	0.000	0.393	0.000	1.000	
6	Dog biscuits / S. Derby 630	1.000	0.435	2.298	0.000	0.416	0.000	1.000	
7	Ground beef/ S. Infantis 128	1.000	0.368	2.718	0.000	0.500	0.000	1.000	
8	Poultry faeces / S. Agona 1306	1.226	0.527	2.855	0.204	0.423	0.483	0.629	2,5
	Poultry faeces / S. Agona 1306	1.226	0.527	2.855	0.204	0.423	0.483	0.629	
<b>Combined results Prep SEQ Rapid Spin</b>		<b>1.019</b>	<b>0.754</b>	<b>1.375</b>	<b>0.018</b>	<b>0.150</b>	<b>0.123</b>	<b>0.902</b>	/
<b>Combined results Prep SEQ NA</b>		<b>1.079</b>	<b>0.574</b>	<b>2.028</b>	<b>0.076</b>	<b>0.316</b>	<b>0.240</b>	<b>0.810</b>	/

	PrepSEQ™ Rapid Spin protocol
	PrepSEQ™ NA Extraction protocol

**The RLOD are below the AL fixed at 2.5 for an unpaired study design or at 1.5 for a paired study design for all the tested matrix/strain pairs, regardless of the extraction protocol applied.**

The LOD<sub>50</sub> % calculations according to Wilrich & Wilrich POD-LOD calculation program - version 10, 2021-05-04 test are given in Table 15.

**Table 15 - LOD<sub>50</sub> results**

Category	(Strain / matrix) pair	Level of detection at 50% (CFU / sample size) according to Wilrich & Wilrich <sup>1</sup>	
		Reference method	Alternative method
1	RTE (Macédoine)/S. Mbandaka Ad914	0.8 [0.4;1.4]	0.8 [0.4;1.4]
2	Ground beef/ S. Infantis 128	0.6 [0.4;1.0]	0.6 [0.4;1.0]
3	Raw milk/ S. Montevideo 510	0.3 [0.2;0.6]	0.3 [0.2;0.6]
4	Raw egg product/ S. Enteritidis 657	0.8 [0.4;1.5]	0.8 [0.4;1.5]
5	Mushrooms / S. Virchow F276	0.3 [0.2;0.6]	0.3 [0.2;0.6]
6	Dog biscuits / S. Derby 630	1.0 [0.5;1.8]	1.0 [0.5;1.8]
7	Ground beef/ S. Infantis 128	0.2 [0.1;0.4]	0.2 [0.1;0.4]
8	Poultry faeces / S. Agona 1306	0.5 [0.2;1.0]	0.5 [0.2;1.0]
	Poultry faeces / S. Agona 1306	0.5 [0.2;1.0]	0.6 [0.3;1.2]
<b>Combined results Prep SEQ Rapid Spin</b>		<b>0.6 [0.5;0.8]</b>	<b>0.6 [0.5;0.8]</b>
<b>Combined results Prep SEQ NA</b>		<b>0.3 [0.2;0.5]</b>	<b>0.3 [0.2;0.6]</b>

	PrepSEQ™ Rapid Spin protocol
	PrepSEQ™ NA Extraction protocol

### 3.1.3 Inclusivity / exclusivity

*Inclusivity is the ability of the alternative method to detect the target analyte from a wide range of strains.  
Exclusivity is the lack of interference from a relevant range of non-target strains of the alternative method.*

#### 3.1.3.1 Test protocols

##### **Initial validation (2010)**

For inclusivity, 54 *Salmonella* strains were tested. Cultures were performed in BHI medium at 37°C. Dilutions were done in BPW in order to inoculate between 10 to 100 cells/225 ml BPW. The alternative method protocol was then performed (BPW incubation time: 16 h).

<sup>1</sup> Wilrich, C., and P.-Th. Wilrich: Estimation of the POD function and the LOD of a qualitative microbiological measurement method. AOAC International **92** (2009) 1763 - 1772.



For exclusivity, 33 negative strains were tested. Cultures were performed in BHI, incubated at 37°C. Dilutions were done in order to inoculate 10<sup>5</sup> cell/ml BPW. The alternative method protocol was then performed (BPW incubation time: 20 h)

#### **PPS extension with both extraction protocols (2012)**

For inclusivity, 50 *Salmonella* strain cultures were performed in BHI medium at 37°C. Dilutions were done in order to inoculate 10 cells/225 ml in Tetrathionate broth (225 ml + 25 ml sterile water). The alternative method was then performed (BPW incubation time: 16 h). Additional assays were done by adding sterilized faeces in the primary enrichment broth of the alternative and reference methods. This is supposed to decrease the selectivity of the enrichment broths.

Exclusivity was not performed again for this extension study.

#### **Meat products extension with NA Extraction protocol (2013)**

Inclusivity and exclusivity were not performed again for this extension study.

#### **Renewal validation study (2018)**

50 *Salmonella* strains were tested in order to fulfil the ISO 16140-2:2016 requirements. They were tested using the protocol dedicated to primary production samples.

4 additional *Salmonella houtenae* strains were tested to complete the study.

### 3.1.3.2 Results

The inclusivity and exclusivity results are presented in **Appendix 8**.

A summary of the results is given in **Table 16**.

**Table 16 - Summary of the results**

Year of study	Enrichment broth	Inclusivity			Exclusivity	
		Number of strains tested	Number of positive results obtained	Number of negative results obtained	Number of strains tested	Number of positive results obtained
2010	BPW for 16 h at 34-38°C	54	54	0	33	0
2012	TT Broth+I <sub>2</sub> KI+Brilliant Green 16h at 34-38°C + BPW for 4 h at 34-38°C	50	43 (inoculation level between 1-100 CFU/225ml)	0	/	/
			4 (inoculation 100-550 CFU/225ml)		/	/
			7 (+ 25g faeces)	1 <sup>(1)</sup>	/	/
2018	TT Broth+I <sub>2</sub> KI +Brilliant Green 16h at 34-38°C + BPW for 4 h at 34-38°C	50	45 (inoculation level 1-100 CFU/225ml)	5	/	/
			4 (inoculation 50-151 CFU/225ml + 25g faeces)	1 <sup>(2)</sup>	/	/

(1): *S.diarizonae* Ad1301(2): *S.houtenae* Ad596

### ☐ Inclusivity

#### ✚ Initial validation (2010)

The 54 target strains showed positive results.

#### ✚ PPS extension with both extraction protocols (2012)

Among the 50 strains tested, 43 gave a PCR positive result with the two extraction protocols when the Tetrathionate broth was inoculated at a level comprised between 1 and 100 CFU/225 ml.

For 4 strains (*Salmonella diarizonae* 451, *Salmonella* Napoli Ad928, *Salmonella* Rissen 39 and the non-mobile variant *Salmonella* Typhimurium Ad1333), positive PCR results were observed at a level comprised between 100 and 550 CFU/225 ml. Note that *Salmonella diarizonae* 451 is detected by the Rapid Spin protocol only.

For 3 strains (*Salmonella arizonae* CIP 5523, *Salmonella* Gallinarum Ad300 and *Salmonella* Paratyphi A ATCC 9150), negative PCR results were observed whatever the inoculation level.

These strains are detected by the tested method when a single enrichment in BPW is done, even at an inoculation level lower than 100 CFU/225 ml:

- *Salmonella diarizonae* 451,
- *Salmonella* Napoli Ad928,
- *Salmonella* Rissen 39,
- *Salmonella arizonae* CIP 5523,
- *Salmonella gallinarum* Ad300,
- *Salmonella* Paratyphi A ATCC 9150.

Note that the *Salmonella* Typhimurium Ad1333 strain was not tested during the initial validation study.

The observed results are thus due to the sub-culture in TTbroth+I<sub>2</sub>KI+Brilliant Green.

Additional assays were done by adding sterilized faeces in the primary enrichment broth of the alternative and reference methods.

In this case all the target strains were detected by the kit, except the *S. diarizonae* Ad1301. When using the ISO 6579/A1 reference method, negative results were observed with the 2 tested *S. Paratyphi* strains, as well as the 2 *S. Gallinarum* strains. The U47-100 reference method was not able to detect the *S. Gallinarum* Ad300 strain.

#### Renewal study (2018)

For the renewal study, 50 *Salmonella* strains were tested; all gave a positive PCR result (with adding matrix in the enrichment broth for 4 of them), except *Salmonella houtenae* Ad596. Note that another *Salmonella houtenae* strain (Ad597) was tested for the initial validation study and gave a positive PCR result. 4 other strains from the same subspecies were tested; one gave positive PCR results for both extraction protocols (PrepSEQ™ Rapid Spin protocol and PrepSEQ™ NA Extraction protocol) (*Salmonella houtenae* Ad597). One strain (*Salmonella houtenae* Ad2682) gave a positive PCR result only with the PrepSEQ™ Rapid Spin protocol. The two other strains (Ad1834 and Ad2681) gave negative PCR results.

#### **Exclusivity (2010)**

The 33 tested non-target strains showed negative results. One *Salmonella* Bongori (Ad599) gave a positive PCR result when inoculated at a high level (10<sup>5</sup> cells/225 ml) but gave finally a negative result when inoculated at a low level (6 cells/225 ml).

### 3.1.4 Practicability

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

<b>Storage conditions and shelf-life</b>	<ul style="list-style-type: none"> <li>- Rapid Spin Lysis buffer : 2 – 8°C</li> <li>- Proteinase K: - 15 – 25°C</li> <li>- Nuclease free water: room temperature</li> <li>- Box PrepSEQ NA Extraction: room temperature</li> <li>- Magnetic particles: 2 – 8°C, at room temperature after preheating.</li> <li>- Pathogen negative control: 2 – 8°C</li> </ul> <p>The shelf life is given on the package</p> <ul style="list-style-type: none"> <li>- Box PrepSEQ NA Extraction: 12 months after manufacturing</li> <li>- MicroSEQ <i>Salmonella</i> detection kit: 18 months after manufacturing</li> </ul> <p>All the reagents shall be stored at the temperature mentioned on the package.</p>		
	<b>Time to result</b>	<b>Reference method (ISO 6579/A1)</b>	<b>Alternative method MicroSEQ® <i>Salmonella</i> (Rapid Spin and NA Extraction)</b>
<b>Steps</b>			
Sampling, pre-enrichment	Day 0	Day 0	
Subculture (RVS, MKTTn, MSRV) inoculation	Day 1	/	
Streaking onto selective agar plates	Day 2-Day 3		
Enrichment (BPW)	/	Day 1	
Extraction	/	Day 1	
PCR	/	Day 1	
Selective agar plates reading	Day 3 – Day 4	/	
<b>Negative result</b>	<b>Day 3-Day 4</b>	<b>Day 1</b>	
<b>Alternative method confirmatory tests</b>			
BPW subculture into RVS broth	/	Day 1	
Streaking BPW onto <i>Salmonella</i> selective agar plates	/	Day 2	
<i>Salmonella</i> selective agar plates reading	/	Day 3	
Latex test on typical colonies	/	Day 3	
<b>Positive result</b>	<b>/</b>	<b>Day 3</b>	
<b>Reference method confirmatory tests</b>			
Streaking XLD, MKTTN, MSRV onto selective agars	Day 2 – Day 3	/	
Selective agars reading	Day 3 – Day 4	/	
Biochemical tests	Day 3 – Day 4	/	
Serological tests and biochemical tests reading	Day 4 – Day 5	/	
Tests results	Day 4-Day 5	/	
<b>Positive result</b>	<b>Day 4 – Day 5</b>	<b>/</b>	
<b>Common step with the reference method</b>	There is no common step with the reference method.		

The negative results are available in one day and the positive results in three days using the alternative method.

## 3.2 Inter-laboratory study

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

The data obtained during the initial and extension studies were interpreted according to the EN ISO 16140-2 (2016).

### 3.2.1 Study organisation

#### Collaborators number

Samples were sent to 15 laboratories.

#### Matrix and strain used

The study was carried out with ground beef samples contaminated with *Salmonella* Typhimurium A00C060.

#### Samples

Samples were inoculated and sent on Monday 5 July 2010, as described below:

- 24 blind samples for *Salmonella* detection by the MicroSEQ *Salmonella* method and by the reference method (ISO 6579:2002),
- 1 ground beef sample for the aerobic mesophilic flora enumeration by ISO 4833 method,
- 1 water flask labelled “Temperature Control” with a temperature probe, which records the temperature variations during transportation.

The analyses were started on Wednesday 7 July 2010.

### *Inoculation*

The targeted inoculation levels were:

- Level 0: 0 CFU/g,
- Level 1: 5 CFU/g,
- Level 2: 25 CFU/g.

Each laboratory received 24 samples of 25 g, i.e. 8 samples per inoculation level and method.

### *Labelling and shipping*

Blinded samples (code is only known by the expert laboratory) were placed in isothermal boxes, which contained cooling blocks, and express-shipped to the different laboratories.

A temperature control flask containing a temperature probe was added to the package in order to register the temperature profile during the transport, package delivery.

Samples were shipped in 24 h to 48 h to the different laboratories. Sample temperature had to stay lower or equal to 8.4°C during transport, and between 0°C – 8.4°C at arrival.

### *Analyses*

Collaborative study laboratories and the expert laboratory carried out the analyses with the alternative and reference methods at day 2.

## **3.2.2 *Experimental parameters controls***

### **3.2.2.1 *Strain stability and background microflora stability***

Sample stability was performed by inoculating the matrix at 25 CFU/25 g and 5 CFU/25 g. Enumerations were performed on 2.5 g of ground beef samples for the high contamination level and detection analyses were performed for the low contamination level. *Triplicates* were analyzed. The aerobic mesophilic flora was also enumerated; the results are given in Table 17.

**Table 17 - Sample stability**

Day	Reference method (detection)			CFU/25 g (XLD)			Aerobic mesophilic flora (CFU/g)
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	
Day 0	+	+	+	< 10	30	30	1.5x10 <sup>4</sup>
Day 1	+	+	+	20	20	40	3.4x10 <sup>4</sup>
Day 2	+	+	+	30	30	10	1.6x10 <sup>5</sup>

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

### 3.2.2.2 Contamination levels

The contamination levels and the sample codification were the following (see **Table 18**).

**Table 18 - Contamination levels**

Level	Samples	Theoretical target level (CFU/25 g)	True level (CFU/25 g sample)	Low limit CFU/ 25 g sample	High limit CFU/ 25 g sample
Level 0	3 – 4 – 8 – 11 – 13 – 18 – 21 – 24	0	/	/	/
Low level	1 – 6 – 7 – 12 – 14 – 16 – 20 – 23	5	3.8	3.3	4.4
High level	2 – 5 – 9 – 10 – 15 – 17 – 19 – 22	25	20.3	17.6	23.3

### 3.2.3 Logistic conditions

Temperature conditions are given in **Table 19**.

**Table 19 - Sample temperatures at receipt**

Laboratories	Temperature measured by the temperature probe (°C)	Temperature measured at receipt (°C)	Receipt delay	Day of analysis
A	5.0	6.3	Day 1 – 11h00	Day 2
B	5.0	6.8	Day 1 – 11h45	Day 2
C	4.0	6.5	Day 1 – 10h30	Day 2
D	4.5	9.4	Day 1 – 10h45	Day 2
E	4.0	3.7	Day 1 – 10h40	Day 2
F	2.5	5.3	Day 1 – 09h10	Day 2
G	4.0	7.8	Day 1 – 13h45	Day 2
H	5.0	6.3	Day 1 – 11h45	Day 2
I	4.5	2.0	Day 1 – 08h00	Day 1
J	4.0	6.7	Day 1 – 09h45	Day 2
K	4.0	8.2	Day 1 – 10h30	Day 2
L	24.0	25.0	Day 2 – 17h15	Day 2
M	5.0	<i>Not measured</i>	Day 1 – 10h30	Day 2
N	5.0	11.2	Day 1 – 10h55	Day 2
O	6.5	8.0	Day 1 – 12h00	Day 2

No problem was encountered during the transport or at receipt, except for two Labs:

- Lab L received his parcel at Day 2 at 25°C,
- For Lab N, the temperature measured at receipt was 11.2°C, but the probe indicated 5.0°C.



### 3.2.4 Results analysis

The raw data are given in **Appendix 9**.

#### 3.2.4.1 Expert laboratory results

The results obtained by the expert laboratory are given in **Table 20**.

**Table 20 – Results obtained by the expert Lab.**

Level	Reference method	Alternative method
L0	0/8	0/8
L1	8/8	8/8
L2	8/8	8/8

#### 3.2.4.2 Results observed by the collaborative laboratories

##### **Aerobic mesophilic flora enumeration**

Four Labs did not realize/run this analysis. Depending on the Lab results, the enumeration levels varied from  $3.7 \times 10^3$  to  $2.0 \times 10^5$  CFU/g.

##### **Salmonella spp. detection**

15 collaborators participated to the study. The results obtained are provided in **Table 21** (reference method) and **Table 22** (alternative method).

**Table 21 - Positive results by the reference method  
(ALL the collaborators: 15 laboratories)**

Collaborators	Contamination level		
	L0	L1	L2
A	0	8	8
B	0	8	8
C	0	8	8
D	0	8	8
E	0	8	8
F	0	8	8
G	0	8	8
H	0	8	8
I	0	8	8
J	0	8	8
K	0	8	8
L	0	8	8
M	0	8	8
N	1	7	8
O	0	8	8
<b>Total</b>	<b>1</b>	<b>119</b>	<b>120</b>

**Table 22 - Positive results (before and after confirmation) by the  
alternative method (ALL the collaborators: 15 laboratories)**

Collaborators	Contamination level								
	L0			L1			L2		
	PCR result	Confirmation result	Final result	PCR result	Confirmation result	Final result	PCR result	Confirmation result	Final result
A	0	0	0	8	8	8	8	8	8
B	0	0	0	8	8	8	8	8	8
C	0	0	0	8	8	8	8	8	8
D	0	0	0	8	8	8	8	8	8
E	0	0	0	8	8	8	8	8	8
F	0	0	0	8	8	8	8	8	8
G	0	0	0	8	8	8	8	8	8
H	0	0	0	8	8	8	8	8	8
I	0	0	0	8	8	8	8	8	8
J	0	0	0	8	8	8	8	8	8
K	0	0	0	8	8	8	8	8	8
L	1	0	0	8	8	8	8	8	8
M	0	0	0	8	8	8	8	8	8
N	1	1	0	7	7	7	8	8	8
O	0	0	0	8	8	8	8	8	8
<b>Total</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>119</b>	<b>119</b>	<b>119</b>	<b>120</b>	<b>120</b>	<b>120</b>

According to the AFNOR technical rules, it is possible to include the results from a collaborator with maximum one cross contamination at Level 0. For this study, this rule was applied for Lab N.

The data set from Lab L was not kept for interpretation as the samples were received at 25°C.

Lab I analysed the samples at Day 1 while all the labs were supposed to carry out the analyses at Day 2; the data set from this Lab was not kept.

### 3.2.4.3 Results of the collaborators retained for interpretation

The results obtained with the 13 labs kept for interpretation are presented in **Table 23** (reference method) and **Table 24** (alternative method).

**Table 23 - Positive results by the reference method  
(Without Labs I and L)**

Collaborators	Contamination level		
	L0	L1	L2
A	0	8	8
B	0	8	8
C	0	8	8
D	0	8	8
E	0	8	8
F	0	8	8
G	0	8	8
H	0	8	8
J	0	8	8
K	0	8	8
M	0	8	8
N	1	7	8
O	0	8	8
<b>Total</b>	<b>1</b>	<b>103</b>	<b>104</b>

**Table 24 - Positive results (before and after confirmation)  
by the alternative method (Without Labs I and L)**

Collaborators	Contamination level								
	L0			L1			L2		
	PCR result	Confirmation result	Final result	PCR result	Confirmation result	Final result	PCR result	Confirmation result	Final result
A	0	0	0	8	8	8	8	8	8
B	0	0	0	8	8	8	8	8	8
C	0	0	0	8	8	8	8	8	8
D	0	0	0	8	8	8	8	8	8
E	0	0	0	8	8	8	8	8	8
F	0	0	0	8	8	8	8	8	8
G	0	0	0	8	8	8	8	8	8
H	0	0	0	8	8	8	8	8	8
J	0	0	0	8	8	8	8	8	8
K	0	0	0	8	8	8	8	8	8
M	0	0	0	8	8	8	8	8	8
N	1	1	1	7	7	7	8	8	8
O	0	0	0	8	8	8	8	8	8
Total	1	1	1	103	103	103	104	104	104

### 3.2.5 Calculation and interpretation

#### 3.2.5.1 Calculation of the specificity percentage (SP)

The percentage specificities (SP) of the reference method and of the alternative method, using the data after confirmation, based on the results of level L0 are the following (See **Table 25**).

**Table 25 - Percentage specificity**

Specificity for the reference method	$SP_{ref} = \left(1 - \left(\frac{P_0}{N_-}\right)\right) \times 100 \% =$	99.1 %
Specificity for the alternative method	$SP_{alt} = \left(1 - \left(\frac{CP_0}{N_-}\right)\right) \times 100 \% =$	99.1 %

N: number of all L0 tests

$P_0$  = total number of false-positive results obtained with the blank samples before confirmation

$CP_0$  = total number of false-positive results obtained with the blank samples

### 3.2.5.2 Calculation of the sensitivity ( $SE_{alt}$ ), the sensitivity for the reference method ( $SE_{ref}$ ), the relative trueness (RT) and the false positive ratio for the alternative method (FPR)

Fractional positive results were obtained for the low inoculation level (L1). This inoculation level was retained for calculation.

A summary of the results of the collaborators retained for interpretation and obtained with the reference and the alternative methods for Level 1 is provided in **Table 26**.

**Table 26 - Summary of the obtained results with the reference method and the alternative method for Level 1**

Response	Reference method positive (R+)	Reference method negative (R-)
Alternative method positive (A+)	Positive agreement (A+/R+) <b>PA = 103</b>	Positive deviation (R-/A+) <b>PD = 0</b>
Alternative method negative (A-)	Negative deviation (A-/R+) <b>ND = 0 (PPND = 0)</b>	Negative agreement (A-/R-) <b>NA = 1 (PPNA = 0)</b>

Based on the data summarized in **Table 26**, the values of sensitivity of the alternative and reference methods, as well as the relative trueness and false positive ratio for the alternative method taking account the confirmations, are the following (See **Table 27**).

**Table 27 - Sensitivity, relative trueness and false positive ratio percentages**

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

### 3.2.6 Interpretation of data

No negative or positive deviation was observed for this inter-laboratory study.

For a **paired study design**, the difference between (ND – PD) and the addition (ND + PD) are calculated for the level(s) where fractional recovery is obtained (so  $L_1$  and possibly  $L_2$ ). The observed value found for (ND – PD) and (ND + PD) shall not be higher than the AL.

For 14 Labs, the limits are the following:

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

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

### 3.2.7 Evaluation of the LOD<sub>50%</sub>, LOD<sub>95%</sub> and RLOD between laboratories

The RLOD was calculated using the EN ISO 16140-2:2016 Excel spreadsheet available at [http://standards.iso.org/iso/16140/-2/ed-1/en/RLOD\\_inter-lab-study\\_16140-2\\_AnnexF\\_ver1\\_28-06-2017.xls](http://standards.iso.org/iso/16140/-2/ed-1/en/RLOD_inter-lab-study_16140-2_AnnexF_ver1_28-06-2017.xls).

RLOD could not be calculated as one positive result was obtained for an unspiked sample for one Collaborator with both methods.

## 3.3 Conclusion

The **method comparison study conclusions** are:

- The method comparison study scheme corresponds to a paired study design for food and feed products and to an unpaired study design for primary production samples.
- In the sensitivity study, eight categories were tested: 7 food categories and primary production samples. The protocol of the alternative method shows 10 or 8 positive deviations (PD) and 11 and 6 negative deviations (ND) for the overall categories depending on the extraction protocol.

The ((ND+PPND) - PD) and (ND + PD + PPND) meet the acceptability limits (AL) for each individual category and for all the combined categories.

- The Relative Levels of Detection (RLOD) are all below the AL whatever the matrix/strain pairs.
- The inclusivity and exclusivity testing gave satisfying results.
- It is possible to store the primary enrichment broth for 72 h at  $5 \pm 3^{\circ}\text{C}$ .
- The alternative method allows a one-day screening of the negative samples.
- The alternative method fulfils all the EN ISO 16140-2:2016 and AFNOR technical rules (revision 6).

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

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

Quimper, 04 July 2022

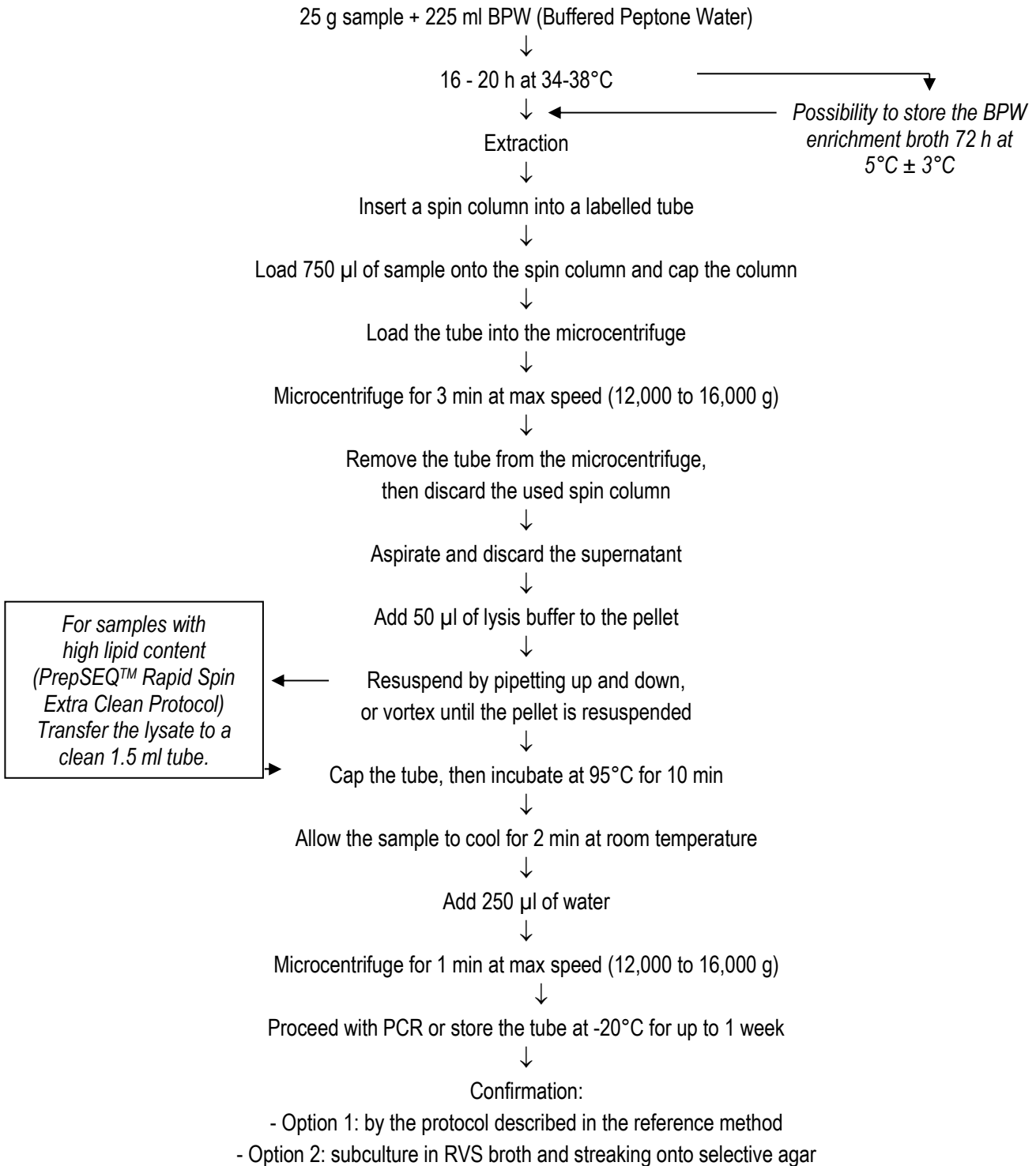
Maryse RANNOU  
Project Manager  
Validation of Alternative methods  
*Food Safety & Quality*



I hereby attest to the validation of the verification of the conformity of the report (opinion and interpretation).

## Appendix 1 – Flow diagram of the alternative method for ALL food and feed products (Initial validation – 2010)

### PrepSEQ™ Rapid Spin protocol

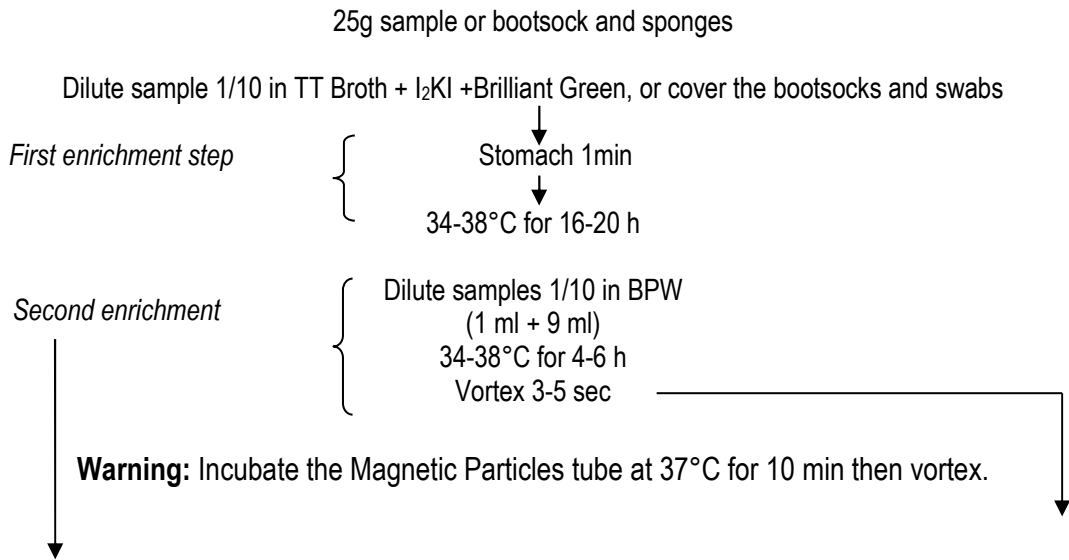


Kits: PreSEQ™ Rapid Spin sample preparation kit (Cat n° 4407760)  
 PreSEQ™ Rapid Spin sample preparation kit - Extra Clean (Cat n° 4413269)  
 MicroSEQ® *Salmonella* spp. Detection kit (Cat. n° 4403930)



**Appendix 2 – Flow diagram of the alternative method for primary production samples (Extension study – 2012)**

**PrepSEQ™ Nucleic Acid Extraction protocol**



CONFIRMATION	EXTRACTION
Subculture in RVS (0.1 ml + 10 ml) ↓ 24 h ± 3 h at 41.5°C ± 1°C ↓ Streaking onto XLD and chromogenic selective agar plates ↓ 24 h ± 2 h at 37°C ± 1°C ↓ Confirmation of typical colonies: latex test or tests of the reference method	Prepare the following material and reagents: - Plates: . 1 elution plate: 120 µl of elution buffer . 2 wash plates: 300 µl of wash buffer - Binding premix for 1 sample (for >1 sample, multiply volume by number of samples + 10 %) . 450 µl of PK buffer . 325 µl of Binding buffer . 25 µl of Magnetic particles  Add 100 µl of pre-enriched sample to a lysis plate ↓ Add 800 µl of Binding premix to each well ↓ Power the MagMAX or the KingFisher Flex-96 instrument ↓ Select program 4428176DWPrepSEQ FA for the MagMa Or 4412639PrepSEQ_Sal for the KingFisher Flex-96 instrument ↓ Load the plates as instructed, then process Start ↓ "Enjoy your DNA" 30µl DNA extract ↓ Proceed to PCR or freeze the elution plate at - 18°C

*Possibility to store the BPW enrichment broth 72 h at 5°C ± 3°C*

Kits: PrepSEQ™ Nucleic Acid Extraction kit (Cat n° 4480466, or 4428176)  
 MicroSEQ® *Salmonella* spp. Detection kit (Cat. n° 4403930)

**PrepSEQ™ RapidSpin Extraction protocol**

25g sample or bootsock and sponges

Dilute sample 1/10 in TT Broth + I<sub>2</sub>KI + Brilliant Green, or cover the bootsocks and swabs

First enrichment step

Stomach 1min

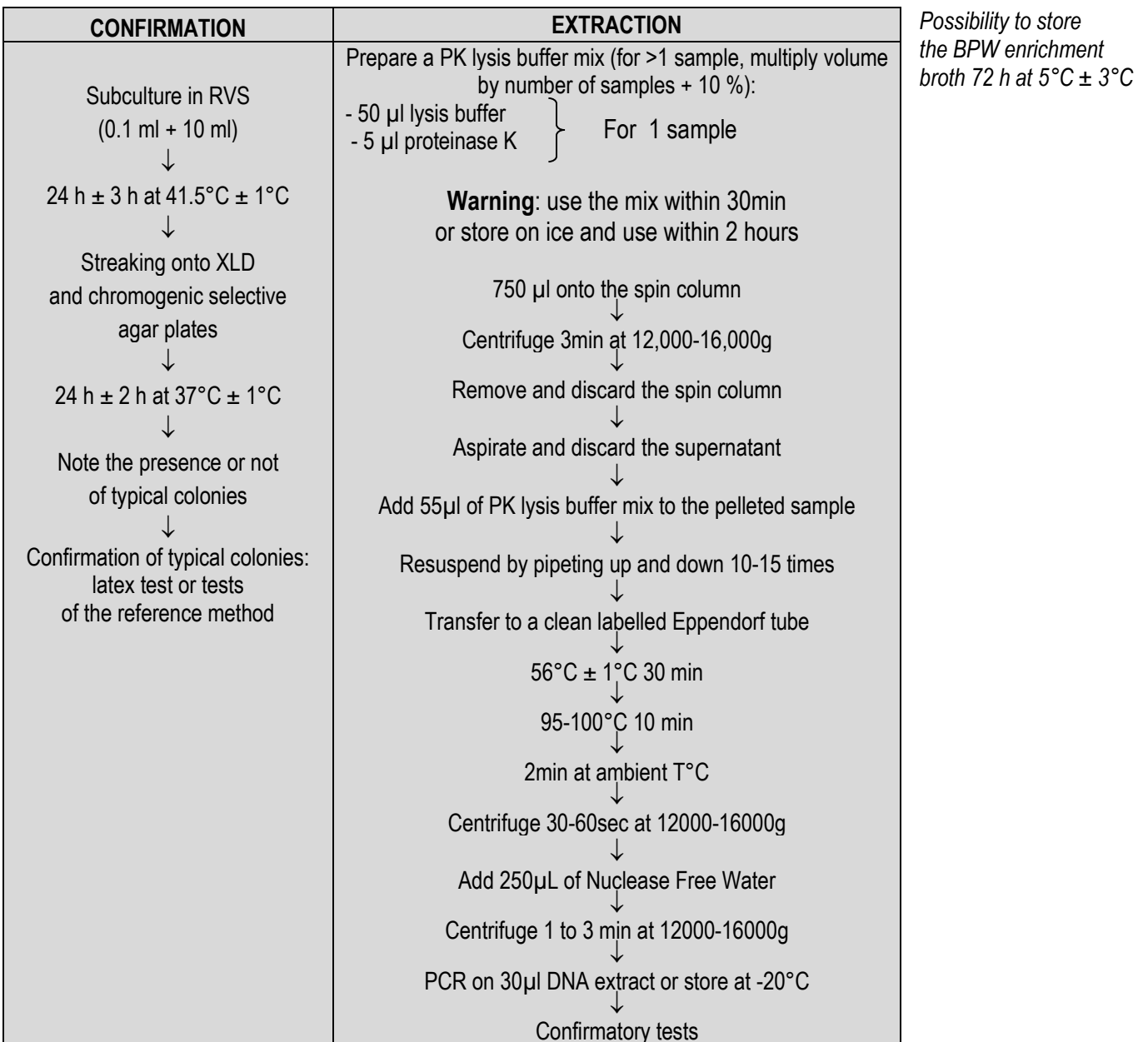
34-38 °C for 16-20 h

Second enrichment step

Dilute samples 1/10 in BPW (1 ml + 9 ml)

34-38 °C for 4-6 h

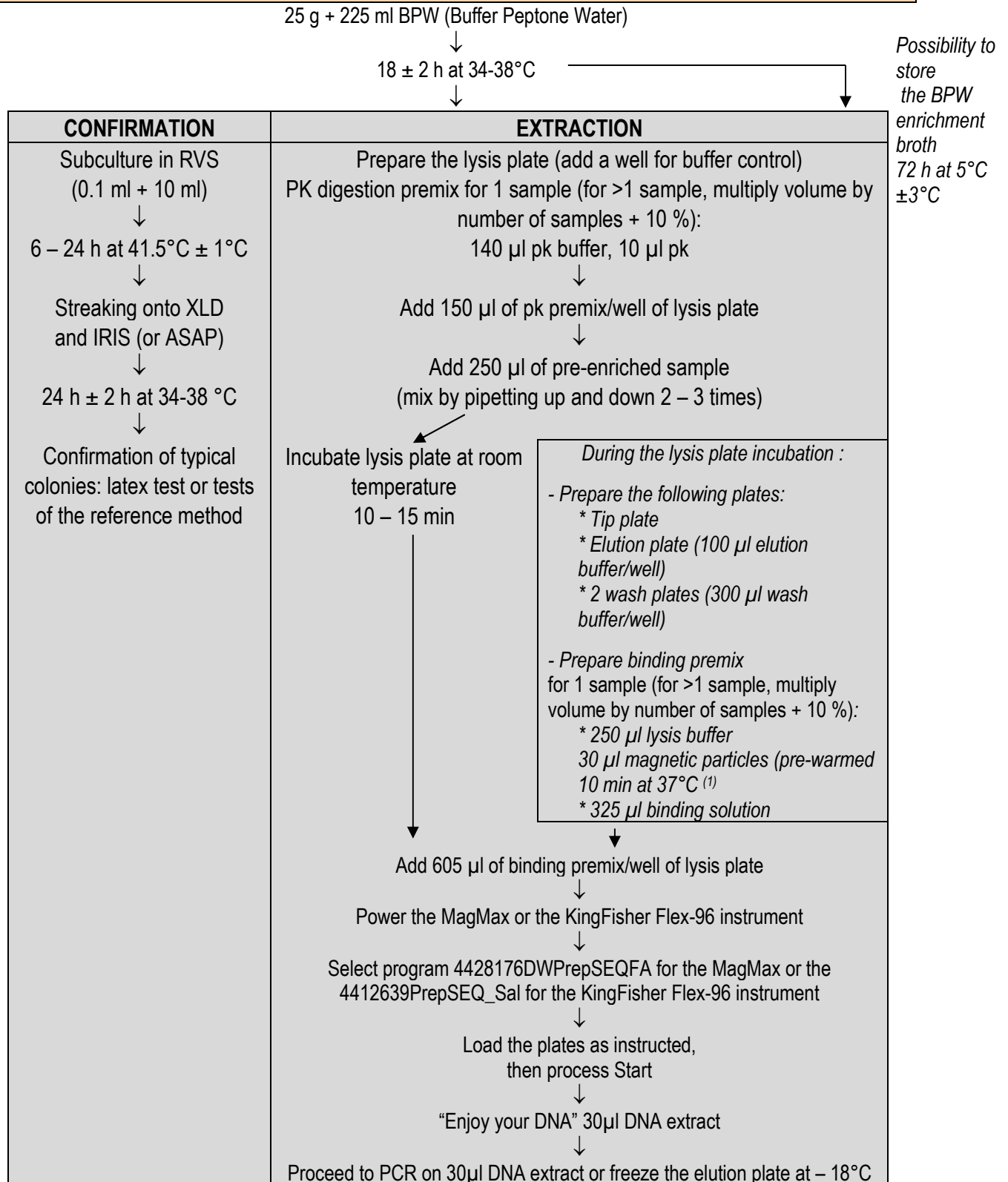
Vortex 3-5 sec



Kits: PrepSEQ™ Rapid Spin Sample Preparation kit – Extra Clean with proteinase K (Cat n° 4426715)  
 MicroSEQ® *Salmonella* spp. Detection kit (Cat. n° 4403930)

**Appendix 3 – Flow diagram of the alternative method  
for meat products (Extension study – 2013)**

**PrepSEQ™ Nucleic Acid Extraction protocol**



(1) If after 10 min, the precipitate is not completely dissolved, the longer incubation and higher temperature (up to 50°C) can be used.

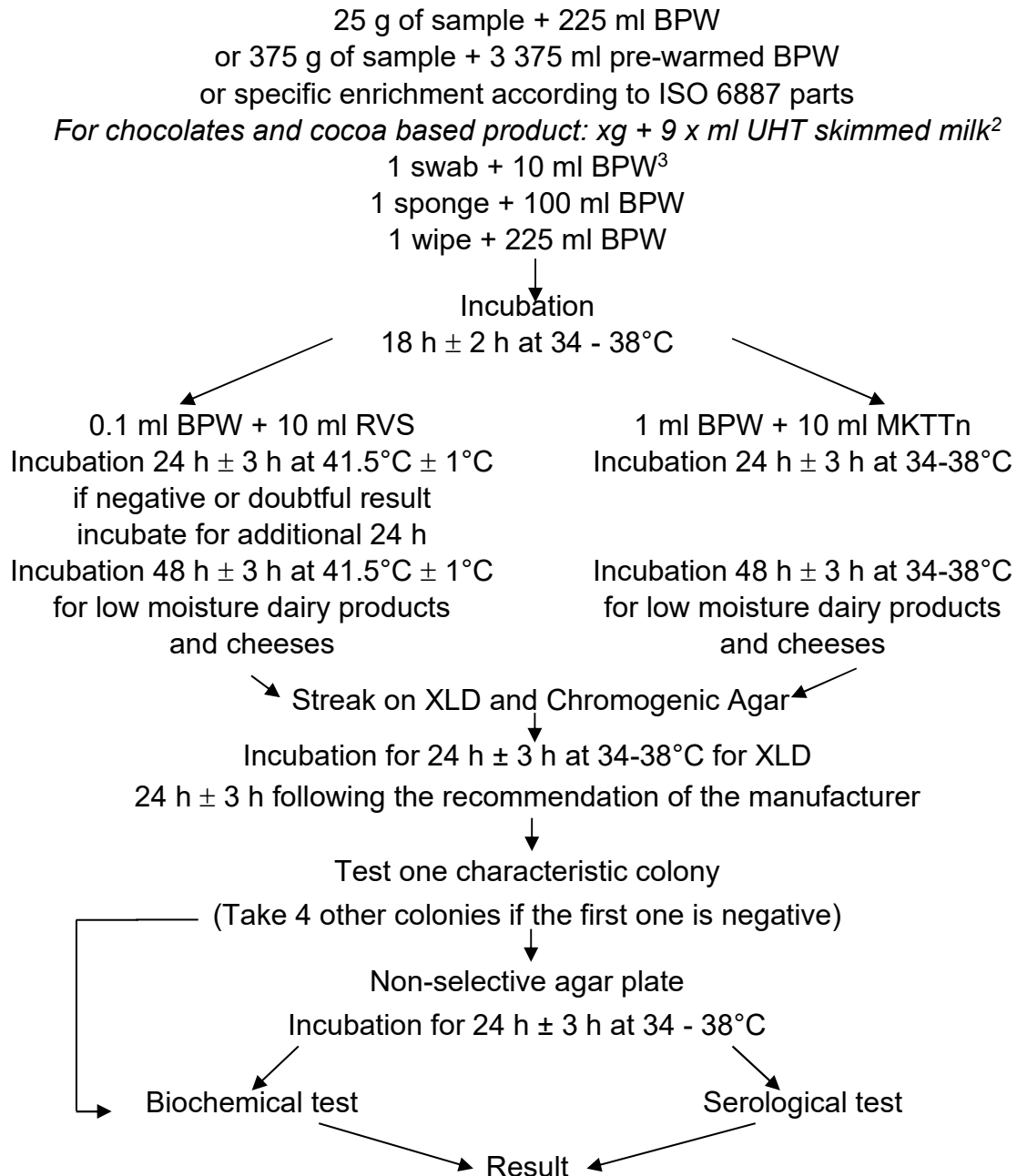
Kits: PrepSEQ™ Nucleic Acid Extraction kit (Cat n° 4480466, or 4428176)

MicroSEQ® *Salmonella* spp. Detection kit (Cat. n° 4403930)

**Appendix 4 – Flow diagram of the reference method:  
ISO 6579-1 (2017) & ISO 6579-1/A1 (2020)**

**ISO 6579-1 (February 2017):** Microbiology of the food chain - Horizontal method for the detection, enumeration and serotyping of *Salmonella* spp. - Part 1: detection of *Salmonella* spp.

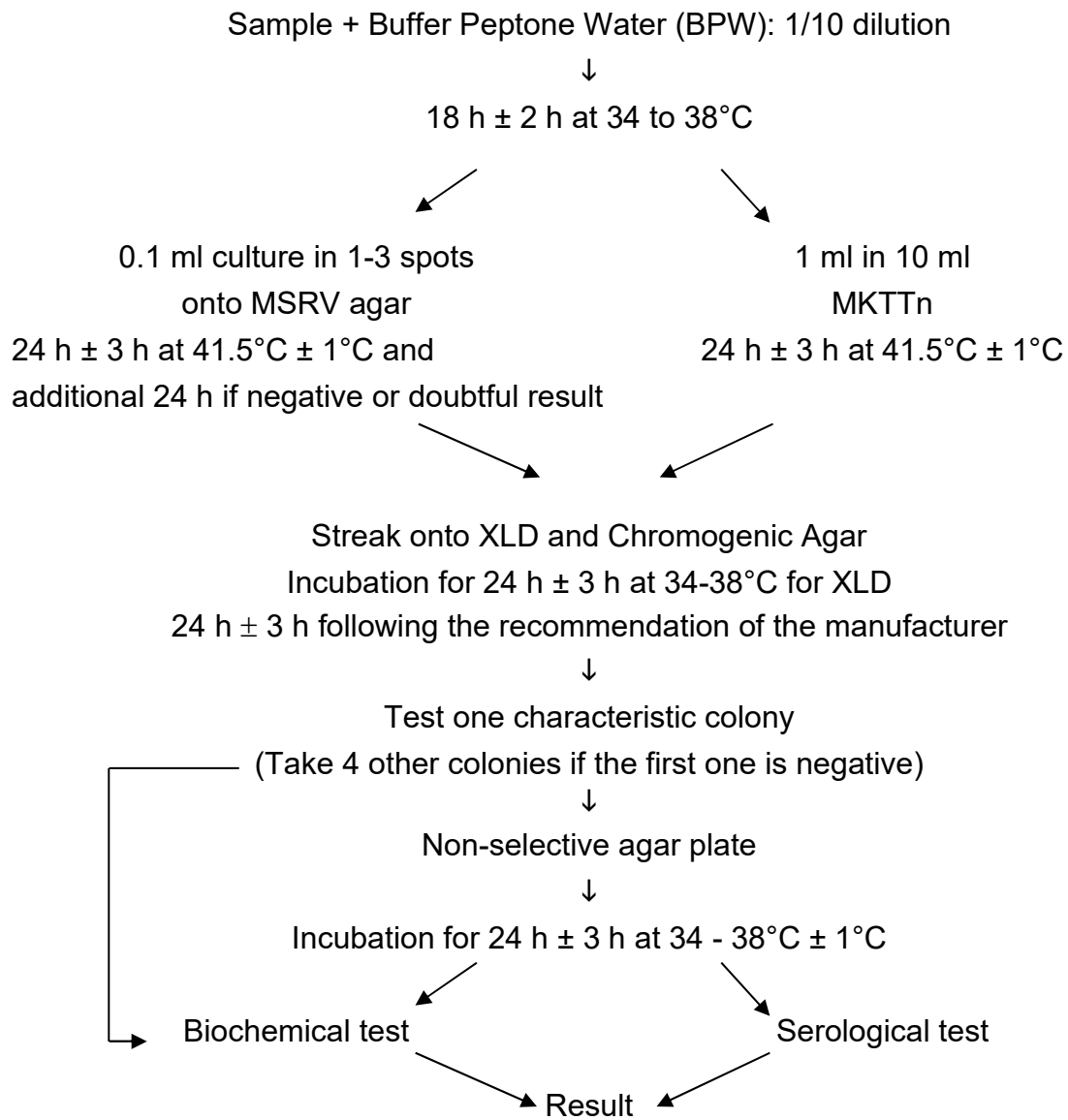
**ISO 6579-1/A1 (March 2020):** Microbiology of the food chain - Horizontal method for the detection, enumeration and serotyping of *Salmonella* spp. - Part 1: detection of *Salmonella* spp. Amendment 1: Broader range of incubation temperatures, amendment to the status of Annex D, and correction of the composition of MSR/V and SC



<sup>2</sup> For chocolates products containing > 20 % fat, unless the products already contain sufficient emulsifier, add Tween 80  
For products with high background microflora add Brilliant green (0.018g/L)

<sup>3</sup> For sampling after cleaning process premoisten  
- 1 swab + 1 ml broth universal neutralizing (+ 9 ml BPW)  
- 1 sponge + 10 ml broth universal neutralizing (+ 90 ml BPW)  
- 1 wipe + BPW + 10 % neutralizing agent (+ 225 ml BPW)

**Primary production samples:** faeces and environmental samples



## Appendix 5 - Artificial contamination of the samples

Year of analysis	Sample N°	Product	Artificial contaminations (spiking protocol)						Global result	Category	Type
			Strain	Origin	Injury protocol	Injury measurement	Inoculation level/sample				
2010	1114	Basquaise chicken preparation	S. Panama 195	Ground beef	Spiking 3 days 4°C/ HT 56°C 16 min/2 days 4°C	>4,23	1-2-5-2-2(2,4)	2,4	+	1	b
2010	1115	Ready to eat food with lamb (Navarin)	S. Panama 195	Ground beef	Spiking 3 days 4°C/ HT 56°C 16 min/2 days 4°C	>4,23	1-2-5-2-2(2,4)	2,4	+	1	b
2010	1116	Couscous	S. Panama 195	Ground beef	Spiking 3 days 4°C/ HT 56°C 16 min/2 days 4°C	>4,23	1-2-5-2-2(2,4)	2,4	+	1	b
2010	1117	Ready to eat food with veal (Italian dressing)	S. Panama 195	Ground beef	Spiking 3 days 4°C/ HT 56°C 16 min/2 days 4°C	>4,23	1-2-5-2-2(2,4)	2,4	+	1	b
2010	1118	Cooked shrimps	S. Senftenberg Ad355	Sea food product	Spiking 3 days 4°C/ HT 56°C 16 min/2 days 4°C	>4,34	5-3-1-5-4(3,6)	3,6	+	5	a
2010	1119	Crayfish tails	S. Senftenberg Ad355	Sea food product	Spiking 3 days 4°C/ HT 56°C 16 min/2 days 4°C	>4,34	5-3-1-5-4(3,6)	3,6	+	5	a
2010	1120	Mussels (marinière)	S. Senftenberg Ad355	Sea food product	Spiking 3 days 4°C/ HT 56°C 16 min/2 days 4°C	>4,34	5-3-1-5-4(3,6)	3,6	+	1	b
2010	1121	Salmon terrine	S. Senftenberg Ad355	Sea food product	Spiking 3 days 4°C/ HT 56°C 16 min/2 days 4°C	>4,34	5-3-1-5-4(3,6)	3,6	+	1	a
2010	1122	Egg based dessert (île flottante)	S. Infantis 14	Pasteurized whole egg product	Spiking 3 days 4°C/ HT 56°C 16 min/2 days 4°C	>4,60	1-3-1-3-1(1,8)	1,8	+	4	c
2010	1123	Egg based cream (vanilla flavor)	S. Infantis 14	Pasteurized whole egg product	Spiking 3 days 4°C/ HT 56°C 16 min/2 days 4°C	>4,60	1-3-1-3-1(1,8)	1,8	+	4	c
2010	1124	Chocolate mousse	S. Infantis 14	Pasteurized whole egg product	Spiking 3 days 4°C/ HT 56°C 16 min/2 days 4°C	>4,60	1-3-1-3-1(1,8)	1,8	+	4	c
2010	1125	Egg based cream (crème brûlée)	S. Infantis 14	Pasteurized whole egg product	Spiking 3 days 4°C/ HT 56°C 16 min/2 days 4°C	>4,60	1-3-1-3-1(1,8)	1,8	+	4	c
2010	1126	Croque Monsieur	S. London A00P085	Nems	Spiking 3 days 4°C/ HT 56°C 16 min/2 days 4°C	>3,60	3-2-3-4-3(3,0)	3,0	+	1	b
2010	1127	Quiche Lorraine	S. London A00P085	Nems	Spiking 3 days 4°C/ HT 56°C 16 min/2 days 4°C	>3,60	3-2-3-4-3(3,0)	3,0	+	1	b

Year of analysis	Sample N°	Product	Artificial contaminations (spiking protocol)						Global result	Category	Type
			Strain	Origin	Injury protocol	Injury measurement	Inoculation level/ sample				
2010	1129	Friand (pufpastry)	S. London A00P085	Nems	Spiking 3 days 4°C/ HT 56°C 16 min/2 days 4°C	>3,60	3-2-3-4-3(3,0)	3,0	+	1	b
2010	1198	Frozen minced vegetables	S. Virchow F276	curry	Spiking 6 days -20°C	0,56	13-9-12-22-10(9,2)	9,2	+	5	c
2010	1199	Frozen Asian vegetables	S. Virchow F276	curry	Spiking 6 days -20°C	0,56	13-9-12-22-10(9,2)	9,2	+	5	c
2010	1200	Frozen vegetables (ratatouille)	S. Virchow F276	curry	Spiking 6 days -20°C	0,56	13-9-12-22-10(9,2)	9,2	+	5	c
2010	1201	Frozen mixed vegetables	S. Virchow F276	curry	Spiking 6 days -20°C	0,56	13-9-12-22-10(9,2)	9,2	+	5	c
2010	1203	Sole filet	S. SaintPaul F31	Pilchard	Spiking 6 days -20°C	0,78	7-8-7-5-7(5,8)	5,8	+	5	a
2010	1204	Frozen ready to eat food with fish and vegetables	S. SaintPaul F31	Pilchard	Spiking 6 days -20°C	0,78	7-8-7-5-7(5,8)	5,8	+	1	b
2010	1205	Frozen Sole	S. SaintPaul F31	Pilchard	Spiking 6 days -20°C	0,78	7-8-7-5-7(5,8)	5,8	+	5	a
2010	1210	Ice cream (mint-chocolate)	S. Montevideo 604	Raw milk	Spiking 6 days -20°C	0,66	4-4-2-3-3(3,2)	3,2	+	3	c
2010	1211	Vanilla ice cream	S. Montevideo 604	Raw milk	Spiking 6 days -20°C	0,66	4-4-2-3-3(3,2)	3,2	+	3	c
2010	1212	Coffee ice cream	S. Montevideo 604	Raw milk	Spiking 6 days -20°C	0,66	4-4-2-3-3(3,2)	3,2	+	3	c
2010	1213	Cured duck filet	S. Anatum 7140	Ready to eat meat (Bœuf Bourguignon)	Spiking 6 days -20°C	0,48	5-4-6-4-6(5,0)	5,0	+	1	c
2010	1214	Ground beef	S. Anatum 7140	Ready to eat meat (Bœuf Bourguignon)	Spiking 6 days -20°C	0,48	5-4-6-4-6(5,0)	5,0	+	2	c
2010	1215	Frozen ground beef with onions	S. Anatum 7140	Ready to eat meat (Bœuf Bourguignon)	Spiking 6 days -20°C	0,48	5-4-6-4-6(5,0)	5,0	+	2	c
2010	1216	Meat balls	S. Anatum 7140	Ready to eat meat (Bœuf Bourguignon)	Spiking 6 days -20°C	0,48	5-4-6-4-6(5,0)	5,0	+	2	c
2010	1217	Dessert (Crème brûlée au caramel)	S. Montevideo 604	Raw milk	Spiking 6 days -20°C	0,66	4-4-2-3-3(3,2)	3,2	+	4	c
2010	1219	Feedstuff (pellets for dog)	S. Derby 630	Feedstuff	Spiking 6 days 4°C	>1,61	7-12-10-8-7(8,8)	8,8	+	6	b
2010	1221	Feedstuff (poultry based pet food)	S. Derby 630	Feedstuff	Spiking 6 days 4°C	>1,61	7-12-10-8-7(8,8)	8,8	+	6	b

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			Strain	Origin	Injury protocol	Injury measurement	Inoculation level/sample				
2010	1223	Feedstuff (rabbit-based pet food)	S. Derby 630	Feedstuff	Spiking 6 days 4°C	>1,61	7-12-10-8-7(8,8)	8,8	+	6	b
2010	1225	Feed stuff (beef-based pellets dogfood)	S. Derby 630	Feedstuff	Spiking 6 days 4°C	>1,61	7-12-10-8-7(8,8)	8,8	+	6	b
2010	1227	Sausages (Fricadelles)	S. Anatum 7140	Ready to eat meat (Bœuf Bourguignon)	Spiking 6 days 4°C / HT 56°C 10 min	0,79	2-4-7-3-2(3,6)	3,6	+	2	b
2010	1229	Veal paupiette	S. Anatum 7140	Ready to eat meat (Bœuf Bourguignon)	Spiking 6 days 4°C / HT 56°C 10 min	0,79	2-4-7-3-2(3,6)	3,6	+	2	c
2010	1231	Asian ready to eat meal (poultry)	S. Anatum 7140	Ready to eat meat (Bœuf Bourguignon)	Spiking 6 days 4°C / HT 56°C 10 min	0,79	2-4-7-3-2(3,6)	3,6	+	1	b
2010	1233	Basquaise chicken preparation	S. Anatum 7140	Ready to eat meat (Bœuf Bourguignon)	Spiking 6 days 4°C / HT 56°C 10 min	0,79	2-4-7-3-2(3,6)	3,6	+	1	b
2010	1235	Pastry with custard (gland)	S. Typhimurium 472	Egg yolk	Spiking 6 days 4°C / HT 56°C 10 min	>0,65	6-8-4-7-4(5,8)	5,8	+	4	c
2010	1237	Pastry with custard (éclair)	S. Typhimurium 472	Egg yolk	Spiking 6 days 4°C / HT 56°C 10 min	>0,65	6-8-4-7-4(5,8)	5,8	+	4	c
2010	1239	Egg based cream (crème anglaise)	S. Typhimurium 472	Egg yolk	Spiking 6 days 4°C / HT 56°C 10 min	>0,65	6-8-4-7-4(5,8)	5,8	+	4	c
2010	1402	Whole egg powder	S. Enteritidis 10	Egg white powder	Spiking HT 56°C 15 min / 6 days 4°C	1	3-6-3-3-6(4,2)	4,2	+	4	a
2010	1403	White egg powder	S. Enteritidis 10	Egg white powder	Spiking HT 56°C 15 min / 6 days 4°C	1	3-6-3-3-6(4,2)	4,2	+	4	a
2010	1404	Whole egg powder	S. Enteritidis 10	Egg white powder	Spiking HT 56°C 15 min / 6 days 4°C	1	3-6-3-3-6(4,2)	4,2	+	4	a
2010	1405	White egg powder	S. Enteritidis 10	Egg white powder	Spiking HT 56°C 15 min / 6 days 4°C	1	3-6-3-3-6(4,2)	4,2	+	4	a
2010	1406	Frozen mixed spinach	S. Kedougou Ad929	Bovine environment	Spiking 6 days -20°C	0,72	6-4-11-9-12(8,4)	8,4	+	5	c
2010	1407	Frozen spinach branches	S. Kedougou Ad929	Bovine environment	Spiking 6 days -20°C	0,72	6-4-11-9-12(8,4)	8,4	+	5	c
2010	1408	Beans puree	S. Kedougou Ad929	Bovine environment	Spiking 6 days -20°C	0,72	6-4-11-9-12(8,4)	8,4	+	1	b



Year of analysis	Sample N°	Product	Artificial contaminations (spiking protocol)						Global result	Category	Type
			Strain	Origin	Injury protocol	Injury measurement	Inoculation level/sample				
2010	1409	Carrots puree	S. Kedougou Ad929	Bovine environment	Spiking 6 days -20°C	0,72	6-4-11-9-12(8,4)	8,4	+	1	b
2010	1411	Calmar salad	S.Derby Ad1093	Fish filet	Spiking 6 days -20°C	0,78	20-11-13-9-9(12,4)	12,4	+	1	a
2010	1412	Little octopus salad	S.Derby Ad1093	Fish filet	Spiking 6 days -20°C	0,78	20-11-13-9-9(12,4)	12,4	+	1	a
2010	1414	Ready to eat mixed vegetables	S. Kottbus 2	Poultry environment	Spiking 6 days -20°C	>1,18	10-8-10-10-10(9,6)	9,6	-	1	a
2010	1416	Cauliflower	S. Kottbus 2	Poultry environment	Spiking 6 days -20°C	>1,18	10-8-10-10-10(9,6)	9,6	+	5	c
2010	1982	Raw meat for pet	S. Livingstone F105	Feed stuff	Spiking 34 days -20°C	0,66	12-12-10-12-15(12,2)	12,2	+	6	a
2010	1983	Balls for pet	S. Livingstone F105	Feed stuff	Spiking 34 days -20°C	0,66	12-12-10-12-15(12,2)	12,2	+	6	b
2010	1984	Big sausage for dog	S. Livingstone F105	Feed stuff	Spiking 34 days -20°C	0,66	12-12-10-12-15(12,2)	12,2	+	6	b
2010	1985	Raw milk	S. Dublin Ad531	Raw milk cheese	Spiking 34 days 10% NaCl	0,53	8-13-16-12-8(11,4)	11,4	+	3	a
2010	1986	Raw milk cheese (Rocamadour)	S. Dublin Ad531	Raw milk cheese	Spiking 34 days 10% NaCl	0,53	8-13-16-12-8(11,4)	11,4	+	3	b
2010	1987	Raw milk	S. Lagos 173	Sausages	Spiking 34 days -20°C	0,73	6-8-4-6-5(5,8)	5,8	+	3	a
2010	1988	Raw milk cheese (Saint Nectaire)	S. Lagos 173	Sausages	Spiking 34 days -20°C	0,73	6-8-4-6-5(5,8)	5,8	+	3	b
2010	2158	Liquid whole gg	S. Typhimurium 776	Whole egg product	Spiking 6 days 4°C/29 days -20°C	1,2	2-3-1-2-1(1,8)	1,8	+	4	b
2010	2159	Liquid whole egg	S. Typhimurium 776	Whole egg product	Spiking 6 days 4°C/29 days -20°C	1,2	2-3-1-2-1(1,8)	1,8	+	4	b
2010	2251	Cooked chicken meat pieces	S. Virchow 647	Poultry meat	Spiking 35 days-20°C	1,11	6-1-6-7-4(4,8)	4,8	+	1	b
2010	2253	White chicken with herbs	S. Virchow 647	Poultry meat	Spiking 35 days-20°C	1,11	6-1-6-7-4(4,8)	4,8	+	1	b
2010	2254	Mayonnaise	S. Typhimurium 776	Whole egg product	Spiking 35 days-pH4- 4°C	0,46	22-19-21-23-22(21,4)	21,4	+	4	b
2010	2256	Dressing (Hollandaise)	S. Typhimurium 776	Whole egg product	Spiking 35 days-pH4- 4°C	0,46	22-19-21-23-22(21,4)	21,4	+	4	c
2010	2259	Raw milk cheese (Salers)	S. Dublin Ad531	Raw milk cheese	Spiking 35 days-10%Nacl 4°C	0,73	18-20-15-8-16(18,0)	18,0	+	3	b

Year of analysis	Sample N°	Product	Artificial contaminations (spiking protocol)						Global result	Category	Type
			Strain	Origin	Injury protocol	Injury measurement	Inoculation level/sample				
2010	2376	Tiramisu	S. Montevideo Ad912	Raw milk	Spiking HT 56°C 15 min	1,07	2-3-3-1-1(2,0)	2,0	+	3	c
2010	2377	Chantilly	S. Montevideo Ad912	Raw milk	Spiking HT 56°C 15 min	1,07	2-3-3-1-1(2,0)	2,0	+	3	c
2010	2378	Milk rice	S. Montevideo 510	Raw milk	Spiking HT 56°C 15 min	2,76	1-1-0-0-3(1,0)	1,0	+	3	c
2010	2379	Cheese (Brie)	S. Montevideo 510	Raw milk	Spiking HT 56°C 15 min	2,76	1-1-0-0-3(1,0)	1,0	+	3	b
2010	2382	Ice cream (Pistachio)	S. Infantis 401B	Raw milk	Spiking HT 56°C 15 min	1,98	0-0-3-5-4(2,4)	2,4	+	3	c
2010	2393	Egg powder	S. Typhimurium 13	Egg product	Spiking HT 56°C 15 min	2,48	1-2-3-0-3(1,8)	1,8	+	4	a
2010	2394	Egg powder	S. Typhimurium 13	Egg product	Spiking HT 56°C 15 min	2,48	1-2-3-0-3(1,8)	1,8	+	4	a
2010	2395	Egg powder	S. Enteritidis 465	Egg product	Spiking HT 56°C 15 min	1,61	6-12-7-6-4(7,0)	7,0	+	4	a
2010	2396	Egg powder	S. Enteritidis 465	Egg product	Spiking HT 56°C 15 min	1,61	6-12-7-6-4(7,0)	7,0	+	4	a
2010	2404	Cooked vegetables	S. Typhimurium Ad1249	Environmental sample	Spiking HT 56°C 15 min	1,31	1-0-1-0-4(1,2)	1,2	+	1	b
2010	2405	Vegetable terrine	S. Typhimurium Ad1249	Environmental sample	Spiking HT 56°C 15 min	1,31	1-0-1-0-4(1,2)	1,2	+	1	a
2010	2408	Granules for pigs	S. Infantis 288	Raw pork meat	Spiking HT 56°C 15 min	2,31	1-0-1-4-1(1,4)	1,4	+	6	c
2010	2410	Raw bovine meat for animals	S. Dublin Ad529	Beef meat	Spiking HT 56°C 15 min	1,57	1-5-1-2-2(2,2)	2,2	+	6	a
2010	2411	Raw meat for animals 1	S. Infantis 288	Raw pork meat	Spiking HT 56°C 15 min	2,31	1-0-1-4-1(1,4)	1,4	+	6	a
2010	2412	Raw meat for animals 2	S. Dublin Ad529	Beef meat	Spiking HT 56°C 15 min	1,57	1-5-1-2-2(2,2)	2,2	+	6	a
2010	2413	Raw meat for animals 3	S. Infantis 288	Raw pork meat	Spiking HT 56°C 15 min	2,31	1-0-1-4-1(1,4)	1,4	+	6	a
2010	2414	Sausage for dog	S. Dublin Ad529	Beef meat	Spiking HT 56°C 15 min	1,57	1-5-1-2-2(2,2)	2,2	+	6	a
2010	2549	Raw milk	S. Infantis 401B	Raw milk	Spiking 10% NaCl-3 days	0,35	6-10-10-5-13(8,8)	8,8	+	3	a
2010	2550	Raw milk	S. Montevideo 510	Raw milk	Spiking pH4-3days	1,02	0-6-2-2-2(2,4)	2,4	+	3	a
2010	2551	Raw milk	S. Infantis 401B	Raw milk	Spiking 10% NaCl-3 days	0,35	6-10-10-5-13(8,8)	8,8	+	3	a

Year of analysis	Sample N°	Product	Artificial contaminations (spiking protocol)						Global result	Category	Type
			Strain	Origin	Injury protocol	Injury measurement	Inoculation level/sample				
2010	2552	Raw milk cheese (Tomme des Avis)	S. Infantis 401B	Raw milk	Spiking 10% NaCl-3 days	0,35	6-10-10-5-13(8,8)	8,8	+	3	b
2010	2553	Raw milk cheese (Morbier)	S. Infantis 401B	Raw milk	Spiking 10% NaCl-3 days	0,35	6-10-10-5-13(8,8)	8,8	+	3	b
2010	2554	Raw milk cheese (Saint Nectaire)	S. Infantis 401B	Raw milk	Spiking 10% NaCl-3 days	0,35	6-10-10-5-13(8,8)	8,8	+	3	b
2010	2555	Raw milk cheese (Comté)	S. Montevideo 510	Raw milk	Spiking pH4-3 days	1,02	0-6-2-2-2(2,4)	2,4	-	3	a
2010	2556	Raw milk cheese (Bethmale)	S. Montevideo 510	Raw milk	Spiking pH4-3 days	1,02	0-6-2-2-2(2,4)	2,4	+	3	b
2010	2558	Grated carrots	S. Blockley Ad923	Environmental sample	Spiking -20°C-3 days	0,77	18-16-12-9-16(14,2)	14,2	+	5	c
2010	2568	Raw milk	S. Montevideo 510	Raw milk	Spiking pH4-3 days	1,02	0-6-2-2-2(2,4)	2,4	+	3	a
2010	2569	Raw milk	S. Montevideo 510	Raw milk	Spiking pH4-3 days	1,02	0-6-2-2-2(2,4)	2,4	+	3	a
2018	6197	RTE (Sandwich ham, butter)	S. Enteritidis 2532	Cooked ham	Seeding 48 h 3 ± 2°C	/	1-1-3-1-2	1,6	+	1	a
2018	6198	RTE (Sandwich ham, cheese)	S. Agona Ad2281	Cooked ham	Seeding 48 h 3 ± 2°C	/	4-2-0-2-1	1,8	+	1	a
2018	6199	RTE (Salad ham, cheese)	S. Enteritidis 2532	Cooked ham	Seeding 48 h 3 ± 2°C	/	1-1-3-1-2	1,6	+	1	a
2018	6200	RTE (Salad ham, pasta)	S. Agona Ad2281	Cooked ham	Seeding 48 h 3 ± 2°C	/	4-2-0-2-1	1,8	+	1	a
2018	6201	Marinated fish	S. Wandsworth Ad2335	Fish fillet	Seeding 48 h 3 ± 2°C	/	2-0-0-1-0	0,6	+	1	c
2018	6202	Grated salmon	S. Anatum Ad1451	Fish fillet	Seeding 48 h 3 ± 2°C	/	0-1-2-2-0	1,0	+	1	c
2018	6203	Marinated fish	S. Derby Ad1093	Frozen fish fillet	Seeding 48 h 3 ± 2°C	/	2-1-3-2-2	2,0	+	1	c
2018	6204	Smoked salmon	S. Derby Ad1093	Frozen fish fillet	Seeding 48 h 3 ± 2°C	/	2-1-3-2-2	2,0	+	1	c
2018	6205	Marinated duck	S. SaintPaul AOOC001	Poultry	Seeding 48 h 3 ± 2°C	/	2-1-6-5-3	3,4	+	1	c
2018	6207	Marinated pork meat	S. Brandenburg Ad2420	Sausages	Seeding 48 h 3 ± 2°C	/	3-1-1-2-7	2,8	+	1	c
2018	6208	Dairy dessert	S. Anatum Ad2718	Dairy product	Seeding 48 h 3 ± 2°C	/	5-5-4-1-4	3,8	+	3	c

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			Strain	Origin	Injury protocol	Injury measurement	Inoculation level/sample				
2018	6339	Raw veal meat	S. Enteritidis Ad926	Seasoned veal meat	Seeding 48 h 3 ± 2°C	/	0-0-1-1-4	1,2	+	2	c
2018	6340	Raw veal meat	S. Enteritidis Ad926	Seasoned veal meat	Seeding 48 h 3 ± 2°C	/	0-0-1-1-4	1,2	+	2	c
2018	6341	Raw veal meat	S. Dublin Ad530	Ground beef	Seeding 48 h 3 ± 2°C	/	0-1-1-0-3	1,0	+	2	c
2018	6342	Raw beef meat	S. Dublin Ad530	Ground beef	Seeding 48 h 3 ± 2°C	/	0-1-1-0-3	1,0	+	2	c
2018	6343	Raw beef meat	S.Typhimurium AOOC060	Ground beef	Seeding 48 h 3 ± 2°C	/	4-1-2-4-2	2,6	+	2	c
2018	6344	Raw beef meat	S. Panama 4255	Ground beef	Seeding 48 h 3 ± 2°C	/	2-5-3-1-3	2,8	+	2	c
2018	6506	Fish	S. SaintPaul F31	Fish fillet	Seeding 48 h 3 ± 2°C	/	1-1-1-1-1	1,0	-	5	a
2018	6507	Fish fillet	S. Indiana Ad1409	Marinated fish fillet	Seeding 48 h 3 ± 2°C	/	0-0-0-1-0	0,2	+	5	a
2018	6508	Fish fillet	S. Senftenberg Ad355	Shellfish	Seeding 48 h 3 ± 2°C	/	1-0-2-1-1	1,0	+	5	a
2018	6509	Shellfish	S. SaintPaul F31	Fish fillet	Seeding 48 h 3 ± 2°C	/	1-1-1-1-1	1,0	+	5	a
2018	6510	Shellfish	S. Indiana Ad1409	Marinated fish fillet	Seeding 48 h 3 ± 2°C	/	0-0-0-1-0	0,2	+	5	a
2018	6511	Tomato	S. Kasenyi Ad2921	Vegetables	Seeding 48 h 3 ± 2°C	/	2-1-0-1-0	0,8	+	5	c
2018	6514	Sausage for dogs	S. Menston Ad2725	Pet food	Seeding 48 h 3 ± 2°C	/	1-0-1-1-1	0,8	+	6	b
2018	6591	Baby leaves (spinach)	S. Caracas Ad2322	Spices	Seeding 48 h 3 ± 2°C	/	4-1-3-1-3	2,4	+	5	b
2018	6592	Baby leaves (salad)	S. Virchow F276	Curry	Seeding 48 h 3 ± 2°C	/	2-1-2-4-2	2,2	+	5	b
2018	6593	Baby leaves (salad)	S. Kasenyi Ad2921	Sprouts (leeks)	Seeding 48 h 3 ± 2°C	/	2-1-3-1-1	1,6	+	5	b
2018	6594	Baby leaves (salad)	S. Livingstone Ad2566	Potatoes	Seeding 48 h 3 ± 2°C	/	3-4-0-1-1	1,8	+	5	b
2018	6595	Baby leaves (mix)	S. Livingstone Ad2566	Potatoes	Seeding 48 h 3 ± 2°C	/	3-4-0-1-1	1,8	-	5	b
2018	6596	Baby leaves (salad)	S. Livingstone Ad2566	Potatoes	Seeding 48 h 3 ± 2°C	/	3-4-0-1-1	1,8	+	5	b
2018	6962	Raw salmon	S. Wandsworth Ad2335	Fish fillet	Seeding 48 h 3 ± 2°C	/	2-3-2-2-3	2,4	+	5	a
2018	6963	Raw squid	S. Wandsworth Ad2335	Fish fillet	Seeding 48 h 3 ± 2°C	/	2-3-2-2-3	2,4	+	5	a
2018	6964	Mackerel	S. Urbana Ad2334	Frozen shrimp	Seeding 48 h 3 ± 2°C	/	4-2-3-2-2	2,6	+	5	a

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			Strain	Origin	Injury protocol	Injury measurement	Inoculation level/sample				
2018	6965	Red bell pepper	S. Virchow Ad2569	Zucchini	Seeding 48 h 3 ± 2°C	/	4-5-3-3-5	4,0	+	5	c
2018	6966	Zucchini	S. Virchow Ad2569	Zucchini	Seeding 48 h 3 ± 2°C	/	4-5-3-3-5	4,0	+	5	c
2018	6967	Broccoli	S. Caracas Ad2322	Spices	Seeding 48 h 3 ± 2°C	/	4-4-2-3-4	3,4	+	5	c
2018	6968	Produces mesclun	S. Havana Ad2728	Sunflower	Seeding 48 h 3 ± 2°C	/	1-0-3-3-1	1,6	+	5	b
2018	6969	Baby leaves	S. Havana Ad2728	Sunflower	Seeding 48 h 3 ± 2°C	/	1-0-3-3-1	1,6	+	5	b
2018	6970	Iceberg salad	S. Kentucky Ad1755	River water	Seeding 48 h 3 ± 2°C	/	1-0-0-1-2	0,8	+	5	b
2018	7227	Turkey meat	S. Enteritidis Ad2721	Frozen poultry meat	Seeding 48 h 3 ± 2°C	/	0-0-2-1-3	1,4	-	2	a
2018	7228	Turkey meat	S. Bredeney Ad2042	Turkey meat	Seeding 48 h 3 ± 2°C	/	1-5-3-2-1	2,4	+	2	a
2018	7229	Chicken meat	S. Bredeney Ad2042	Turkey meat	Seeding 48 h 3 ± 2°C	/	1-5-3-2-1	2,4	+	2	a
2018	7230	Chicken meat	S. Derby Ad1339	Chicken meat	Seeding 48 h 3 ± 2°C	/	2-2-4-3-1	2,4	+	2	a
2018	7231	Duck meat	S. Derby Ad1339	Chicken meat	Seeding 48 h 3 ± 2°C	/	2-2-4-3-1	2,4	+	2	a
2018	7232	Mixed baby-leaves	S. Kentucky Ad1755	River water	Seeding 48 h 3 ± 2°C	/	2-4-2-3-5	3,2	+	5	b
2018	7233	Salad (Mâche)	S. Weltevreden Ad2336	Water	Seeding 48 h 3 ± 2°C	/	1-0-6-3-4	2,8	+	5	b
2012	6539	Drinking water(pigs)	S. Derby Ad1452	Pigs faeces	24 H room temperature	/	6-4-4-5-5(4,8)	4,8	-	8	b
2012	6541	Pigs litter	S. Derby Ad1452	Pigs faeces	24 H room temperature	/	6-4-4-5-5(4,8)	4,8	+	8	b
2012	6543	Boot socks(piggery)	S. Derby Ad1452	Pigs faeces	24 H room temperature	/	6-4-4-5-5(4,8)	4,8	+	8	a
2012	6544	Boot socks(piggery)	S. Derby Ad1452	Pigs faeces	24 H room temperature	/	6-4-4-5-5(4,8)	4,8	+	8	a
2012	243	Slaughterhouse poultry faeces	S. Hadar 35	Poultry	24 H room temperature	/	9-15-17-10(12,0)	12	+	8	a
2012	248	Poultry drinker sponge	S. Hvana Ad930	Poultry environmental sample	24 H room temperature	/	13-7-4-4-5(6,6)	6,6	+	8	b
2012	250	Poultry litter	S. Blockley Ad923	Poultry environmental sample	24 H room temperature	/	9-9-5-8-8(7,8)	7,8	-	8	b
2012	252	Hen water	S. Typhimurium Ad1335	Hens breeding	24 H room temperature	/	7-10-18-6-10(8,4)	8,4	+	8	b
2012	253	Tureen pig water	S. Derby Ad1500	Pork drinker	24 H room temperature	/	2-3-3-5-6(3,8)	3,8	-	8	b

Year of analysis	Sample N°	Product	Artificial contaminations (spiking protocol)						Global result	Category	Type
			Strain	Origin	Injury protocol	Injury measurement	Inoculation level/sample				
2012	254	Pork faeces	S. Derby Ad1500	Pork drinker	24 H room temperature	/	2-3-3-5-6(3,8)	3,8	+	8	a
2012	257	Sponge(pork)	S. Typhimurium Ad1249	Pigs environmental sample	24 H room temperature	/	6-8-8-5-6(6,6)	6,6	-	8	b
2012	258	Sponge (pork wall)	S. Typhimurium ST 394	Pig Slaughterhouse	24 H room temperature	/	8-3-5-4-4(6,2)	6,2	+	8	b
2012	1020	Pork faeces	S. Montevideo Ad1109	Pork faeces	24 H room temperature	/	4-4-4-7-4(4,6)	4,6	-	8	a
2012	1021	Pork faeces	S. Montevideo Ad1109	Pork faeces	24 H room temperature	/	4-4-4-7-4(4,6)	4,6	+	8	a
2012	1022	Hen drinker water	S. Derby Ad 1500	Pork drinker	24 H room temperature	/	4-8-8-5-7(6,4)	6,4	+	8	b
2012	1023	Sponge (Hen-house door)	S. Havana Ad930	Poultry environmental sample	24 H room temperature	/	11-12-10-8-10(10,2)	10,2	+	8	b
2012	1025	Sponge (Door-pork)	S. Typhimurium Ad1249	Pork environmental sample	24 H room temperature	/	4-6-9-7-9(7,0)	7	+	8	b
2012	1050	Pork faeces	S. Typhimurium ST 394	Pig Slaughterhouse	24 H room temperature	/	7-6-6-4-5(5,6)	5,6	+	8	a
2012	1053	Pork faeces	S. Typhimurium ST 394	Pig Slaughterhouse	24 H room temperature	/	7-6-6-4-5(5,6)	5,6	+	8	a
2013	2111	Raw lamb meat	S. Derby 17	Merguez	4°C 12 days	0,35	5-8-7-5-10 (7,0)	7	+	7	a
2013	2115	Raw beef meat	S. Newport 586	Beef meat	4°C 12 days	0,37	2-0-2-5-3 (2,4)	2,4	+	7	a
2013	2116	Raw beef meat	S. Newport 586	Beef meat	4°C 12 days	0,37	2-0-2-5-3 (2,4)	2,4	+	7	a
2013	2117	Raw beef meat	S. Newport 586	Beef meat	4°C 12 days	0,37	2-0-2-5-3 (2,4)	2,4	+	7	a
2013	2386b	Dehydrated sausage	S. Bredeney 464	Delicatessen	TS pH4 4days	0,43	3-1-2-1-4 (2,2)	2,2	+	7	b
2013	2387	Dehydrated sausage	S. Bredeney 464	Delicatessen	TS pH4 4 days	0,43	3-1-2-1-4 (2,2)	2,2	+	7	b
2013	2388	Dehydrated sausage	S. Typhimurium 702	Delicatessen	TS pH4 4 days	0,43	4-5-3-4-6 (4,4)	4,4	+	7	b
2013	2389	Dehydrated sausage	S. Typhimurium 702	Delicatessen	TS pH4 4 days	0,43	4-5-3-4-6 (4,4)	4,4	+	7	b
2013	2390	Dehydrated sausage	S. Typhimurium 702	Delicatessen	TS pH4 4 days	0,43	4-5-3-4-6 (4,4)	4,4	+	7	b
2013	2392	Roasted breast	S. London 326	Ham	56°C 8 min	1,12	1-2-3-2-0 (1,6)	1,6	+	7	b
2013	2393	Ham	S. London 326	Ham	56°C 8 min	1,12	1-2-3-2-0 (1,6)	1,6	+	7	b
2013	2397	Deli salad	S. Newport Ad1761	Delicatessen	56°C 8 min	0,53	3-3-3-5-5 (3,8)	3,8	-	7	c
2013	2398	Ready to reheat (meat)	S. London 326	Ham	56°C 8 min	1,12	1-2-3-2-0 (1,6)	1,6	+	7	c
2013	2399	Ready to reheat (meat)	S. London 326	Ham	56°C 8 min	1,12	1-2-3-2-0 (1,6)	1,6	+	7	c

Year of analysis	Sample N°	Product	Artificial contaminations (spiking protocol)						Global result	Category	Type
			Strain	Origin	Injury protocol	Injury measurement	Inoculation level/sample				
2013	2400	Ready to reheat (meat)	S. London 326	Ham	56°C 8 min	1,12	1-2-3-2-0 (1,6)	1,6	+	7	c
2013	2401	Ready to reheat (meat)	S. Enteritidis 2532	Ham	56°C 8 min	0,74	6-7-5-7-9 (6,8)	6,8	+	7	c
2013	2402	Ready to reheat (meat)	S. Enteritidis 2532	Ham	56°C 8 min	0,74	6-7-5-7-9 (6,8)	6,8	+	7	c
2013	2403	Ready to reheat (meat)	S. Enteritidis 2532	Ham	56°C 8 min	0,74	6-7-5-7-9 (6,8)	6,8	+	7	c
2013	2404	Ready to reheat (meat)	S. Enteritidis 2532	Ham	56°C 8 min	0,74	6-7-5-7-9 (6,8)	6,8	+	7	c
2013	2405	Ready to reheat (meat)	S. Enteritidis 2532	Ham	56°C 8 min	0,74	6-7-5-7-9 (6,8)	6,8	+	7	c

## Appendix 6 – Sensitivity study: raw data

**Bold typing:** artificially inoculated samples

### Salmonella detection results:

m:	minority level of target analyte
M :	majority level of target analyte
P:	pure culture level of target analyte
1/2 :	50% level of target analyte
(x):	number of colonies in the plate
-:	no typical colonies but presence of background microflora
st:	plate without any colony
d:	doubtful result
NC:	non-characteristic colonies
PA:	positive agreement
NA:	negative agreement
ND:	negative deviation
PD:	positive deviation
PPNA:	positive presumptive negative agreement
PPND:	positive presumptive negative deviation
w:	weak reaction
ni:	non-isolated colonies
i:	inhibition
ox:	oxidase test
*:	Lysate dilution 1/5



READY TO EAT, READY TO REHEAT																				
Date	Sample N°	Product	Reference method : ISO 6579*					Alternative method : MicroSEQ Salmonella spp (PrepSEQ™ Rapid Spin protocol)										Category	Type	
			RVS broth		MKTn broth		Result	PCR result (Cq)	Confirmation (Reference method)	Confirmation (RVS/XLD/Latex)	Final result Ref. conf.	Agreement Ref.conf.	Final result RVS/XLD	Agreement RVS/XLD	Storage BPW for 72 h at 5°C ± 3°C					
			XLD	CHROMagar Salmonella	XLD	CHROMagar Salmonella									PCR result (Cq)	Confirmation	Final result			Agreement
2010	955	Spring rolls	+ni/-	-	+/-	+ni/-	-	-	-	-	-	NA	-	NA					1	a
2010	956	Chinese salad(vegetables)	-	-	-	-	-	-	-	-	-	NA	-	NA					1	a
2010	1121	Salmon terrine	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	a
2010	1391	Salmon terrine	-	-	-	-	-	-	-	-	-	NA	-	NA					1	a
2010	1392	Scallops terrine	-	-	-	-	-	-	-	-	-	NA	-	NA					1	a
2010	1393	Calmar salad	-	-	-	-	-	-	-	-	-	NA	-	NA					1	a
2010	1394	Little octopus-based salad	-	-	-	-	-	-	-	-	-	NA	-	NA					1	a
2010	1395	Anchovy fillet with garlic	-	-	-	-	-	-	-	-	-	NA	-	NA					1	a
2010	1410	Anchovy fillet with garlic	-	-	-	-	-	-	-	-	-	NA	-	NA					1	a
2010	1411	Calmar salad	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	a
2010	1412	Little octopus salad	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	a
2010	1414	Ready to eat mixed vegetables	-	-	-	-	-	+(35,0)/ +(35,6)/ +(35,6)	-	-	-	PPNA	-	NA	+(34,0)/ +(34,4) /+(34,4)	-	-	PPNA	1	a
2010	2397	Sandwich	-	-	-	-	-	-	-	-	-	NA	-	NA					1	a
2010	2398	Deli salad	-	+/(Enterobacter sakazakii)	-	-	-	-	-	-	-	NA	-	NA					1	a
2010	2399	Vegetables terrine	-	-	+/(Citrobacter braakii)	-	-	-	-	-	-	NA	-	NA					1	a
2010	2400	Vegetables terrine	+/(Citrobacter braakii)	-	+/(Citrobacter braakii)	-	-	-	-	-	-	NA	-	NA					1	a
2010	2405	Vegetables terrine	+	+	-	-	+	-(37,0) / +(35,6)/ +(35,1)	+	+	-	ND	-	ND	+	+(5RVS)	+	PA	1	a
2010	2406	Carrots salad	-	-	-	-	-	-	-	-	-	NA	-	NA					1	a
2018	6197	RTE (Sandwich ham, butter)	+m	+m	+m	+m	+	+(26,98)	+	+	+	PA	+	PA	+(27,91)	5x(RVS/MKTTN/MSRV):-	-	PPND	1	a
2018	6198	RTE (Sandwich ham, cheese)	+p	+p	+M	+M	+	+(20,46)	+	+	+	PA	+	PA	+(20,02)	+	+	PA	1	a
2018	6199	RTE (Salad ham, cheese)	+M	+M	+m	+m	+	+(25,22)	+	+	+	PA	+	PA	+(25,87)	+	+	PA	1	a
2018	6200	RTE (Salad ham, pasta)	+M	+M	+M	+M	+	+(22,10)	+	+	+	PA	+	PA	+(23,02)	+	+	PA	1	a
2010	949	Ready to reheat fish	-	-	-	-	-	-	-	-	-	NA	-	NA					1	b
2010	989	Ready to reheat fish	-	-	-	-	-	-	-	-	-	NA	-	NA					1	b
2010	1077	Cooked sausage	+/(NC)	-	+/(NC)	-	-	-	-	-	-	NA	-	NA					1	b
2010	1114	Basquaise chicken preparation	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	b
2010	1115	Ready to eat food with lamb (Navarin)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	b
2010	1116	Couscous	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	b
2010	1117	Ready to eat food with veal (Italian dressing)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	b
2010	1120	Mussels (marinière)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	b
2010	1126	Croque Monsieur	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	b
2010	1127	Quiche Lorraine	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	b
2010	1128	Chicken nem	-	-	-	-	-	-	-	-	-	NA	-	NA					1	b
2010	1129	Friand (pufpastry)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	b
2010	1202	Cooked tuna with vegetables	-	-	-	-	-	-	-	-	-	NA	-	NA					1	b

\* Analyses performed according to the COFRAC accreditation

READY TO EAT, READY TO REHEAT																				
Date	Sample N°	Product	Reference method : ISO 6579♦					Alternative method : MicroSEQ Salmonella spp (PrepSEQ™ Rapid Spin protocol)										Category	Type	
			RVS broth		MKTn broth		Result	PCR result (Cq)	Confirmation (Reference method)	Confirmation (RVS/XLD/Latex)	Final result Ref. conf.	Agreement Ref.conf.	Final result RVS/XLD	Agreement RVS/XLD	Storage BPW for 72 h at 5°C ± 3°C					
			XLD	CHROMagar Salmonella	XLD	CHROMagar Salmonella									PCR result (Cq)	Confirmation	Final result			Agreement
2010	1204	Frozen ready to eat food with fish and vegetables	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	b
2010	1230	Asian ready to eat food with poultry	-	-	-	-	-	-	-	-	-	NA	-	NA					1	b
2010	1231	Asian ready to eat meal (poultry)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	b
2010	1232	Basquaise chicken preparation	-	-	-	-	-	-	-	-	-	NA	-	NA					1	b
2010	1233	Basquaise chicken preparation	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	b
2010	1380	Frozen spinach with cream	-	-	-	-	-	-	-	-	-	NA	-	NA					1	b
2010	1408	Beans puree	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	b
2010	1409	Carrots puree	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	b
2010	2251	Cooked chicken meat pieces	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	b
2010	2253	White chicken with herbs	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	b
2010	2402	Cooked vegetables	-	-	-	-	-	-	-	-	-	NA	-	NA					1	b
2010	2403	Ready to eat meal	-	-	-	-	-	-	-	-	-	NA	-	NA					1	b
2010	2404	Cooked vegetables	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	b
2010	1033	Smoked raw sausage	-	-	-	-	-	-	-	-	-	NA	-	NA					1	c
2010	1070	Marinated beef (faux filet)	-	-	-	-	-	-	-	-	-	NA	-	NA					1	c
2010	1213	Cured duck filet	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	1	c
2010	1385	Haddock filet	-	-	-	-	-	-	-	-	-	NA	-	NA					1	c
2018	6201	Marinated fish	+M	+M	+p	+p	+	+(14,47)	+	+	+	PA	+	PA	+(14,23)	+	+	PA	1	c
2018	6202	Grated salmon	+p	+p	+M	+M	+	+(22,26)	+	+	+	PA	+	PA	+(14,04)	+	+	PA	1	c
2018	6203	Marinated fish	+M	+M	+M	+p	+	+(14,22)	+	+	+	PA	+	PA	+(13,24)	+	+	PA	1	c
2018	6204	Smoked salmon	+M	+M	+M	+p	+	+(15,05)	+	+	+	PA	+	PA	+(14,30)	+	+	PA	1	c
2018	6205	Marinated duck	+M	+p	+M	+p	+	+(15,18)	+	+	+	PA	+	PA	+(14,39)	+	+	PA	1	c
2018	6206	Marinated beef trim	-	-	-	-	-	-	-	-	-	NA	-	NA					1	c
2018	6207	Marinated pork meat	+M	+M	+M	+M	+	+(23,51)	+	+	+	PA	+	PA	+(24,44)	+	+	PA	1	c
2018	6209	Marinated fish	-	-	-	-	-	-	-	-	-	NA	-	NA					1	c
2018	6210	Marinated fish	st	st	st	st	-	-	-	-	-	NA	-	NA					1	c
2018	6211	Marinated fish	st	st	st	st	-	-	-	-	-	NA	-	NA					1	c
2018	6212	Smoked fish	st	st	st	st	-	-	-	-	-	NA	-	NA					1	c
2018	6213	Grated salmon	-	-	-	-	-	-	-	-	-	NA	-	NA					1	c
2018	6214	Smoked fish	-	-	-	-	-	-	-	-	-	NA	-	NA					1	c
2018	6215	Smoked salmon	-	-	-	-	-	-	-	-	-	NA	-	NA					1	c
2018	6216	Marinated duck	-	-	-	-	-	-	-	-	-	NA	-	NA					1	c
2018	6217	Marinated beef	-	-	-	-	-	-	-	-	-	NA	-	NA					1	c
2018	6218	Seasoned pork meat	-	-	-	-	-	-	-	-	-	NA	-	NA					1	c

MEAT PRODUCTS																				
Date	Sample N°	Product	Reference method : ISO 6579*					Alternative method : MicroSEQ Salmonella spp (PrepSEQ™ Rapid Spin protocol)											Category	Type
			RVS broth		MKTTn broth		Result	PCR result (Cq)	Confirmation (Reference method)	Confirmation (RVS/XLD/Latex)	Final result Ref. conf.	Agreement Ref.conf.	Final result RVS/XLD	Agreement RVS/XLD	Storage BPW for 72 h at 5°C ± 3°C					
			XLD	CHROMagar Salmonella	XLD	CHROMagar Salmonella									PCR result (Cq)	Confirmation	Final result	Agreement		
2010	952	Mechanically deboned poultry meat	-	-	-	-	-	-	-	-	NA	-	NA					2	a	
2010	953	Mechanically deboned poultry meat	-	-	-	-	-	-	-	-	NA	-	NA					2	a	
2010	954	Hen meat pieces	-	-	-	-	-	-	-	-	NA	-	NA					2	a	
2010	1027	Deboned breast	-	-	-	-	-	-	-	-	NA	-	NA					2	a	
2010	1029	Turkey tournedos	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	2	a	
2010	1067	Mechanically deboned poultry meat	-	-	-	-	-	-	-	-	NA	-	NA					2	a	
2010	1072	Hen meat pieces	-	-	-	-	-	-	-	-	NA	-	NA					2	a	
2010	1074	Hen pieces with skin	+(NC)	-	+(NC)	-	-	-	-	-	NA	-	NA					2	a	
2010	1104	Mechanically deboned poultry meat	-	-	-	-	-	-	-	-	NA	-	NA					2	a	
2010	1135	Hen	-	-	-	-	-	-	-	-	NA	-	NA					2	a	
2010	1136	Hen	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	2	a	
2010	1970	Poultry neck skin	-	+(ox+)	-	-	-	-	-	-	NA	-	NA					2	a	
2010	1971	Poultry neck skin	+ni/+	+(ox+)	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	2	a	
2010	1972	Cockerel	-	+(ox+)	-	-	-	-	+/(36,2)/-(38,1)	-	-	PPNA	-	NA	-	-	NA	2	a	
2010	2157	Turkey roast	-	-	-	-	-	-	-	-	NA	-	NA					2	a	
2018	6329	Raw poultry meat	-	-	-	-	-	-	i/*	-	-	NA	-	NA	i/*	-	-	NA	2	a
2018	6330	Raw turkey meat	-	-	-	-	-	-	-	-	NA	-	NA					2	a	
2018	6331	Raw poultry meat	+m	+m	+M	+m	+	+(22,40)	+	+	PA	+	PA	+(31,27)	+	+	PA	2	a	
2018	6332	Seasoned turkey meat	+m	+m	+m	+m	+	+(25,00)	+	+	PA	+	PA	+(25,14)	+	+	PA	2	a	
2018	6333	Brine turkey meat	-	-	-	-	-	-	-	-	NA	-	NA					2	a	
2018	6334	Chicken fillet	+m(P.mirabilis)	-	+M(NC on TSA°)	-	-	-/-	-	-	NA	-	NA	-	-(P.mirabilis)	-	NA	2	a	
2018	6335	Turkey meat	+m (x3 E.coli/ P.mirabilis)	-	-	-	-	-/-	-	-	NA	-	NA	-	-(P.mirabilis)	-	NA	2	a	
2018	6336	Turkey fillet	-	-	-	-	-	-	-	-	NA	-	NA					2	a	
2018	6957	Raw poultry meat	-	-	-	-	-	-	-	-	NA	-	NA					2	a	
2018	6958	Raw poultry meat	-	-	-	-	-	-	-	-	NA	-	NA	+(34,54)/+(35,02)/+(34,89)	5x(RVS/MKTTN/MSRV):-	-	PPNA	2	a	
2018	6959	Raw poultry meat	-	-	-	-	-	-	-	-	NA	-	NA					2	a	
2018	6960	Raw poultry meat	-	-	-	-	-	-	-	-	NA	-	NA					2	a	
2018	6961	Raw poultry meat	+m	+m	+M	+M	+	+(27,13)	+	+	PA	+	PA	+(26,10)	+	+	PA	2	a	
2018	7227	Turkey meat	+(2 colonies) NC on TSA	-	+m/-	-	-	+(34,89)/+(35,48)/+(35,96)	-	5x(RVS/MKTTN/MSRV):-	-	PPNA	-	PPNA	-(37,99)/-(38,02)/-(38,04)	-	NA	2	a	
2018	7228	Turkey meat	+M	+M	+M	+M	+	+(25,20)	+	+	PA	+	PA	+(25,99)	+	+	PA	2	a	
2018	7229	Chicken meat	+M	+M	+M	+1/2	+	+(20,42)	+	+	PA	+	PA	+(21,92)	+	+	PA	2	a	
2018	7230	Chicken meat	+M	+M	+M	+M	+	+(25,41)	+	+	PA	+	PA	+(25,07)	+	+	PA	2	a	
2018	7231	Duck meat	+M	+M	+M	+M	+	+(28,51)	+	+	PA	+	PA	+(25,81)	+	+	PA	2	a	
2010	951	Pork meat	-	-	-	-	-	-	-	-	NA	-	NA					2	b	
2010	1011	Pork "crépine"	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	2	b	
2010	1013	Pork-rind	-	-	-	-	-	-	-	-	NA	-	NA					2	b	
2010	1015	Sausage meat	-	-	-	-	-	-	-	-	NA	-	NA					2	b	
2010	1017	Pork breast	-	-	-	-	-	-	-	-	NA	-	NA					2	b	
2010	1019	Pork tongue	-	-	-	-	-	-	-	-	NA	-	NA					2	b	
2010	1021	Pork breast	-	-	-	-	-	-	-	-	NA	-	NA					2	b	

\* Analyses performed according to the COFRAC accreditation

MEAT PRODUCTS																				
Date	Sample N°	Product	Reference method : ISO 6579*					Alternative method : MicroSEQ <i>Salmonella</i> spp (PrepSEQ™ Rapid Spin protocol)											Category	Type
			RVS broth		MKTn broth		Result	PCR result (Cq)	Confirmation (Reference method)	Confirmation (RVS/XLD/Latex)	Final result Ref. conf.	Agreement Ref.conf.	Final result RVS/XLD	Agreement RVS/XLD	Storage BPW for 72 h at 5°C ± 3°C					
			XLD	CHROMagar <i>Salmonella</i>	XLD	CHROMagar <i>Salmonella</i>									PCR result (Cq)	Confirmation	Final result	Agreement		
2010	1025	Knuckle of pork	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	2	b
2010	1069	Sausage meat	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1073	Meat based stuffing	+( <i>Citrobacter freundii</i> )	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1075	Pork meat (Crêpinette)	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1076	Dried sausage	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1094	Pork tongue	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1095	Pork rind	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1096	Pork meat caul (crêpine)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	2	b
2010	1097	Pork rind	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1098	Pork breast	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1099	Pork breast	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1100	Pork meat caul (crêpine)	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1102	Sausages with herbs	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1103	Sausage meat	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1113	Pork shoulder	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	2	b
2010	1130	Dried sausage	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1131	Pork-rind	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1132	Pork tongue	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1133	Pork carcass	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1134	Pork carcass	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1137	Pork tongue	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1194	Pork meat caul (crêpine)	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1195	Pork meat caul (crêpine)	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1196	Pork tongue	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1197	Pork tongue	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1226	Sausages (Fricadelles)	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1227	<b>Sausages (Fricadelles)</b>	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	2	b
2010	1241	Carcass	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1965	Sausages	-	+ni/(ox+)	+( <i>Citrobacter youngae</i> )	-	-	+/-	-	-	-	PPNA	-	NA	-/-	-	-	NA	2	b
2010	1966	Sausages with herbs	+ni/+	+ni/(ox+)	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	2	b
2010	1967	Pork ribs	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2010	1968	Pork liver	-	-	+	+	+	+	+	+	+	PA	-	ND	+	+	+	PA	2	b
2010	1969	Pork shoulder	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	2	b
2018	6337	Cooked pork meat	st	st	st	st	-	-	-	-	-	NA	-	NA					2	b
2018	6338	Pork meat	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2018	6952	Raw pork meat	-	-	-	-	-	-	-	-	-	NA	-	NA					2	b
2018	6953	Raw pork meat	+M	+M	+1/2	+1/2	+	+(16,98)	+	+	+	PA	+	PA	+(17,29)	+	+	PA	2	b
2018	6954	Raw pork meat	-	-	-	-	-	-	-	-	-	NA	-	NA	-(38,01)	-	-	NA	2	b
2018	6955	Raw pork meat	+m	+1/2	+1/2	+m	+	+(23,31)	+	+	+	PA	+	PA	+(23,31)	+	+	PA	2	b
2018	6956	Raw pork meat	-	st	-	-	-	i/-*	-	-	-	NA	-	NA					2	b
2010	1023	Thin flank of beef	-	-	-	-	-	-	-	-	-	NA	-	NA					2	c
2010	1031	Ground beef (Bolognaise)	-	-	-	-	-	-	-	-	-	NA	-	NA					2	c
2010	1068	Ground beef (Bolognaise)	-	-	-	-	-	-	-	-	-	NA	-	NA					2	c
2010	1071	Maxi steak	-	-	-	-	-	-	-	-	-	NA	-	NA					2	c
2010	1101	Ground beef (Bolognaise)	-	-	-	-	-	-	-	-	-	NA	-	NA					2	c
2010	1105	Minced beef and pork-based meat balls	-	-	-	-	-	-	-	-	-	NA	-	NA					2	c
2010	1106	Ground beef	-	-	-	-	-	-	-	-	-	NA	-	NA					2	c
2010	1214	<b>Ground beef</b>	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	2	c

MEAT PRODUCTS																				
Date	Sample N°	Product	Reference method : ISO 6579♦					Alternative method : MicroSEQ <i>Salmonella</i> spp (PrepSEQ™ Rapid Spin protocol)											Category	Type
			RVS broth		MKTTn broth		Result	PCR result (Cq)	Confirmation (Reference method)	Confirmation (RVS/XLD/Latex)	Final result Ref. conf.	Agreement Ref.conf.	Final result RVS/XLD	Agreement RVS/XLD	Storage BPW for 72 h at 5°C ± 3°C					
			XLD	CHROMagar <i>Salmonella</i>	XLD	CHROMagar <i>Salmonella</i>									PCR result (Cq)	Confirmation	Final result	Agreement		
2010	1215	Frozen ground beef with onions	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	2	c
2010	1216	Meat balls	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	2	c
2010	1228	Veal paupiette	-	-	-	-	-	-	-	-	-	NA	-	NA					2	c
2010	1229	Veal paupiette	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	2	c
2018	6339	Raw veal meat	+p	+p	+M	+p	+	+(24,95)	+	+	+	PA	+	PA	+(25,08)	+	+	PA	2	c
2018	6340	Raw veal meat	+p	+p	+M	+M	+	+(22,62)	+	+	+	PA	+	PA	+(22,23)	+	+	PA	2	c
2018	6341	Raw veal meat	+M	-	+mdni	-	+	+(29,24)	+	+	+	PA	+	PA	+(28,84)	+	+	PA	2	c
2018	6342	Raw beef meat	+M	-	+1/2	+m	+	+(26,49)	+	+	+	PA	+	PA	+(25,36)	+	+	PA	2	c
2018	6343	Raw beef meat	+M	+M	+M	+M	+	+(18,59)	+	+	+	PA	+	PA	+(18,58)	+	+	PA	2	c
2018	6344	Raw beef meat	+M	+M	+M	+M	+	+(24,15)	+	+	+	PA	+	PA	+(23,75)	+	+	PA	2	c
2018	6352	Raw beef meat	-	-	-	-	-	-	-	-	-	NA	-	NA					2	c
2018	6353	Raw veal meat	-	-	-	-	-	-	-	-	-	NA	-	NA					2	c

DAIRY PRODUCTS																				
Date	Sample N°	Product	Reference method : ISO 6579♦					Alternative method : MicroSEQ Salmonella spp (PrepSEQ™ Rapid Spin protocol)										Category	Type	
			RVS broth		MKTTn broth		Result	PCR result (Cq)	Confirmation (Reference method)	Confirmation (RVS/XLD/Latex)	Final result Ref. conf.	Agreement Ref.conf.	Final result RVS/XLD	Agreement RVS/XLD	Storage BPW for 72 h at 5°C ± 3°C					
			XLD	CHROMagar Salmonella	XLD	CHROMagar Salmonella									PCR result (Cq)	Confirmation	Final result			Agreement
2010	991	Cow raw milk	-	-	-	-	-	-	-	-	NA	-	NA					3	a	
2010	993	Ewe raw milk	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	+	3	a	
2010	995	Ewe raw milk	-	-	-	-	-	-	-	-	NA	-	NA					3	a	
2010	1001	Goat raw milk	-	-	-	-	-	i/-	-	i/-	NA	-	NA					3	a	
2010	1057	Ewe raw milk N°4	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	+	3	a	
2010	1058	Ewe raw milk N°6	-	-	-	-	-	-	-	-	NA	-	NA					3	a	
2010	1059	Ewe raw milk N°14	-	-	-	-	-	-	-	-	NA	-	NA					3	a	
2010	1060	Ewe raw milk N°13	-	+/-	-	-	+	+	+	+	PA	+	PA	+	+	+	+	3	a	
2010	1061	Raw cow milk cheese	-	-	-	-	-	i/+/i	-	-	PPNA	-	NA	+/i/i	-	-	-	3	a	
2010	1063	Cow raw milk	-	-	-	-	-	-	-	-	NA	-	NA					3	a	
2010	1064	Raw milk N°11	-	-	-	-	-	-	-	-	NA	-	NA					3	a	
2010	1065	Raw milk N°13	-	-	-	-	-	-	-	-	NA	-	NA					3	a	
2010	1985	Raw milk	-	-	-	-	-	+	-	- (+ MSR/V/XLD)	+	PD	+	PD	+	-(+ MSR/V/XLD)	+	3	a	
2010	1987	Raw milk	+ni/+	-	+	+	+	-(0)/-(36,2)/-(36,1)	+	+	-	ND	-	ND	-(37,1)/-(37,3)/-(38,3)	+	-	3	a	
2010	2364	Raw milk	-	-	-	-	-	-	-	-	NA	-	NA					3	a	
2010	2365	Cream	-	-	-	-	-	-	-	-	NA	-	NA					3	a	
2010	2366	Lait ribot	-	-	-	-	-	-	-	-	NA	-	NA					3	a	
2010	2367	Gros lait	-	-	-	-	-	-	-	-	NA	-	NA					3	a	
2010	2368	Cream	-	-	-	-	-	-	-	-	NA	-	NA					3	a	
2010	2369	Raw milk	-	-	-	-	-	-	-	-	NA	-	NA					3	a	
2010	2549	Raw milk	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	+	3	a	
2010	2550	Raw milk	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	+	3	a	
2010	2551	Raw milk	-	+	+	+	+	+	+	-	PA	-	ND	+	+	+	+	3	a	
2010	2555	Raw milk cheese (Comté)	-	-	-	-	-	-	-	-	NA	-	NA	-				3	a	
2010	2568	Raw milk	+ni/+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	+	3	a	
2010	2569	Raw milk	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	+	3	a	
2010	950	Raw cow milk cheese	-	-	-	-	-	-	-	-	NA	-	NA					3	b	
2010	997	Raw milk cheese	-	-	-	-	-	-	-	-	NA	-	NA					3	b	
2010	999	Ewe raw milk cheese	-	-	-	-	-	-	-	-	NA	-	NA					3	b	
2010	1062	Raw cow milk cheese	-	-	-	-	-	-	-	-	NA	-	NA					3	b	
2010	1066	Raw milk cheese	-	-	-	-	-	-	-	-	NA	-	NA					3	b	
2010	1378	Raw milk cheese (Morbier)	-	-	-	-	-	-	-	-	NA	-	NA					3	b	
2010	1379	Pasteurized milk cheese (Gouda)	-	-	-	-	-	-	-	-	NA	-	NA					3	b	
2010	1381	Raw milk cheese (Saint Nectaire)	-	-	-	-	-	-	-	-	NA	-	NA					3	b	
2010	1396	Raw milk cheese (Brie de Meaux)	-	-	-	-	-	i/-	-	-	NA	-	NA					3	b	
2010	1977	Raw milk cheese	-	-	-	-	-	-	-	-	NA	-	NA					3	b	
2010	1978	Raw milk cheese	-	-	+	-	+	+	+	-	PA	-	ND	+	+	+	+	3	b	
2010	1979	Raw milk cheese	-	-	+	-	+	+	+	-	PA	-	ND	+	+	+	+	3	b	
2010	1980	Raw milk cheese	-	-	-	-	-	+/+/ +(34,8)	-	-	PPNA	-	NA	-	-	-	-	3	b	
2010	1986	Raw milk cheese (Rocamadour)	-	-	+	-	+	+	+	+	PA	+	PA	+	+	+	+	3	b	

♦ Analyses performed according to the COFRAC accreditation

DAIRY PRODUCTS																				
Date	Sample N°	Product	Reference method : ISO 6579*					Alternative method : MicroSEQ Salmonella spp (PrepSEQ™ Rapid Spin protocol)											Category	Type
			RVS broth		MKTTn broth		Result	PCR result (Cq)	Confirmation (Reference method)	Confirmation (RVS/XLD/Latex)	Final result Ref. conf.	Agreement Ref.conf.	Final result RVS/XLD	Agreement RVS/XLD	Storage BPW for 72 h at 5°C ± 3°C					
			XLD	CHROMagar Salmonella	XLD	CHROMagar Salmonella									PCR result (Cq)	Confirmation	Final result	Agreement		
2010	1988	Raw milk cheese (Saint Nectaire)	+ni/+	-	+ni/+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	3	b
2010	2257	Raw milk cheese (Tomme de Savoie)	-	-	-	-	-	-	-	-	-	NA	-	NA					3	b
2010	2258	Raw milk cheese (Morbier)	-	-	-	-	-	-	-	-	-	NA	-	NA					3	b
2010	2259	Raw milk cheese (Salers)	+ni/+	-	+	-	+	+	+	+	+	PA	+	PA	+	+	+	PA	3	b
2010	2260	Raw milk cheese (Raclette)	-	-	-	-	-	-	-	-	-	NA	-	NA					3	b
2010	2379	Cheese (Brie)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	3	b
2010	2380	Cheese (Rustique)	-	-	-	-	-	-	-	-	-	NA	-	NA					3	b
2010	2381	Cheese	-	-	-	-	-	-	-	-	-	NA	-	NA					3	b
2010	2552	Raw milk cheese (Tomme des Avis)	+ni/+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	3	b
2010	2553	Raw milk cheese (Morbier)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	3	b
2010	2554	Raw milk cheese (Saint Nectaire)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	3	b
2010	2556	Raw milk cheese (Bethmale)	-	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	3	b
2010	1090	Milk powder	-	-	-	-	-	-	-	-	-	NA	-	NA					3	c
2010	1091	Milk powder	-	-	-	-	-	-	-	-	-	NA	-	NA					3	c
2010	1092	Milk powder	-	-	-	-	-	-	-	-	-	NA	-	NA					3	c
2010	1093	Milk powder	-	-	-	-	-	-	-	-	-	NA	-	NA					3	c
2010	1210	Ice cream (mint-chocolate)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	3	c
2010	1211	Vanilla ice cream	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	3	c
2010	1212	Coffee ice cream	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	3	c
2010	1973	Milk powder (RAEMA)	-	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	3	c
2010	1974	Milk powder (RAEMA)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	3	c
2010	1975	Milk powder (RAEMA)	-	-	-	-	-	+(35,09)/ +(34,9)/ +(34,2)	-	-	-	PPNA	-	NA	+/-	-	-	PPNA	3	c
2010	1976	Milk powder (RAEMA)	-	-	-	-	-	+(34,2)/-/+	-	-	-	PPNA	-	NA	+(28,4)/+ +(27,3)	-	-	PPNA	3	c
2010	2370	Ice cream (Pistachio)	-	-	-	-	-	-	-	-	-	NA	-	NA					3	c
2010	2371	Ice cream(nougat)	-	-	-	-	-	-	-	-	-	NA	-	NA					3	c
2010	2372	Milk rice	-	-	-	-	-	-	-	-	-	NA	-	NA					3	c
2010	2373	Tiramisu	-	-	-	-	-	-	-	-	-	NA	-	NA					3	c
2010	2374	Chantilly	-	-	-	-	-	-	-	-	-	NA	-	NA					3	c
2010	2375	Chantilly	-	-	-	-	-	-	-	-	-	NA	-	NA					3	c
2010	2376	Tiramisu	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	3	c
2010	2377	Chantilly	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	3	c
2010	2378	Milk rice	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	3	c
2010	2382	Ice cream (Pistachio)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	3	c
2010	2383	Ice cream(nougat)	-	-	-	-	-	+/- (Acinetobacter)	-	-	-	NA	-	NA					3	c
2018	6208	Dairy dessert	+M	+M	+M	+M	+	+(30,35)	+	+	+	PA	+	PA	+(30,76)	+	+	PA	3	c
2018	6345	Dairy dessert (chocolate)	-	-	-	-	-	-	-	-	-	NA	-	NA					3	c

EGG PRODUCTS																				
Date	Sample N°	Product	Reference method : ISO 6579♦					Alternative method : MicroSEQ Salmonella spp (PrepSEQ™ Rapid Spin protocol)											Category	Type
			RVS broth		MKTTn broth		Result	PCR result (Cq)	Confirmation (Reference method)	Confirmation (RVS/XLD/Latex)	Final result Ref. conf.	Agreement Ref.conf.	Final result RVS/XLD	Agreement RVS/XLD	Storage BPW for 72 h at 5°C ± 3°C					
			XLD	CHROMagar Salmonella	XLD	CHROMagar Salmonella									PCR result (Cq)	Confirmation	Final result	Agreement		
2010	1402	Whole egg powder	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	a
2010	1403	White egg powder	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	a
2010	1404	Whole egg powder	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	a
2010	1405	White egg powder	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	a
2010	2384	Egg yolk powder	-	-	-	-	-	i/-	-	-	-	NA	-	NA					4	a
2010	2385	Egg yolk powder	-	-	-	-	-	-	-	-	-	NA	-	NA					4	a
2010	2386	Whole egg powder	-	-	-	-	-	-	-	-	-	NA	-	NA					4	a
2010	2387	White egg powder	-	-	-	-	-	-	-	-	-	NA	-	NA					4	a
2010	2393	Egg powder	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	a
2010	2394	Egg powder	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	a
2010	2395	Egg powder	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	a
2010	2396	Egg powder	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	a
2010	2580	Whole egg powder	-	-	-	-	-	-	-	-	-	NA	-	NA	-				4	a
2018	6346	Preparation for egg-based product (dessert)	st	st	-	-	-	-	-	-	-	NA	-	NA					4	a
2018	6347	Preparation for egg-based product (dessert)	st	st	st	st	-	-	-	-	-	NA	-	NA					4	a
2018	6348	White egg powder	st	st	st	st	-	+(35,20)/-/-	-	5x(RVS/MKTTN/MSRV):-	-	PPNA	-	PPNA	-	-	-	NA	4	a
2018	6349	Yolk egg powder	st	st	st	st	-	i/-*	-	-	-	NA	-	NA	-	-	-	NA	4	a
2018	6350	Whole egg powder	st	st	st	st	-	+(35,49)/ +(35,99)/ +(35,57)	-	5x(RVS/MKTTN/MSRV):-	-	PPNA	-	PPNA	-	-	-	NA	4	a
2018	6351	White egg powder	st	st	st	st	-	-	-	-	-	NA	-	NA					4	a
2018	6972	White egg powder	st	st	st	st	-	+(33,62)/ +(33,33)/ +(39,83)	-	5x(RVS/MKTTN/MSRV):-	-	PPNA	-	PPNA	+(33,54)/ +(35,62)/ +(34,07)	-	-	PPNA	4	a
2010	1003	Egg white	-	-	-	-	-	-	-	-	-	NA	-	NA					4	b
2010	1005	Egg white	-	-	-	-	-	-	-	-	-	NA	-	NA					4	b
2010	1007	Egg yolk	-	-	-	-	-	i/-	-	i/-	-	NA	-	NA					4	b
2010	1009	Egg yolk	-	-	-	-	-	-	-	-	-	NA	-	NA					4	b
2010	1054	Egg white	-	-	-	-	-	-	-	-	-	NA	-	NA					4	b
2010	1055	Egg white	-	-	-	-	-	-	-	-	-	NA	-	NA					4	b
2010	1056	Whole egg product	-	-	-	-	-	-	-	-	-	NA	-	NA					4	b
2010	2158	Liquid whole egg	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	b
2010	2159	Liquid whole egg	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	b
2010	2234	Liquid whole egg	-	-	-	-	-	-	-	-	-	NA	-	NA					4	b
2010	2235	Liquid egg yolk	-	-	-	-	-	i/-	-	-	-	NA	-	NA					4	b
2010	2236	Liquid whole egg	-	-	-	-	-	-	-	-	-	NA	-	NA					4	b
2010	2237	Liquid whole egg	-	-	-	-	-	-	-	-	-	NA	-	NA					4	b
2010	2254	Mayonnaise	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	b
2010	2388	Mayonnaise	-	-	-	-	-	-	-	-	-	NA	-	NA					4	b
2010	2389	Mayonnaise	-	-	-	-	-	-	-	-	-	NA	-	NA					4	b
2010	2390	Salad dressing	-	-	-	-	-	-	-	-	-	NA	-	NA					4	b
2010	2570	Liquid whole egg	+ni/+	+ni	+ni/+	+/-	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	b
2010	2571	Liquid whole egg	+	+ni/+	+ni/+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	b
2010	2572	Liquid whole egg	+	+ni	+ni/+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	b
2010	2573	Liquid whole egg	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	b

♦ Analyses performed according to the COFRAC accreditation



EGG PRODUCTS																				
Date	Sample N°	Product	Reference method : ISO 6579*					Alternative method : MicroSEQ <i>Salmonella</i> spp (PrepSEQ™ Rapid Spin protocol)											Category	Type
			RVS broth		MKTn broth		Result	PCR result (Cq)	Confirmation (Reference method)	Confirmation (RVS/XLD/Latex)	Final result Ref. conf.	Agreement Ref.conf.	Final result RVS/XLD	Agreement RVS/XLD	Storage BPW for 72 h at 5°C ± 3°C					
			XLD	CHROMagar <i>Salmonella</i>	XLD	CHROMagar <i>Salmonella</i>									PCR result (Cq)	Confirmation	Final result	Agreement		
2010	2574	Liquid whole egg	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	b
2010	2575	Mayonnaise	+	+ni	+ni	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	b
2010	2576	Mayonnaise	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	b
2010	2577	Mayonnaise	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	b
2010	2578	Mayonnaise	+ni/+	+ni	+ni/-	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	b
2010	2579	Mayonnaise	+	+ni/+	+ni	+/-	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	b
2010	987	Bread pastry	-	-	-	-	-	-	-	-	-	NA	-	NA					4	c
2010	1122	Egg based dessert (île flottante)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	c
2010	1123	Egg based cream (vanilla flavor)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	c
2010	1124	Chocolate mousse	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	c
2010	1125	Egg based cream (crème brûlée)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	c
2010	1217	Dessert (Crème brûlée au caramel)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	c
2010	1234	Pastry with custard (gland)	-	-	-	-	-	-	-	-	-	NA	-	NA					4	c
2010	1235	Pastry with custard (gland)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	c
2010	1236	Pastry with custard (éclair)	-	-	-	-	-	-	-	-	-	NA	-	NA					4	c
2010	1237	Pastry with custard (éclair)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	c
2010	1238	Egg based cream (crème anglaise)	-	-	-	-	-	+(33)/+/-	-	-	-	PPNA	-	NA	-	-	-	NA	4	c
2010	1239	Egg based cream (crème anglaise)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	c
2010	2255	Dressing (Béarnaise)	-	-	-	-	-	-	-	-	-	NA	-	NA					4	c
2010	2256	Dressing (Hollandaise)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	4	c
2010	2391	Dressing (Hollandaise)	-	-	-	-	-	-	-	-	-	NA	-	NA					4	c
2010	2392	Baked custard	-	-	-	-	-	-	-	-	-	NA	-	NA					4	c
2010	2611	Vanilla egg cream	-	-	-	-	-	-	-	-	-	NA	-	NA					4	c
2010	2612	Chocolate mousse	-	-	-	-	-	-	-	-	-	NA	-	NA					4	c
2010	2616	Preparation for baked custard and cream	-	-	-	-	-	-	-	-	-	NA	-	NA					4	c
2010	2617	Preparation for baked custard	-	-	-	-	-	-	-	-	-	NA	-	NA					4	c

SEAFOOD AND VEGETABLES (except sprouts)																				
Date	Sample N°	Product	Reference method : ISO 6579♦					Alternative method : MicroSEQ Salmonella spp (PrepSEQ™ Rapid Spin protocol)											Category	Type
			RVS broth		MKTTn broth		Result	PCR result (Cq)	Confirmation (Reference method)	Confirmation (RVS/XLD/Latex)	Final result Ref. conf.	Agreement Ref.conf.	Final result RVS/XLD	Agreement RVS/XLD	Storage BPW for 72 h at 5°C ± 3°C					
			XLD	CHROMagar Salmonella	XLD	CHROMagar Salmonella									PCR result (Cq)	Confirmation	Final result	Agreement		
2010	1118	Cooked shrimps	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	5	a
2010	1119	Crayfish tails	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	5	a
2010	1203	Sole filet	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	5	a
2010	1205	Frozen Sole	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	5	a
2010	1240	Cooked shrimps	-	-	-	+/- (1col:ox+)	-	-	-	-	-	NA	-	NA					5	a
2010	1384	Frozen fish	-	-	-	+/- (ox+)	-	-	-	-	-	NA	-	NA					5	a
2010	1386	Whiting filet	-	-	-	-	-	-	-	-	-	NA	-	NA					5	a
2010	1387	Coalfish filet	-	-	-	-	-	-	-	-	-	NA	-	NA					5	a
2010	2401	Surimi	-	-	-	-	-	-	-	-	-	NA	-	NA					5	a
2018	6504	Fish fillet	-	-	-	-	-	i/-*	-	-	-	NA	-	NA					5	a
2018	6505	Fish fillet	-	-	-	-	-	-	-	-	-	NA	-	NA					5	a
2018	6506	Fish	-	-	+md (NC on TSA)	+md (NC)	-	-	-	-	-	NA	-	NA	-	-	-	NA	5	a
2018	6507	Fish fillet	+p	+M	+M	+M	+	+(34,35)	+	+	+	PA	+	PA	+(31,76)	+	+	PA	5	a
2018	6508	Fish fillet	+p	+p	+m	+m	+	-/-	+	+	-	ND	-	ND	-/-	+	-	ND	5	a
2018	6509	Shellfish	+p	+p	+p	+p	+	+(12,91)	+	+	+	PA	+	PA	+(12,98)	+	+	PA	5	a
2018	6510	Shellfish	+p	+p	+M	+M	+	+(15,11)	+	+	+	PA	+	PA	+(14,32)	+	+	PA	5	a
2018	6515	Fish fillet	-	-	+m (NC on TSA/M.morganii)	-	-	-	-	-	-	NA	-	NA	-	-	-	NA	5	a
2018	6516	Fish	-	-	+m (E.coli)	-	-	-	-	-	-	NA	-	NA	-	-	-	NA	5	a
2018	6517	Fish fillet	-	-	+md (M.morganii)	-	-	-	-	-	-	NA	-	NA	-	-	-	NA	5	a
2018	6518	Shellfish	st	st	st	st	-	-	-	-	-	NA	-	NA					5	a
2018	6519	Shellfish	-	-	-	-	-	-	-	-	-	NA	-	NA					5	a
2018	6962	Raw salmon	+p	+p	+M	+1/2	+	+(26,14)	+	+	+	PA	+	PA	+(25,02)	+	+	PA	5	a
2018	6963	Raw squid	+p	+p	+p	+p	+	+(19,22)	+	+	+	PA	+	PA	+(18,74)	+	+	PA	5	a
2018	6964	Mackerel	+p	+p	+M	+M	+	+(25,76)	+	+	+	PA	+	PA	+(26,19)	+	+	PA	5	a
2018	6591	Baby leaves (spinach)	+m	+m	+m	+m	+	-/(37,14)/ -(38,13)	+	+(Latex weak)	-	ND	-	ND	-(37,16)/-/-	+	-	ND	5	b
2018	6592	Baby leaves (salad)	+p	+p	+M	+p	+	+(19,61)	+	+	+	PA	+	PA	+(18,19)	+	+	PA	5	b
2018	6593	Baby leaves (salad)	+M	+m	+M	+m	+	+(28,50)	+	+	+	PA	+	PA	+(28,20)	+	+	PA	5	b
2018	6594	Baby leaves (salad)	+m	+m	+m	+m	+	+(26,10)	+	+	+	PA	+	PA	+(24,15)	+	+	PA	5	b
2018	6595	Baby leaves (mix)	+md (C.youngae)	-	-	-	-	-/(38,08)/ -(36,39)	-	-	-	NA	-	NA	-/(38,97)/-	+(H.alvei)	-	NA	5	b
2018	6596	Baby leaves (salad)	+M	+m	+m	+m	+	+(32,04)	+	+	+	PA	+	PA	+(31,28)	+	+	PA	5	b
2018	6602	Baby leaves (salad)	-	-	-	-	-	-	-	-	-	NA	-	NA					5	b
2018	6603	Baby leaves (spinach)	-	-	-	-	-	-	-	-	-	NA	-	NA					5	b
2018	6604	Baby leaves (salad)	-	-	-	-	-	-	-	-	-	NA	-	NA					5	b
2018	6605	Baby leaves (salad)	-	-	-	-	-	-	-	-	-	NA	-	NA					5	b
2018	6606	Baby leaves (mix)	-	-	-	-	-	-	-	-	-	NA	-	NA					5	b
2018	6968	Produces mesclun	+M	+M	+M	+M	+	+(22,00)	+	+	+	PA	+	PA	+(18,62)	+	+	PA	5	b
2018	6969	Baby leaves	+M	+M	+m	-m	+	+(33,55)	+	+	+	PA	+	PA	+(34,36)	+	+	PA	5	b
2018	6970	Iceberg salad	+p	+p	+p	+p	+	+(15,22)	+	+	+	PA	+	PA	+(14,23)	+	+	PA	5	b
2018	6971	Salad (Sucrine)	-	-	-	-	-	-	-	-	-	NA	-	NA					5	b
2018	7232	Mixed baby-leaves	+1/2	+m	+1/2	+1/2	+	+(31,56)	+	+	+	PA	+	PA	+(32,19)	+	+	PA	5	b
2018	7233	Salad (Mâche)	+1/2	+M	+M	+M	+	+(24,47)	+	+	+	PA	+	PA	+(23,44)	+	+	PA	5	b
2018	7234	Salad	-	-	-	-	-	-	-	-	-	NA	-	NA					5	b
2018	7235	Salad	st	-	-	-	-	-	-	-	-	NA	-	NA					5	b
2018	7236	Salad	-	-	-	-	-	-	-	-	-	NA	-	NA					5	b
2018	7237	Mixed baby-leaves	-	-	-	-	-	-	-	-	-	NA	-	NA					5	b

♦ Analyses performed according to the COFRAC accreditation

SEAFOOD AND VEGETABLES (except sprouts)																				
Date	Sample N°	Product	Reference method : ISO 6579*					Alternative method : MicroSEQ Salmonella spp (PrepSEQ™ Rapid Spin protocol)											Category	Type
			RVS broth		MKTTn broth		Result	PCR result (Cq)	Confirmation (Reference method)	Confirmation (RVS/XLD/Latex)	Final result Ref. conf.	Agreement Ref.conf.	Final result RVS/XLD	Agreement RVS/XLD	Storage BPW for 72 h at 5°C ± 3°C					
			XLD	CHROMagar Salmonella	XLD	CHROMagar Salmonella									PCR result (Cq)	Confirmation	Final result	Agreement		
2010	1198	Frozen minced vegetables	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	5	c
2010	1199	Frozen Asian vegetables	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	5	c
2010	1200	Frozen vegetables (ratatouille)	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	5	c
2010	1201	Frozen mixed vegetables	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	5	c
2010	1377	Frozen Asian vegetables	-	-	-	+/- (1col:ox+)	-	-	-	-	-	NA	-	NA					5	c
2010	1382	Frozen mixed vegetables	-	-	-	-	-	-	-	-	-	NA	-	NA					5	c
2010	1383	Frozen mixed vegetables	-	+/- (ox+)	-	+/- (ox+)	-	-	-	-	-	NA	-	NA					5	c
2010	1388	Cauliflower	-	-	-	-	-	-	-	-	-	NA	-	NA					5	c
2010	1389	Mixed vegetables	-	-	-	-	-	-	-	-	-	NA	-	NA					5	c
2010	1390	Mixed vegetables	+(Citrobacter)	-	-	-	-	-	-	-	-	NA	-	NA					5	c
2010	1406	Frozen mixed spinach	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	5	c
2010	1407	Frozen spinach branches	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	5	c
2010	1415	Minced carrots	-	-	-	-	-	-	-	-	-	NA	-	NA					5	c
2010	1416	Cauliflower	+	+	+	+	+	+(35,5)	+	+	+	PA	+	PA	+(32,8)	+	+	PA	5	c
2010	1417	Fresh vegetables	-	-	-	+/- (ox+)	-	-	-	-	-	NA	-	NA					5	c
2010	2558	Grated carrots	+	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	5	c
2018	6511	Tomato	+p	+p	+p	+p	+	+(13,57)	+	+	+	PA	+	PA	+(13,22)	+	+	PA	5	c
2018	6512	Zucchini	-	-	-	-	-	-	-	-	-	NA	-	NA					5	c
2018	6513	Zucchini	-	-	-	-	-	-	-	-	-	NA	-	NA					5	c
2018	6520	Tomato	st	st	st	st	-	-	-	-	-	NA	-	NA					5	c
2018	6521	Zucchini	st	st	-	-	-	-	-	-	-	NA	-	NA					5	c
2018	6965	Red bell pepper	+M	+M	+1/2	+1/2	+	+(19,48)	+	+	+	PA	+	PA	+(19,94)	+	+	PA	5	c
2018	6966	Zucchini	+p	+p	+p	+p	+	+(12,27)	+	+	+	PA	+	PA	+(12,33)	+	+	PA	5	c
2018	6967	Broccoli	+M	+M	+M	+M	+	+(20,38)	+	+	+	PA	+	PA	+(20,10)	+	+	PA	5	c

FEED SAMPLES																				
Date	Sample N°	Product	Reference method : ISO 6579♦					Alternative method : MicroSEQ Salmonella spp (PrepSEQ™ Rapid Spin protocol)											Category	Type
			RVS broth		MKTn broth		Result	PCR result (Cq)	Confirmation (Reference method)	Confirmation (RVS/XLD/Latex)	Final result Ref. conf.	Agreement Ref.conf.	Final result RVS/XLD	Agreement RVS/XLD	Storage BPW for 72 h at 5°C ± 3°C					
			XLD	CHROMagar Salmonella	XLD	CHROMagar Salmonella									PCR result (Cq)	Confirmation	Final result	Agreement		
2010	1397	Raw meat pet food	-	-	-	+/(-ox+)	-	-	-	-	NA	-	NA					6	a	
2010	1398	Raw slaughter pet food	-	-	-	-	-	-	-	-	NA	-	NA					6	a	
2010	1982	Raw meat for pet	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	a	
2010	2246	Raw pork meat for pet	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	a	
2010	2247	Raw pork meat for pet	-	-	-	-	-	-	-	-	NA	-	NA					6	a	
2010	2248	Raw pork meat for pet	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	a	
2010	2249	Raw pork meat for pet	-	-	-	-	-	-	-	-	NA	-	NA					6	a	
2010	2410	Raw bovine meat for animals	+	+	+	+	+	-	+	-	ND	-	ND	+	+	+	PA	6	a	
2010	2411	Raw meat for animals 1	+	+	-	-	+	-	+	-	ND	-	ND	-/(0)/-(0)	+	-	ND	6	a	
2010	2412	Raw meat for animals 2	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	a	
2010	2413	Raw meat for animals 3	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	a	
2010	2414	Sausage for dog	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	a	
2010	2565	Bone for animals	-	-	-	+ni/-	-	+/- (35,7)	-	-	PPNA	-	NA	-(37,1)/-(0)/-(37,5)	-	-	NA	6	a	
2010	2566	Bovine meat for animals	-	-	-	-	-	-	-	-	NA	-	NA					6	a	
2010	2567	Meat for animals	-	-	-	-	-	-	-	-	NA	-	NA					6	a	
2010	2584	Pork fat	-	-	-	-	-	-	-	-	NA	-	NA					6	a	
2018	6522	Raw meat for pets	-	-	-	-	-	-	-	-	NA	-	NA					6	a	
2018	6523	Raw meat for pets	-	-	+md (Y. regensburgeri)	-	-	-	-	-	NA	-	NA				NA	6	a	
2018	6524	Flour for pet food	+M	+m	+M	+m	+	+(17,20)	+	+	PA	+	PA	+(17,73)	+	+	PA	6	a	
2018	6525	Flour for pet food	+M	+m	+M	+m	+	+(21,27)	+	+	PA	+	PA	+(22,27)	+	+	PA	6	a	
2010	1035	Fish croquettes(feedstuff)	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	b	
2010	1037	Fish croquettes(feedstuff)	-	-	-	-	-	-	-	-	NA	-	NA					6	b	
2010	1107	Dog pellet	-	-	-	-	-	-	-	-	NA	-	NA					6	b	
2010	1108	Dog pellets	-	-	-	-	-	-	-	-	NA	-	NA					6	b	
2010	1109	Dog pellets	-	-	-	-	-	-	-	-	NA	-	NA					6	b	
2010	1110	Dog pellets	-	-	-	-	-	-	-	-	NA	-	NA					6	b	
2010	1111	Dog pellets	-	-	-	-	-	-	-	-	NA	-	NA					6	b	
2010	1112	Dog pellets	-	-	-	-	-	-	-	-	NA	-	NA					6	b	
2010	1218	Feedstuff (pellets for dog)	-	-	-	-	-	-	-	-	NA	-	NA					6	b	
2010	1219	Feedstuff (pellets for dog)	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	b	
2010	1220	Feedstuff (poultry-based pet food)	-	-	-	-	-	-	-	-	NA	-	NA					6	b	
2010	1221	Feedstuff (poultry-based pet food)	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	b	
2010	1222	Feedstuff (rabbit-based pet food)	-	-	-	-	-	-	-	-	NA	-	NA					6	b	
2010	1223	Feedstuff (rabbit-based pet food)	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	b	
2010	1224	Feed stuff (beef-based pellets dogfood)	-	-	-	-	-	-	-	-	NA	-	NA					6	b	
2010	1225	Feed stuff (beef-based pellets dogfood)	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	b	

♦ Analyses performed according to the COFRAC accreditation

FEED SAMPLES																				
Date	Sample N°	Product	Reference method : ISO 6579*					Alternative method : MicroSEQ Salmonella spp (PrepSEQ™ Rapid Spin protocol)										Category	Type	
			RVS broth		MKTn broth		Result	PCR result (Cq)	Confirmation (Reference method)	Confirmation (RVS/XLD/Latex)	Final result Ref. conf.	Agreement Ref.conf.	Final result RVS/XLD	Agreement RVS/XLD	Storage BPW for 72 h at 5°C ± 3°C					
			XLD	CHROMagar Salmonella	XLD	CHROMagar Salmonella									PCR result (Cq)	Confirmation	Final result			Agreement
2010	1423	Meat flour (pet food)	-	-	-	-	-	-	-	-	NA	-	NA					6	b	
2010	1983	Balls for pet	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	b	
2010	1984	Big sausage for dog	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	b	
2010	2239	Pellets	-	-	-	-	-	-	-	-	NA	-	NA					6	b	
2018	6514	Sausage for dogs	+p	+p	+p	+p	+	+(14,15)	+	+	PA	+	PA	+(15,04)	+	+	PA	6	b	
2010	947	Dehydrated poultry proteins (Feedstuff)	+	+	+	+	+	+	+	+	PA	+	PA	i/+	+	+	PA	6	c	
2010	948	Dehydrated poultry proteins (Feedstuff)	+	+	+	+	+	+	+	+	PA	+	PA	i/+	+	+	PA	6	c	
2010	1039	Feedstuff powder	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	c	
2010	1399	Horse feedstuff	-	-	-	-	-	-	-	-	NA	-	NA					6	c	
2010	1400	Horse feedstuff	-	-	-	-	-	-	-	-	NA	-	NA					6	c	
2010	1401	Pig sop	-	-	-	-	-	-	-	-	NA	-	NA					6	c	
2010	1418	Pork haemoglobin	-	-	-	-	-	-	-	-	NA	-	NA					6	c	
2010	1419	Dehydrated poultry proteins	+	+	+	+	+	+	+	+	PA	+	PA	i/+	+	+	PA	6	c	
2010	1420	Dehydrated poultry proteins	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	c	
2010	1421	Feedstuff(dehydrated)	+	+	+	+	+	+	+	+	PA	+	PA	i/+	+	+	PA	6	c	
2010	1422	Dehydrated poultry proteins	-	-	-	-	-	-	-	-	NA	-	NA					6	c	
2010	1424	Viscera flour	+	+	+	+	+	+	+	+	PA	+	PA	i/+	+	+	PA	6	c	
2010	2153	Feed stuff powder	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	c	
2010	2154	Feed stuff powder	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	c	
2010	2155	Feed stuff powder	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	c	
2010	2156	Feed stuff powder	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	c	
2010	2238	Pork haemoglobin	-	-	-	-	-	-	-	-	NA	-	NA					6	c	
2010	2240	Feed stuff powder	-	-	-	-	-	-	-	-	NA	-	NA					6	c	
2010	2241	Viscera flour (Feed stuff)	+	+	+	+	+	i/+	+	+	PA	+	PA	i/+	+	+	PA	6	c	
2010	2242	Feed stuff powder	+ni/+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	c	
2010	2243	Viscera flour (Feed stuff)	-	-	-	-	-	i/-	-	-	NA	-	NA					6	c	
2010	2244	Feed stuff powder	-	-	-	-	-	-	-	-	NA	-	NA					6	c	
2010	2245	Feed for hen	-	-	-	-	-	-	-	-	NA	-	NA					6	c	
2010	2407	Granules for chicken	-	-	-	-	-	-	-	-	NA	-	NA					6	c	
2010	2408	Granules for pigs	+	+	+	+	+	+	+	+	PA	+	PA	+	+	+	PA	6	c	

Relative accuracy: raw data - Extension Primary Production Samples (2012)

FAECES SAMPLES - Type a (Extension study, 2012) -																													
N° Sample	Product	Global result Rapid Spin	Global result NA Extraction	ISO 6579 /A1*			U47-100					MicroSEQ Salmonella spp																	
				MSRV	Streaking onto		Result	MSRV	Streaking onto		MKTn broth	Result	PCR Rapid Spin	PCR NA Extraction	TT Broth+I <sub>2</sub> KI +Brilliant Green (16 h at 37°C)+ BPW (4 h at 37°C)						BPW storage for 72 h at 5°C ± 3°C								
					XLD	IRIS Salmonella or ASAP			XLD	IRIS Salmonella or ASAP					XLD	Result (Latex test and ISO tests)	Final result Rapid Spin	Final result NA Extraction	Agreement		PCR Rapid Spin	PCR NA Extraction	Confirmation	Final result Rapid Spin	Final result NA Extraction	Agreement			
																			Rapid Spin	NA Extraction						Rapid Spin	NA Extraction		
232	Poultry faeces	-	-	+/-	-	-	-	+/-	-	-	-	-	-	-	-	-	-	-	-	NA	NA	-	-	-	-	-	NA	NA	
233	Poultry faeces	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA								
234	Boot socks(poultry)	-	-	+	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	NA	NA	-	-	-	-	-	NA	NA	
235	Boot socks(poultry)	-	-	+/-	-	-	-	+/-	-	-	-	-	-	-	-	-	-	-	-	NA	NA	-	-	-	-	-	NA	NA	
243	Slaughterhouse poultry faeces	+	+	-	/	/	-	-	/	/	-	-	+	+	+m ni/-	+M	+	+	+	PD	PD	+	+	+	+	+	PD	PD	
996	Boot socks(poultry)	+	+	-	/	/	-	-	/	/	-	-	+	+	+M	+M	+	+	+	PD	PD	+	+	+	+	+	PD	PD	
997	Boot socks(poultry)	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA								
998	Boot socks(poultry)	+	+	+	+p	+p	+	+	+p	+p	+M	+	-	-	-	-	-	-	-	ND	ND	-	-	-	-	-	ND	ND	
999	Boot socks(poultry)	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA								
1000	Boot socks(poultry)	+	+	+	+p	+p	+	+	+p	+p	+M	+	-	-	-	-	-	-	-	ND	ND	-	-	-	-	-	ND	ND	
1001	Boot socks(poultry)	+	+	-	/	/	-	-	/	/	-	-	+	i/+	+M	+M	+	+	+	PD	PD	+	+	+	+	+	PD	PD	
1002	Boot socks(poultry)	+	+	-	/	/	-	-	/	/	+/-M (Citrobacter)	-	+	i/+	+M	+M	+	+	+	PD	PD	+	+	+	+	+	PD	PD	
1003	Boot socks(poultry)	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA								
1004	Boot socks(poultry)	+	+	+	+p	+p	+	+	+p	+p	+M	+	-	-	-	-	-	-	-	ND	ND	-	-	-	-	-	ND	ND	
1005	Boot socks(poultry)	+	+	+	+p	+p	+	+	+p	+p	+M	+	-	-	-	-	-	-	-	ND	ND	-	-	-	-	-	ND	ND	
1006	Boot socks(poultry)	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA								
1007	Boot socks(poultry)	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA								
1008	Boot socks(poultry)	+	+	+	+M	+p	+	+	+M	+p	+M	+	+	+	+M	+M	+	+	+	PA	PA	+	+	+	+	+	PA	PA	
1009	Boot socks(poultry)	-	-	-	/	/	-	-	/	/	-	-	-	-	+/-m	-	-	-	-	NA	NA	-	-	-	-	-	NA	NA	
1010	Boot socks(poultry)	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA								
1011	Boot socks(poultry)	-	-	-	/	/	-	-	/	/	-	-	-	-	+/-m ni/-	-	-	-	-	NA	NA	-	-	-	-	-	NA	NA	
1012	Boot socks(poultry)	-	-	-	/	/	-	-	/	/	-	-	-	-	+/-m ni/-	-	-	-	-	NA	NA	-	-	-	-	-	NA	NA	
1013	Boot socks(poultry)	-	-	-	/	/	-	-	/	/	-st	-	-	-	-st	-st	-	-	-	NA	NA								
1014	Boot socks(poultry)	-	-	-	/	/	-	-	/	/	-st	-	-	-	-st	-st	-	-	-	NA	NA								
1015	Boot socks(poultry)	-	-	+/-	-	-	-	+/-	-	-	+/-m ni/-	-	-	-	-	-	-	-	-	NA	NA	-	-	-	-	-	NA	NA	
1016	Boot socks(poultry)	-	+	+/-	-	-	-	+/-	-	-	+/-m ni/-	-	-	+/-	-	-	-	+	-	NA	PPNA	-	-	-	-	-	NA	NA	
1017	Boot socks(poultry)	+	+	-	/	/	-	-	/	/	-	-	+	+	+1col	+M	+	+	+	PD	PD	+	+	+	+	+	PD	PD	
1018	Boot socks(poultry)	-	+	+/-	-	-	-	+/-	-	-	+/-m ni/-	-	-	+/-	-	-st	-	+	-	NA	PPNA	-	-	-	-	-	NA	NA	
1019	Boot socks(poultry)	+	+	+	+m	+M	+	+	+m	+M	+m	+	+	+	+1/2	+1/2	+	+	+	PA	PA	+	+	+	+	+	PA	PA	
1040	Boot socks(poultry)	-	-	+/-	-	-	-	+/-	-	-	+M ni/+ (Citrobacter)	-	-	-	-	-	-	-	-	NA	NA								
1041	Boot socks(poultry)	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-st	-	-	-	NA	NA								

\* Analyses performed according to the COFRAC accreditation

FAECES SAMPLES - Type a (Extension study, 2012)

N° Sample	Product	Global result Rapid Spin	Global result NA Extraction	ISO 6579 /A1*									U47-100														MicroSEQ Salmonella spp									
				MSRV	Streaking onto		Result	MSRV	Streaking onto		MKTn broth	Result	PCR Rapid Spin	PCR NA Extraction	TT Broth+l2K1 +Brilliant Green (16 h at 37°C)+ BPW (4 h at 37°C)						BPW storage for 72 h at 5°C ± 3°C															
					XLD	IRIS Salmonella or ASAP			XLD	IRIS Salmonella or ASAP					XLD	Result (Latex test and ISO tests)	Final result Rapid Spin	Final result NA Extraction	Agreement		PCR Rapid Spin	PCR NA Extraction	Confirmation	Final result Rapid Spin	Final result NA Extraction	Agreement										
																			Rapid Spin	NA Extraction						Rapid Spin	NA Extraction									
6543	Boot socks(piggery)	+		+	+	+	+	+	+	+	+	+	/	+M	+1/2	+	+		PA	/	+			+	+		+	+	PA							
6544	Boot socks(piggery)	+		+	+	+	+	+	+	+	+	+	/	+M	+M	+	+		PA	/	+			+	+		+	+	PA							
220	Pork faeces	-	-	+/-	-	-	-	+/-	-	-	+/-nil-	-	-	-	-	-	-	-	-	NA	NA	-	-		-	-		NA	NA							
226	Boot socks(piggery)	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA															
254	Pork faeces	+	+	-	/	/	-	-	/	/	-	-	+	+	+M	+M	+	+	+	PD	PD	+	+	+	+	+	+	PD	PD							
639	Pork faeces	+	+	+	+p	+p	+	+	+p	+p	-	+	+	+	+M	+M	+	+	+	PA	PA	+	+	+	+	+	+	PA	PA							
640	Pork faeces	+	+	+	+p	+p	+	+	+p	+p	+M	+	+	+	+M ni/+	+M ni/-	+	+	+	PA	PA	+	+	+	+	+	+	PA	PA							
810	Pork faeces	-	-	+/-	-	-	-	+/-	-	-	-	-	-	-	-	-	-	-	-	NA	NA															
813	Boot socks(pork)	-	-	+/-	-	-	-	+/-	-	-	+/-nil-	-	-	-	-	-	-	-	-	NA	NA															
1020	Pork faeces	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA															
1021	Pork faeces	+	+	+	+p	+p	+	+	+p	+p	+m	+	+	+	-(+ MKTTn and MSRV)	-(+ MKTTn and MSRV)	+	+	+	PA	PA	+	+	+(MKTn and MSRV)	+	+	+	PA	PA							
1050	Pork faeces	+	-	+/-	-	-	-	+/-	-	-	+/-m ni/+ (Citrobacter youngae)	-	+/+	-	+1col ni/- (+MSRV at 72 h)	- (+MSRV at 72 h)	+	+	-	PD	NA	+	-	-	-	-	-	PPNA	NA							
1051	Pork faeces	+	+	+	+p	+p	+	+	+p	+p	+M	+	+	+	+M	+p	+	+	+	PA	PA	+	+	+	+	+	+	PA	PA							
1052	Pork faeces	+	+	+	+p	+p	+	+	+p	+p	+M	+	+	+	+1/2ni/+	+M	+	+	+	PA	PA	+	+	+	+	+	+	PA	PA							
1053	Pork faeces	+	+	-	/	/	-	-	/	/	-	-	+	+	+1/2	+m	+	+	+	PD	PD	+	+	+	+	+	+	PD	PD							
1054	Pork faeces	-	-	-	/	/	-	-	/	/	-	-	-	-	+/-m ni/-	-	-	-	-	NA	NA															
1056	Pork faeces	-	-	+/-	-	-	-	+/-	-	-	-	-	-	-	-	-	-	-	-	NA	NA															
1059	Boot socks(pork)	-	-	+	-	-	-	+	-	-	+m ni/-	-	-	-	-	-	-	-	-	NA	NA															
1061	Boot socks(pork)	-	-	+/-	-	-	-	+/-	-	-	-	-	-	-	-	-	-	-	-	NA	NA															

\* Analyses performed according to the COFRAC accreditation

NON FAECES SAMPLES - Type b (Extension study, 2012)

N° Sample	Product	Global result Rapid Spin	Global result NA Extraction	ISO 6579 /A1*		U47-100				MicroSEQ Salmonella spp																		
				MSRV	Streaking onto		Result	MSRV	Streaking onto		MKTtn broth	Result	PCR Rapid Spin	PCR NA Extraction	TT Broth+l2KI +Brilliant Green (16 h at 37°C)+ BPW (4 h at 37°C)						BPW storage for 72 h at 5°C ± 3°C							
					XLD	IRIS <i>Salmonella</i> or ASAP			XLD	IRIS <i>Salmonella</i> or ASAP					XLD	Result (Latex test and ISO tests)	Final result Rapid Spin	Final result NA Extraction	Agreement		PCR Rapid Spin	PCR NA Extraction	Confir- mation	Final result Rapid Spin	Final result NA Extraction	Agreement		
																			Rapid Spin	NA Extraction						Rapid Spin	NA Extraction	
230	Poultry drinker water	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA							
231	Poultry drinker water	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA							
236	Sponge (Chicken cage)	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA							
237	Sponge (poultry feeding-trough)	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA							
238	Sponge (poultry feeding-trough)	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA							
239	Litter (poultry)	-	-	+/-	-	-	-	+/-	-	-	-	-	i/-	-	-	-	-	-	-	NA	NA	-	-	-	-	-	NA	NA
240	Litter (poultry)	-	-	+/-	-	-	-	+/-	-	-	-	-	-	-	-	-	-	-	-	NA	NA	-	-	-	-	-	NA	NA
248	Poultry drinker sponge	+	+	+	+p	+p	+	+	+p	+p	+M	+	+	+	+M	+M	+	+	+	PA	PA	+	+	+	+	+	PA	PA
250	Poultry litter	-	-	-	/	/	-	-	/	/	-	-	+/-	-	-	-	-	-	-	PPNA	NA	-	-	-	-	-	NA	NA
252	Hens water	+	+	-	/	/	-	-	/	/	-	-	+	+	+M	+M	+	+	+	PD	PD	+	+	+	+	+	PD	PD
952	Piped eggs	-	-	+	-	-	-	+	-	-	-	-	i/-	-	-	-	-	-	-	NA	NA							
1022	Hens drinker water	+	+	+	+p	+p	+	+	+p	+p	+M	+	-	-	+/- ni/-	-	-	-	-	ND	ND	-	-	-	-	-	ND	ND
1023	Sponge (Hen-house door)	+	+	+	+p	+p	+	+	+p	+p	+M	+	+	+	+p	+p	+	+	+	PA	PA	+	+	+	+	+	PA	PA
1062	Drinking water(poultry)	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA							
6539	Drinking water(pigs)	-	-	-	/	/	-	-	/	/	+/-	-	-	/	-	-	-	-	-	NA	/	-	-	-	-	-	NA	
6541	Pigs litter	+	+	+	+	+	+	+	+	+	+	+	+	/	+M	+M	+	+	+	PA	/	+	+	+	+	+	PA	
218	Piggery water	-	-	-	/	/	-	-	/	/	-st	-	-	-	-st	-st	-	-	-	NA	NA	-	-	-	-	-	NA	NA
219	Water (pork)	-	-	+	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	NA	NA							
221	Pork drinker	+	+	+/-	+p	+p	+	+/-	+p	+p	+	+	+	+	+	+	+	+	+	PA	PA	+	+	+	+	+	PA	PA
222	Pork drinker	+	+	+	+p	+p	+	+	+p	+p	+	+	+	+	+	+	+	+	+	PA	PA	+	+	+	+	+	PA	PA
223	Pork truck sponge	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA							
224	Piggery door sponge	-	-	+/-	-	-	-	+/-	-	-	+/-ni/-	-	-	-	-	-	-	-	-	NA	NA	-	-	-	-	-	NA	NA
225	Piggery door sponge	-	-	+/-	-	-	-	+/-	-	-	-	-	-	-	-	-	-	-	-	NA	NA	-	-	-	-	-	NA	NA
227	Boot socks (pigs truck)	+	+	+	+p	+p	+	+	+p	+p	+	+	+	+	+	+	+	+	+	PA	PA	+	+	+	+	+	PA	PA
228	Boot socks (pigs)	+	+	+	+p	+p	+	+	+p	+p	+	+	+	+	+	+	+	+	+	PA	PA	+	+	+	+	+	PA	PA
229	Boot socks (pigs)	+	+	+	+p	+p	+	+	+p	+p	+	+	+	+	+	+	+	+	+	PA	PA	+	+	+	+	+	PA	PA
253	Tureen pigs water	-	-	-	/	/	-	-	/	/	-	-	-	-	-st	-st	-	-	-	NA	NA							
257	Sponge (pork)	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA							
258	Sponge (pork wall)	+	+	+	+p	+p	+	+	+p	+p	+M	+	+	+	+M	+m	+	+	+	PA	PA	+	+	+	+	+	PA	PA
641	Sponge after disinfection(pork)	-	-	+/-	-	-	-	+/-	-	-	+ni/-	-	-	-	-	-	-	-	-	NA	NA	-	-	-	-	-	NA	NA
642	Sponge after cleaning(pork)	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	NA	NA							
643	Sponge after cleaning(pork)	+	+	+/-	+p	+p	+	+/-	+p	+p	+M	+	+	+	+M	+m ni/-	+	+	+	PA	PA	+	+	+	+	+	PA	PA
644	Wall sponge after disinfection (pork)	-	-	+/-	-	-	-	+/-	-	-	-	-	-	-	-	-	-	-	-	NA	NA	-	-	-	-	-	NA	NA
645	Wall sponge after disinfection (pork)	-	-	+/-	-	-	-	+/-	-	-	-	-	-	-	-	-	-	-	-	NA	NA	-	-	-	-	-	NA	NA
646	Floor sponge after disinfection (pork)	-	-	+/-	-	-	-	+/-	-	-	+ni/-	-	-	-	+m ni/-	-	-	-	-	NA	NA	-	-	-	-	-	NA	NA
647	Floor sponge before disinfection (pork)	-	-	+/-	-	-	-	+/-	-	-	+ni/-	-	-	-	+m ni/-	-	-	-	-	NA	NA	-	-	-	-	-	NA	NA
648	Floor sponge after disinfection (pork)	-	-	-	/	/	-	-	/	/	+ni/-	-	-	-	-	-st	-	-	-	NA	NA							

♦ Analyses performed according to the COFRAC accreditation



**NON FAECES SAMPLES - Type b (Extension study, 2012)**

N° Sample	Product	Global result Rapid Spin	Global result NA Extraction	ISO 6579 /A1*			U47-100			MicroSEQ Salmonella spp																										
				MSRV	Streaking onto		Result	MSRV	Streaking onto		MKTn broth	Result	PCR Rapid Spin	PCR NA Extraction	TT Broth+l <sub>2</sub> KI +Brilliant Green (16 h at 37°C)+ BPW (4 h at 37°C)							BPW storage for 72 h at 5°C ± 3°C														
					XLD	IRIS Salmonella or ASAP			XLD	IRIS Salmonella or ASAP					XLD	Result (Latex test and ISO tests)	Final result Rapid Spin	Final result NA Extraction	Agreement		PCR Rapid Spin	PCR NA Extraction	Confirmation	Final result Rapid Spin	Final result NA Extraction	Agreement										
																			Rapid Spin	NA Extraction						Rapid Spin	NA Extraction									
649	Floor sponge after disinfection (pork)	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	-	NA	NA														
808	Floor sponge after disinfection (pork)	-	-	-	/	/	-	-	/	/	-	-	-	-	-	-	-	-	-	-	NA	NA														
809	Pork drinker water	-	-	-	/	/	-	-	/	/	-	-	-	i/-	-st	-st	-	-	-	-	NA	NA														
811	Pork litter	-	-	-	/	/	-	-	/	/	-	-	-	-	-st	-st	-	-	-	-	NA	NA														
812	Sponge (pork feeding-trough)	-	-	-	/	/	-	-	/	/	-	-	-	-	-st	-st	-	-	-	-	NA	NA														
1025	Sponge (Door-pork)	+	+	+	+p	+p	+	+	+p	+p	+M	+	+	+	+p	+p	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	PA	PA

## Relative accuracy: raw data - Extension Meat Product Sample (2013)

MEAT PRODUCTS (Extension study, 2013)																							
N° Sample	French name product	English name product	ISO 6579 Reference method <sup>♦</sup>				MicroSEQ <i>Salmonella</i> spp method																Type
			RVS		MKTTn		Result	PCR results (Ct)	RVS 6 h 41.5°C					Final result	Agreement Ref/Alt 6 h	RVS 24 h 41.5°C					Final result	Agreement Ref/Alt 24 h	
			XLD	ASAP	XLD	ASAP			XLD	Latex	IRIS	Latex	API			XLD	Latex	IRIS	Latex	API			
1355	<i>Filet de dinde</i>	Raw Turkey fillet meat	-	-	-	-	-	-	-	/	-	/	/	-	NA	-	/	-	/	/	-	NA	a
1356	<i>Viande blanche poulet</i>	Raw chicken meat	-	-	+m ni/+	+m	+	+	(29.61)	-	/	+m	+	+	PA	-	/	+m ni/+	+	+	+	PA	a
1357	<i>Filet mignon de porc</i>	Raw pork meat	+1/2	+m	+M	+M	+	+	(25.74)	+1/2	+	+1/2	+	+	PA	+1/2	+	+1/2	+	+	+	PA	a
1358	<i>Sauté de porc</i>	Raw pork meat	-	-	-	-	-	-	-	/	-	/	/	-	NA	-	/	-	/	/	-	NA	a
1359	<i>Escalope de poulet</i>	Raw chicken meat	+M	+M	+M	+M	+	+	(18.41)	+M	+	+p	+	+	PA	+M	+	+M	+	+	+	PA	a
1360	<i>Maigre d'échine de porc</i>	Raw pork meat	-	-	-	-	-	-	-	/	-	/	/	-	NA	-	/	-	/	/	-	NA	a
1361	<i>Escalope de jambon de porc</i>	Raw pork meat	+M	+M	+M	+p	+	+	(18.64)	+M	+	+p	+	+	PA	+M	+	+M	+	+	+	PA	a
1362	<i>Viande de jambon de porc</i>	Raw pork meat	+m	+m	+M	+1/2	+	+	(26.19)	-	/	+1/2	+	+	PA	+m	+	+1/2	+	+	+	PA	a
1363	<i>Viande de poulet broyée</i>	Raw ground chicken meat	1+	+m ni/+	+M	+m ni/+	+	+	(25.50)	+n i(1)/+	+	+m	+	+	PA	1+	+	+m	+	+	+	PA	a
1364	<i>Cuisse de dinde</i>	Turkey leg	-	-	-	-	-	-	-	/	-	/	/	-	NA	-	/	-	/	/	-	NA	a
2111	<i>Viande d'agneau</i>	Raw lamb meat	+1/2	+M	+M	+P	+	+	(27.54)	+1/2	+	+M	+	+	PA	+1/2	+	+M	+	+	+	PA	a
2115	<i>Faux filet de bœuf</i>	Raw beef meat	+M	+P	+M	+P	+	+	(24.06)	+M	+	+P	+	+	PA	+M	+	+P	+	+	+	PA	a
2116	<i>Entrecôte de bœuf</i>	Raw beef meat	+M	+M	+M	+P	+	+	(21.47)	+M	+	+P	+	+	PA	+M	+	+M	+	+	+	PA	a
2117	<i>Steak de boeuf</i>	Raw beef meat	+M	+P	+M	+P	+	+	(24.35)	+M	+	+P	+	+	PA	+M	+	+P	+	+	+	PA	a
2121	<i>Steak de boeuf</i>	Raw beef meat	d ni/+	+1/2	-	+1/2	+	+	(25.20)	-	/	+M	+	+	PA	d ni/+	+	+1/2	+	+	+	PA	a
2122	<i>Steak de boeuf</i>	Raw beef meat	-	-	-	d ni/-	-	-	-	/	-	/	/	-	NA	-	/	-	/	/	-	NA	a
2123	<i>Steak de boeuf</i>	Raw beef meat	+m	+M	+m	+1/2	+	+	(24.02)	-	/	+M	+	+	PA	+m	+	+M	+	+	+	PA	a
2124	<i>Sauté de porc</i>	Raw pork meat	+1/2	+M	+M	+M	+	+	(24.04)	+M	+	+M	+	+	PA	+1/2	+	+M	+	+	+	PA	a
2125	<i>Filet mignon de porc</i>	Raw pork meat	-	-	d ni/-	-	-	-	-	/	-	/	/	-	NA	-	/	-	/	/	-	NA	a
2386b	<i>Saucisse perche</i>	Dehydrated sausage	+P	+P	+P	+P	+	+	(20.17)	+P	+	+P	+	+	PA	+P	+	+P	+	+	+	PA	b
2387	<i>Saucisson sec</i>	Dehydrated sausage	+P	+P	+P	+P	+	+	(19.59)	+P	+	+P	+	+	PA	+P	+	+P	+	+	+	PA	b
2388	<i>Saucisse sèche</i>	Dehydrated sausage	+P	+P	+P	+P	+	+	(17.34)	+P	+	+P	+	+	PA	+P	+	+P	+	+	+	PA	b
2389	<i>Saucisson sec</i>	Dehydrated sausage	+m	+M	+P	+P	+	+	(20.46)	+M	+	+P	+	+	PA	+m	+	+M	+	+	+	PA	b
2390	<i>Saucisse perche</i>	Dehydrated sausage	+P	+P	+P	+P	+	+	(18.30)	+P	+	+P	+	+	PA	+P	+	+P	+	+	+	PA	b
2391	<i>Andouille de Vire</i>	Chitterling	-	-	-	-	-	-	-	/	-	/	/	-	NA	-	/	-	/	/	-	NA	b
2392	<i>Poitrine rôtie</i>	Roasted breast	+P	+P	+P	+P	+	+	(19.12)	+P	+	+P	+	+	PA	+P	+	+P	+	+	+	PA	b
2393	<i>Jambon cuit</i>	Ham	+P	+P	+P	+P	+	+	(20.11)	+P	+	+P	+	+	PA	+P	+	+P	+	+	+	PA	b
2394	<i>Pâté à l'ancienne</i>	Pâté	-	-	-	-	-	-	-	/	-	/	/	-	NA	-	/	-	/	/	-	NA	b
2395	<i>Saucisson cuit à l'ail</i>	Garlic sausage	-	-	-	-	-	-	-	/	-	/	/	-	NA	-	/	-	/	/	-	NA	b
2396	<i>Piemontaise au jambon</i>	Deli salad	-	-	-	-	-	-	-	/	-	/	/	-	NA	-	/	-	/	/	-	NA	b
2397	<i>Taboulé au poulet</i>	Deli salad	-	-	d ni/+ ( <i>Citrobacter freundii</i> )	-	-	-	-	/	-	/	/	-	NA	-	/	-	/	/	-	NA	c
2398	<i>Galette jambon/emmental</i>	Ready to reheat (meat)	+P	+P	+P	+P	+	+	(18.44)	+P	+	+P	+	+	PA	+P	+	+P	+	+	+	PA	c
2399	<i>Coquillettes jambon/fromage</i>	Ready to reheat (meat)	+P	+P	+P	+P	+	+	(17.42)	+P	+	+P	+	+	PA	+P	+	+P	+	+	+	PA	c
2400	<i>Hachis Parmentier</i>	Ready to reheat (meat)	+P	+P	+P	+P	+	+	(17.42)	+P	+	+P	+	+	PA	+P	+	+P	+	+	+	PA	c

♦ Analyses performed according to the COFRAC accreditation

## MEAT PRODUCTS (Extension study, 2013)

N° Sample	French name product	English name product	ISO 6579 Reference method <sup>♦</sup>					MicroSEQ Salmonella spp method															Type
			RVS		MKTTn		Result	PCR results (Ct)	RVS 6 h 41.5°C					Final result	Agreement Ref/Alt 6 h	RVS 24 h 41.5°C					Final result	Agreement Ref/Alt 24 h	
			XLD	ASAP	XLD	ASAP			XLD	Latex	IRIS	Latex	API			XLD	Latex	IRIS	Latex	API			
2401	Lasagnes bolognaises	Ready to reheat (meat)	+P	+P	+P	+P	+	+(16.57)	+P	+	+P	+	+	+	PA	+P	+	+P	+	+	+	PA	c
2402	Blanquette de veau et riz	Ready to reheat (meat)	+P	+P	+P	+P	+	+(16.30)	+P	+	+P	+	+	+	PA	+P	+	+P	+	+	+	PA	c
2403	Lasagnes bolognaises	Ready to reheat (meat)	+P	+P	+P	+P	+	+(18.21)	+M	+	+P	+	+	+	PA	+P	+	+P	+	+	+	PA	c
2404	Parmentier de canard	Ready to reheat (meat)	+P	+P	+P	+P	+	+(13.43)	+P	+	+P	+	+	+	PA	+P	+	+P	+	+	+	PA	c
2405	Bœuf bourguignon et tagliatelles	Ready to reheat (meat)	+P	+P	+P	+P	+	+(14.22)	+P	+	+P	+	+	+	PA	+P	+	+P	+	+	+	PA	c
2461	Haché de bœuf	Ground beef	-	-	-	-	-	-	-	/	-	/	/	-	NA	-	/	-	/	/	-	NA	c
2462	Escalope de poulet	Raw chicken meat	-	-	-	-	-	-	-	/	-	/	/	-	NA	-	/	-	/	/	-	NA	a
2463	Escalope de dinde	raw turkey meat	-	-	-	-	-	-	-	/	-	/	/	-	NA	-	/	-	/	/	-	NA	a
2464	Escalope de dinde	Raw turkey meat	+m	+1/2	+m	+p	+	-(36.11)	-	/	+m	+	+	-	ND	+m	+	+1/2	+	+	-	ND	b
2465	Chair à saucisse	Sausage meat	-	-	-	-	-	-	-	/	-	/	/	-	NA	-	/	st	/	/	-	NA	c
2466	Tagine de bœuf	Ready to reheat (beef tagine)	st	st	st	st	-	-	st	/	st	/	/	-	NA	st	/	st	/	/	-	NA	c
2467	Escalope de dinde milanaise	Ready to reheat (turkey meat)	st	st	st	st	-	-	st	/	st	/	/	-	NA	st	/	-	/	/	-	NA	c
2468	Hachis parmentier	Ready to reheat (potatoes purée with meat)	st	st	st	st	-	-	st	/	st	/	/	-	NA	st	/	st	/	/	-	NA	c
2469	Boeuf Bourguignon	Ready to reheat (beef)	st	st	st	st	-	-	st	/	st	/	/	-	NA	st	/	st	/	/	-	NA	c
2470	Blanquette de veau	Ready to reheat (veal)	st	st	st	st	-	-	st	/	st	/	/	-	NA	st	/	st	/	/	-	NA	c
2471	Lasagnes bolognaises	Ready to reheat (beef meat with pasta)	st	st	st	st	-	-	st	/	st	/	/	-	NA	st	/	st	/	/	-	NA	c
2472	Poêlée à la Landaise	Ready to reheat (vegetables and poultry meat)	st	st	st	st	-	-	st	/	st	/	/	-	NA	st	/	st	/	/	-	NA	c
2473	Poulet à la moutarde	Ready to reheat (chicken with mustard)	st	st	st	st	-	-	st	/	st	/	/	-	NA	st	/	st	/	/	-	NA	c
2474	Petit salé	Ready to reheat (delicatessen)	st	st	st	st	-	-	st	/	st	/	/	-	NA	st	/	st	/	/	-	NA	b
2475	Macaronis au bœuf	Ready to reheat (beef with pasta)	st	st	st	st	-	-	st	/	st	/	/	-	NA	st	/	st	/	/	-	NA	c
2476	Rosette	Dehydrated sausage	-	-	-	-	-	-	-	/	st	/	/	-	NA	-	/	-	/	/	-	NA	b
2477	Jambon cuit	Ham	st	st	st	st	-	-	st	/	st	/	/	-	NA	st	/	st	/	/	-	NA	b
2478	Pâté de campagne	Pâté	st	st	-	st	-	-	-	/	-	/	/	-	NA	st	/	st	/	/	-	NA	b
2479	Saucisson sec	Dehydrated sausage	+M	+p	+p	+p	+	+(24.66)	+m	+	+m	+	+	+	PA	+M		+p		+	+	PA	b
2480	Chorizo	Chorizo	-	-	st	st	-	-	-	/	st	/	/	-	NA	-	/	-	/	/	-	NA	b
2481	Saucisson sec	Dehydrated sausage	st	st	st	st	-	-	st	/	st	/	/	-	NA	st	/	st	/	/	-	NA	b
2482	Saucisse sèche	Dehydrated sausage	-	-	-	-	-	-	-	/	-	/	/	-	NA	-	/	-	/	/	-	NA	b
2844	Quiche à la viande	Ready to reheat (pastry and meat)	st	st	st	st	-	-	st	/	st	/	/	-	NA	st	/	-	/	/	-	NA	c
6973 (2018)	Jambon cru	Raw ham	-	-	-	-	-	-	-	/	-	/	/	-	NA	-	/	-	/	/	-	NA	b

MEAT PRODUCTS (Extension study, 2013)																					
N° Sample	French name product	English name product	ISO 6579 Reference method <sup>♦</sup>				Result	MicroSEQ <i>Salmonella</i> spp method												Type	
			RVS		MKTTn			PCR results (ct)	RVS 6 h 41.5°C				Final result 6 h-72 h	Agreement Ref/Alt 6 h-72 h	RVS 24 h 41.5°C				Final result 24 h-72 h		Agreement Ref/Alt 24h-72h
			XLD	ASAP	XLD	ASAP			XLD	Latex	IRIS	Latex			XLD	Latex	IRIS	Latex			
1356	<i>Viande blanche poulet</i>	Raw chicken meat	-	-	+m ni/+	+m	+	+(29.39)	-	/	+m	+	+	PA	+m	+	+m ni/+	+	+	PA	a
1357	<i>Filet mignon de porc</i>	Raw pork meat	+1/2	+m	+M	+M	+	+(26.30)	+m	+	+1/2	/	+	PA	+1/2	+	+1/2	/	+	PA	a
1359	<i>Escalope de poulet</i>	Raw chicken meat	+M	+M	+M	+M	+	+(18.14)	+1/2	+	+M	/	+	PA	+M	+	+M	/	+	PA	a
1361	<i>Escalope de jambon de porc</i>	Raw pork meat	+M	+M	+M	+p	+	+(17.59)	+M	+	+p	/	+	PA	+M	+	+M	/	+	PA	a
1362	<i>Viande de jambon de porc</i>	Raw pork meat	+m	+m	+M	+1/2	+	+(26.40)	2+	+	+m	/	+	PA	+m	+	+1/2	/	+	PA	a
1363	<i>Viande de poulet broyée</i>	Raw ground chicken meat	1+	+m ni/+	+M	+m ni/+	+	+(23.47)	1+	+	+m	/	+	PA	1+ ni/+	+	+m	+	+	PA	a
2111	<i>Viande d'agneau</i>	Raw lamb meat	+1/2	+M	+M	+P	+	+(27.73)	+1/2	+	+M	/	+	PA	+M	+	+P	/	+	PA	a
2115	<i>Faux filet de bœuf</i>	Raw beef meat	+M	+P	+M	+P	+	+(23.52)	+M	+	+P	/	+	PA	+P	+	+P	/	+	PA	a
2116	<i>Entrecôte de bœuf</i>	Raw beef meat	+M	+M	+M	+P	+	+(19.82)	+M	+	+P	/	+	PA	+P	+	+P	/	+	PA	a
2117	<i>Steack de boeuf</i>	Raw beef meat	+M	+P	+M	+P	+	+(23.21)	+M	+	+P	/	+	PA	+M	+	+P	/	+	PA	a
2121	<i>Steack de boeuf</i>	Raw beef meat	d ni/+	+1/2	-	+1/2	+	+(25.95)	-	/	+M	+	+	PA	dm ni/+	+	+M	+	+	PA	a
2122	<i>Steack de boeuf</i>	Raw beef meat	-	-	-	d ni/-	-	-	-	/	-	/	-	NA	-	/	-	/	-	NA	a
2123	<i>Steack de boeuf</i>	Raw beef meat	+m	+M	+m	+1/2	+	+(24.36)	1d(1) ni/+	/	+M	+	+	PA	dm	+	+M	/	+	PA	a
2124	<i>Sauté de porc</i>	Raw pork meat	+1/2	+M	+M	+M	+	+(23.53)	+1/2	+	+M	/	+	PA	+M	+	+P	/	+	PA	a
2125	<i>Filet mignon de porc</i>	Raw pork meat	-	-	d ni/-	-	-	-	-	/	-	/	-	NA	-	/	-	/	-	NA	a
2386b	<i>Saucisse perche</i>	Dehydrated sausage	+P	+P	+P	+P	+	+(19.55)	+P	+	+M	/	+	PA	+P	+	+M	/	+	PA	a
2387	<i>Saucisson sec</i>	Dehydrated sausage	+P	+P	+P	+P	+	+(18.82)	+P	+	+P	/	+	PA	+P	+	+P	/	+	PA	a
2388	<i>Saucisse sèche</i>	Dehydrated sausage	+P	+P	+P	+P	+	+(17.01)	+P	+	+M	/	+	PA	+P	+	+M	/	+	PA	b
2389	<i>Saucisson sec</i>	Dehydrated sausage	+m	+M	+P	+P	+	+(19.68)	+M	+	+M	/	+	PA	+M	+	+M	/	+	PA	b
2390	<i>Saucisse perche</i>	Dehydrated sausage	+P	+P	+P	+P	+	+(17.26)	+P	+	+M	/	+	PA	+P	+	+M	/	+	PA	b
2392	<i>Poitrine rôtie</i>	Roasted breast	+P	+P	+P	+P	+	+(18.58)	+P	+	+P	/	+	PA	+P	+	+P	/	+	PA	b
2393	<i>Jambon cuit</i>	Ham	+P	+P	+P	+P	+	+(18.74)	+P	+	+P	/	+	PA	+P	+	+P	/	+	PA	b
2397	<i>Taboulé au poulet</i>	Deli salad	-	-	d ni/+ ( <i>Citrobacter freundii</i> )	-	-	-	-	/	-	/	-	NA	-	/	-	/	-	NA	c
2398	<i>Galette jambon/emmental</i>	Ready to reheat (meat)	+P	+P	+P	+P	+	+(17.04)	+P	+	+M	/	+	PA	+P	+	+M	/	+	PA	c
2399	<i>Coquillettes jambon/fromage</i>	Ready to reheat (meat)	+P	+P	+P	+P	+	+(16.15)	+P	+	+P	/	+	PA	+P	+	+P	/	+	PA	c
2400	<i>Hachis Parmentier</i>	Ready to reheat (meat)	+P	+P	+P	+P	+	+(16.52)	+P	+	+P	/	+	PA	+P	+	+P	/	+	PA	c
2401	<i>Lasagnes bolognaises</i>	Ready to reheat (meat)	+P	+P	+P	+P	+	+(18.97)	+P	+	+P	/	+	PA	+P	+	+P	/	+	PA	c
2402	<i>Blanquette de veau et riz</i>	Ready to reheat (meat)	+P	+P	+P	+P	+	+(18.64)	+P	+	+P	/	+	PA	+P	+	+P	/	+	PA	c
2403	<i>Lasagnes bolognaises</i>	Ready to reheat (meat)	+P	+P	+P	+P	+	+(20.47)	+M	+	+P	/	+	PA	+P	+	+P	/	+	PA	c
2404	<i>Parmentier de canard</i>	Ready to reheat (meat)	+P	+P	+P	+P	+	+(16.80)	+P	+	+P	/	+	PA	+P	+	+P	/	+	PA	c
2405	<i>Bœuf bourguignon et tagliatelles</i>	Ready to reheat (meat)	+P	+P	+P	+P	+	i/(20.41)1/10	+P	+	+P	/	+	PA	+P	+	+P	/	+	PA	c
2464	<i>Escalope de dinde</i>	Raw turkey meat	+m	+1/2	+m	+p	+	+(35.67)	-	/	+m ni/+	+	+	PA	+m	+	+1/2	+	+	PA	c
2479	<i>Saucisson sec</i>	Dehydrated sausage	+M	+p	+p	+p	+	+(22.70)	+M	+	+M	+	+	PA	+M	+	+p	+	+	PA	b

♦ Analyses performed according to the COFRAC accreditation

## Appendix 7 – Relative level of detection (RLOD): raw data

Matrix : RTE (Macédoine)

Strain : *Salmonella* Mbandaka Ad914Aerobic mesophilic flora: 2,3 10<sup>3</sup> CFU/gRenewal study (2018)

N° sample	Level	Inoculation level (cfu/sample)	ISO 6579♦					MicroSEQ Salmonella Prep SEQ Rapid Spin extraction protocol							
			RVS broth		MKTTn broth		Final Result	Number positive samples/Total	PCR result	Confirmation			Final result Individual	Number positive samples/Total	
			XLD	ASAP	XLD	ASAP				XLD	Brilliance <i>Salmonella</i>	Latex and Confirmation			
6438	0	0	st	st	st	st	-	0/5	-	st	st	/	-	0/5	
6439			st	st	st	st	-		-	st	st	/	-		
6440			st	st	st	st	-		-	st	st	/	-		
6441			st	st	st	st	-		-	st	st	/	-		
6442			-	-	-	-	-		-	-	-	-	/		-
6443	1	0,6	st	st	st	st	-	8/20	-	st	st	/	-	8/20	
6444			+p	+p	+p	+p	+		+(15,05)	+p	+p	+	+		
6445			-	-	-	-	-		-	-	-	-	/		-
6446			+p	+p	+p	+p	+		+(14,24)	+p	+p	+	+		
6447			+p	+p	+p	+p	+		+(14,74)	+p	+p	+	+		
6448			+M	+p	+M	+p	+		+(14,37)	+M	+p	+	+		
6449			st	st	st	st	-		-	st	st	/	-		
6450			st	st	st	st	-		-	st	st	/	-		
6451			-	-	-	-	-		-	-	-	-	/		-
6452			st	st	st	st	-		-	st	st	/	-		
6453			st	st	st	st	-		-	st	st	/	-		
6454			st	st	st	st	-		-	st	st	/	-		
6455			+M	+p	+p	+p	+		+(14,25)	+M	+p	+	+		
6456			-	-	-	-	-		+(33,25)/+(32,50)/+(33,25)	-	-	-	/		-
6457			+p	+p	+M	+M	+		+(14,78)	+p	+p	+	+		
6458			+p	+p	+p	+p	+		+(20,03)	+p	+p	+	+		
6459			st	st	st	st	-		-	st	st	/	-		
6460	st	st	st	st	-	-	st	st	/	-					
6461	st	st	st	st	-	-	st	st	/	-					
6462	+p	+p	+p	+p	+	+(14,88)	+p	+p	+	+					
6463	2	1,7	+p	+p	+p	+p	+	4/5	+(14,49)	+p	+p	+	+	4/5	
6464			+p	+p	+p	+p	+		+(14,08)	+p	+p	+	+		
6465			+M	+p	+p	+p	+		+(14,78)	+M	+p	+	+		
6466			+p	+p	+p	+p	+		+(15,02)	+p	+p	+	+		
6467			-	-	-	-	-		-	-	-	-	/		-

♦ Analyses performed according to the COFRAC accreditation

ADRIA Développement

Summary report (Version 0)

MicroSEQ® *Salmonella* spp method

77/111

04 July 2022

**Fresh ground beef***Salmonella* Infantis 128

Aerobic mesophilic flora: 5000 cfu/g

+/-: doubtful colonies

**Initial Validation (2010)**

Sample N°	Level	Inoculation level (CFU/25g)	ISO 6579 method♦					MicroSEQ Salmonella method Prep SEQ Rapid Spin extraction protocol				
			RVS broth		MKTn broth		Result	Positive Results/Total	PCR result	Confirmation (Reference method or alternative method)	Final result	Positive Results/Total
			XLD	CHROMagar <i>Salmonella</i>	XLD	CHROMagar <i>Salmonella</i>						
1150	0	0,0	-	-	-	-	-	0/6	-	-	-	0/6
1151			-	-	-	-	-		-	-		
1152			-	-	-	-	-		-	-		
1153			-	-	-	-	-		-	-		
1154			-	-	-	-	-		-	-		
1155			-	-	-	-	-		-	-		
1162	1	0,3	-	-	-	-	-	1/6	-	-	-	1/6
1163			-	-	-	-	-		-	-		
1164			-	-	-	+/-	-		-	-		
1165			-	-	-	-	-		-	-		
1166			+	+	+	-	+		+	+		
1167			-	-	-	-	-		-	-		
1168	2	0,5	+	+	+	+	+	5/6	+	+	+	5/6
1169			+	+	+	-	+		+	+		
1170			+	+	+	-	+		+	+		
1171			+	+	+	+	+		+	+		
1172			+	+	+	+	+		+	+		
1173			-	-	-	-	-		-	-		

♦ Analysis performed according to the COFRAC accreditation

ADRIA Développement

Summary report (Version 0)

MicroSEQ® *Salmonella* spp method

78/111

04 July 2022

## Fresh ground beef

*Salmonella* Infantis 128

Aerobic mesophilic flora: 5000 cfu/g

+/-:doubtful colonies

Sample N°	Level	Inoculation level (CFU/25g)	ISO 6579 method♦					MicroSEQ Salmonella method Prep SEQ Rapid Spin extraction protocol				
			RVS broth		MKTTn broth		Result	Positive Results/ Total	PCR result	Confirmation (Reference method or alternative method)	Final result	Positive Results/Total
			XLD	CHROMagar <i>Salmonella</i>	XLD	CHROMagar <i>Salmonella</i>						
1488	3	1,7	+(NC)	-	-	-	-	-	-	-	5/6	
1489			+	-	+	+	+	+	+	+		
1490			+	-	+	+	+	+	+	+		
1491			+	-	+	+	+	+	+	+		
1492			+	-	+	+	+	+	+	+		
1493			+	+	+	+	+	+	+	+		
1597	4	4,0	+	+	+	+	+	+	+	+	6/6	
1598			+	+	+	+	+	+	+	+		
1599			+	+	+	+	+	+	+	+		
1600			+	+	+	+	+	+	+	+		
1601			+	+	+	+	+	+	+	+		
1602			+	+	+	+	+	+	+	+		

♦ Analysis performed according to the COFRAC accreditation

ADRIA Développement

Summary report (Version 0)

MicroSEQ® *Salmonella* spp method

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04 July 2022

**Raw milk****Initial Validation (2010)***Salmonella* Montevideo 510Aerobic mesophilic flora: 1,9.10<sup>6</sup>/ml

Sample N°	Level	Inoculation level (CFU/25g)	ISO 6579 method♦					MicroSEQ Salmonella method Prep SEQ Rapid Spin extraction protocol				
			RVS broth		MKTTn broth		Result	Positive Results/Total	PCR result	Confirmation (Reference method or alternative method)	Final result	Positive Results/Total
			XLD	CHROMagar salmonella	XLD	CHROMagar salmonella						
1326	0	0	-	-	-	-	-	0/6	-	-	-	0/6
1327			-	-	-	-	-		-			
1328			-	-	-	-	-		-			
1329			-	-	-	-	-		-			
1330			-	-	-	-	-		-			
1331			-	-	-	-	-		-			
2166	1	0,5	-	-	-	-	-	3/6	-	-	-	3/6
2167			-	-	-	-	-		-			
2168			+	+	+	+	+		+			
2169			+	+ni/+	+	+	+		+			
2170			+	+	+	+	+		+			
2171			-	-	-	-	-		-			
2538	2	0,9	-	-	-	-	-	5/6	-	-	-	5/6
2539			-	+	+	+	+		+			
2540			+	+	+	+	+		+			
2541			+	+	+	+	+		+			
2542			-	+	+	+	+		+			
2543			+	+	+	+	+		+			
2172	3	1,1	-	-	+	+	+	6/6	+	+	+	6/6
2173			+	+	+	+	+		+			
2174			-	-	+	+	+		+			
2175			+	+	+	+	+		+			
2176			+ni/+	+	+	+	+		+			
2177			+	+	+	+	+		+			

♦ Analysis performed according to the COFRAC accreditation

ADRIA Développement

Summary report (Version 0)

MicroSEQ® *Salmonella* spp method

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04 July 2022



## Initial Validation (2010)

## Whole liquid egg product

*Salmonella* Enteritidis 657

Aerobic mesophilic flora: &lt;200/g

Sample N°	Level	Inoculation level (CFU/25g)	ISO 6579 method♦					MicroSEQ Salmonella method Prep SEQ Rapid Spin extraction protocol				
			RVS broth		MKTn broth		Result	Positive Results/Total	PCR result	Confirmation (Reference method or alternative method)	Final result	Positive Results/Total
			XLD	CHROMagar <i>Salmonella</i>	XLD	CHROMagar <i>Salmonella</i>						
2067	0	0	-	-	-	-	-	0/6	-	-	-	0/6
2068			-	-	-	-	-		-	-		
2069			-	-	-	-	-		-	-		
2070			-	-	-	-	-		-	-		
2071			-	-	-	-	-		-	-		
2072			-	-	-	-	-		-	-		
2073	1	1,0	+	+	+	+	+	3/6	+	+	+	3/6
2074			+	+	+	+	+		+	+		
2075			-	-	-	-	-		-	-		
2076			+	+	+	+	+		+	+		
2077			-	-	-	-	-		-	-		
2078			-	-	-	-	-		-	-		
2079	2	1,9	+	+	+	+	+	5/6	+	+	+	5/6
2080			+	+	+	+	+		+	+		
2081			-	-	-	-	-		-	-		
2082			+	+	+	+	+		+	+		
2083			+	+	+	+	+		+	+		
2084			+	+	+	+	+		+	+		
2085	3	3,8	+	+	+	+	+	6/6	+	+	+	6/6
2086			+	+	+	+	+		+	+		
2087			+	+	+	+	+		+	+		
2088			+	+	+	+	+		+	+		
2089			+	+	+	+	+		+	+		
2090			+	+	+	+	+		+	+		

♦ Analysis performed according to the COFRAC accreditation

ADRIA Développement

Summary report (Version 0)

MicroSEQ® *Salmonella* spp method

81/111

04 July 2022

**Mushrooms**

Salmonella Virchow F276

Aerobic mesophilic flora: 216000 cfu/g

**Initial Validation (2010)**

Sample N°	Level	Inoculation level (CFU/25g)	ISO 6579 method ♦					MicroSEQ Salmonella method Prep SEQ Rapid Spin extraction protocol				
			RVS broth		MKTTn broth		Result	Positive Results/Total	PCR result	Confirmation (Reference method or alternative method)	Final result	Positive Results/Total
			XLD	CHROMagar Salmonella	XLD	CHROMagar Salmonella						
1248	0	0	-	-	-	-	-	0/6	-	/	-	0/6
1249			-	-	-	-	-		-	/	-	
1250			-	-	-	-	-		-	/	-	
1251			-	-	-	-	-		-	/	-	
1252			-	-	-	-	-		-	/	-	
1253			-	-	-	-	-		-	/	-	
1254	1	0,3	+	+	+	+	+	1/6	+	+	+	1/6
1255			-	-	-	+1col(ox+)	-		-	-	-	
1256			-	-	-	-	-		-	-	-	
1257			-	-	+3col (Citrobacter)	+1col(ox+)	-		-	-	-	
1258			+/-1col (Citrobacter)	-	+	-	-		-	-	-	
1259			-	-	-	-	-		-	-	-	
1260	2	0,6	+	+	+	+	+	5/6	+	+	+	5/6
1261			+	+	+	+	+		+	+		
1262			+	+	+	+	+		+	+		
1263			+	+	+	+	+		+	+		
1264			+	+	+	+	+		+	+		
1265			-	-	-	-	-		-	-		
1266	3	1,1	+	+	+	+	+	6/6	+	+	+	6/6
1267			+	+	+	+	+		+	+		
1268			+	+	+	+	+		+	+		
1269			+	+	+	+	+		+	+		
1270			+	+	+	+	+		+	+		
1271			+	+	+	+	+		+	+		

♦ Analysis performed according to the COFRAC accreditation

ADRIA Développement

Summary report (Version 0)

MicroSEQ® Salmonella spp method

82/111

04 July 2022

## Initial Validation (2010)

## Dog biscuits

Salmonella Derby 630

Aerobic mesophilic flora: 48000000 CFU/g

Sample N°	Level	Inoculation level (CFU/25g)	ISO 6579 method ♦				MicroSEQ Salmonella method Prep SEQ Rapid Spin extraction protocol						
			RVS broth		MKTTn broth		Result	Positive Results/Total	PCR result	Confirmation (Reference method or alternative method)	Final result	Positive Results/Total	
			XLD	CHROMagar Salmonella	XLD	CHROMagar Salmonella							
1455	0	0	-	-	-	-	-	0/6	-	/	-	0/6	
1456			-	-	-	-	-		-	/	-		
1457			-	-	-	-	-		-	/	-		
1458			-	-	-	-	-		-	/	-		
1459			-	-	-	-	-		-	/	-		
1460			-	-	-	-	-		-	/	-		
1461	1	0,6	+	+	+	+	+	3/6	+	+	+	3/6	
1462			-	-	-	-	-		-	/	-		
1463			-	-	-	-	-		-	/	-		
1464			+	+	+	+	+		+	+	+		+
1465			+	+	+	+	+		+	+	+		+
1466			-	-	-	-	-		-	-	/		-
1467	2	1,2	-	-	-	-	-	2/6	-	/	-	2/6	
1468			-	-	-	-	-		-	/	-		
1469			+	+	+	+	+		+	+	+		+
1470			-	-	-	+(OX+)	-		-	-	/		-
1471			+	+	+	+	+		+	+	+		+
1472			-	-	-	-	-		-	-	/		-
1473	3	2,3	+	+	+	+	+	5/6	+	+	+	5/6	
1474			+	+	+	+	+		+	+	+		+
1475			+	+	+	+	+		+	+	+		+
1476			+	+	+	+	+		+	+	+		+
1477			-	-	-	-	-		-	-	/		-
1478			+	+	+	+	+		+	+	+		+
1479	4	5,9	+	+	+	+	+	6/6	+	+	+	6/6	
1480			+	+	+	+	+		+	+	+		+
1481			+	+	+	+	+		+	+	+		+
1482			+	+	+	+	+		+	+	+		+
1483			+	+	-	+	+		+	+	+		+
1484			+	+	+	+	+		+	+	+		+

♦ Analysis performed according to the COFRAC accreditation

ADRIA Développement

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04 July 2022

Summary report (Version 0)

MicroSEQ® Salmonella spp method

## Fresh ground beef

*Salmonella* Infantis 128Mesophilic aerobic flora: 3.7 10<sup>3</sup> cfu/g

## Extension study (2013)

Sample N°	Level	Inoculation level (CFU/25g)	ISO 6579 reference method <sup>♦</sup>					MicroSEQ Salmonella method- Prep SEQ NA extraction protocol								
			RVS broth		MKTn broth		Result	Positive Results/Total	PCR result (Ct)	RVS 6 h		RVS 24 h		Final result	Positive Results/Total	
			XLD	CHROMagar Salmonella	XLD	CHROMagar Salmonella				XLD (latex)	IRIS (latex)	XLD (latex)	IRIS (latex)			
2814	0	0,0	-	-	-	-	-	0/6	-	-	-	-	-	-	0/6	
2815			-	-	-	-	-		-	-	-	-	-	-		
2816			-	-	-	-	-		-	-	-	-	-	-		
2817			-	-	-	-	-		-	-	-	-	-	-		
2818			-	-	-	-	-		-	-	-	-	-	-		
2819			-	-	-	-	-		-	-	-	-	-	-		
2820	1	0,07	-	-	-	-	-	1/6	-	-	-	-	-	-	1/6	
2821			-	-	-	-	-		-	-	-	-	-			
2822			-	-	-	-	-		-	-	-	-	-	-		
2823			-	-	-	-	-		-	-	-	-	-	-		
2824			+m ni/+	+M	+1/2	+1/2	+		+	+(28.20)	-	+m (+)	+m ni/+ (+)	+M (+)		+
2825	-	-	-	-	-	-	-	-	-	-	-	-				
2826	2	0,14	-	-	-	-	-	3/6	-	-	-	-	-	-	3/6	
2827			-	-	-	-	-		-	-	-	-	-	-		
2828			+m	+M	+M	+M	+		+	+(29.16)	-	+m (+)	+m (+)	+M (+)		+
2829			+m	+M	+M	+M	+		+	+(21.35)	+m (+)	+M (+)	+m (+)	+M (+)		+
2830			-	-	-	-	-		-	-	-	-	-	-		-
2831	+m	+M	+m	+M	+	+	+(24.73)	-	+m (+)	+m (+)	+M (+)	+				
2832	3	0,28	-	-	-	-	-	2/6	-	-	-	-	-	-	2/6	
2833			-	-	-	-	-		-	-	-	-	-	-		
2834			+m	+M	+m	+m	+		+	+(28.10)	+m (+)	+1/2 (+)	+m (+)	+M (+)		+
2835			-	-	-	-	-		-	-	-	-	-	-		-
2836			-	-	-	-	-		-	-	-	-	-	-		-
2837			+m	+M	+m	+m	+		+	+(30.13)	-	+m ni/+ (+)	+m (+)	+M (+)		+
2838	4	0,56	+m	+M	+M	+M	+	6/6	+(25.14)	+m (+)	+M (+)	+m (+)	+M (+)	+	6/6	
2839			+M	+1/2	+M	+M	+		+	+(23.59)	+m (+)	+M (+)	+M (+)	+1/2 (+)		+
2840			+M	+M	+M	+M	+		+	+(21.70)	+1/2	+M (+)	+m (+)	+M (+)		+
2841			+1/2	+M	+m	+m	+		+	+(26.33)	+m (+)	+m (+)	+1/2 (+)	+M (+)		+
2842			+M	+M	+M	+M	+		+	+(22.36)	+m (+)	+M (+)	+M (+)	+M (+)		+
2843			+m	+m	+m	+m	+		+	+(29.87)	-	+1col ni/+	+m (+)	+m (+)		+

♦ Analyses performed according to the COFRAC accreditation

ADRIA Développement

Summary report (Version 0)

MicroSEQ® *Salmonella* spp method

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04 July 2022

## Poultry faeces

Salmonella Agona Ad1306

Mesophilic aerobic flora:2,8.10<sup>8</sup>/g

N° Sample	Level	Inoculation level (CFU/25g)	ISO 6579 /A1♦				U47-100					MicroSEQ Salmonella spp- Prep SEQ Rapid Spin extraction protocol				MicroSEQ Salmonella spp Prep SEQ NA extraction protocol												
			MSRV	Streaking onto		Result	Positive/ total	MSRV	Streaking onto		MKTn broth	Result	Positive/ total	PCR	Confirmation		Final result	Positive/ total	PCR	Confirmation		Final result	Positive/ total					
				XLD	ASAP				XLD	ASAP					XLD	RVS/XLD				RVS/IRIS	RVS/XLD			RVS/IRIS				
802	0	/	-	/	/	-	0/6	-	/	/	-	-	0/6	-	-	-	-	0/6	-	-	-	-	0/6					
803			+/-	-	-	-		+/-	-	-	-	-		-	-	-	-		-	-	-	-		-	-	-	-	
804			+/-	-	-	-		+/-	-	-	+(Citrobacter youngae)	-		-	-	-	-		-	-	-	-		-	-	-	-	-
805			+/-	-	-	-		+/-	-	-	-	-		-	-	-	-		-	-	-	-		-	-	-	-	-
806			+/-	-	-	-		+/-	-	-	-	-		-	-	-	-		-	-	-	-		-	-	-	-	-
807			-	/	/	-		-	/	/	-	-		-	-	-	-		-	-	-	-		-	-	-	-	-
894	1	0,9	+	+	+	+	4/6	+	+	+	-	+	4/6	-	-	-	-	3/6	+(36,36)	-	-	-	3/6					
895			+	+	+	+		+	+	+	+	+		+	-	-	-		-	-	-	-		-	-	-	-	
896			-	/	/	-		-	/	/	-	-		-	+	+	+		+	+	+	+		+	+	+	+	+
897			+	+	+	+		+	+	+	+	+		+	+	+	+		+	+	+	+		+	+	+	+	+
898			-	/	/	-		-	/	/	-	-		-	+	+	+		+	+	+	+		+	+	+	+	+
899			+	+	+	+		+	+	+	+	+		+	+	+	-		-	-	-	-		-	-	-	-	-
900	2	2,2	+	+	+	+	6/6	+	+	+	+	+	6/6	+	+	+	+	6/6	+	+	+	+	6/6					
901			+	+	+	+		+	+	+	+	+		+	+	+	+		+	+	+	+		+	+	+	+	
902			+	+	+	+		+	+	+	+	+		+	+	+	+		+	+	+	+		+	+	+	+	+
903			+	+	+	+		+	+	+	+	+		+	+	+	+		+	+	+	+		+	+	+	+	+
904			+	+	+	+		+	+	+	+	+		+	+	+	+		+	+	+	+		+	+	+	+	+
905			+	+	+	+		+	+	+	+	+		+	+	+	+		+	+	+	+		+	+	+	+	+

♦ Analysis performed according to the COFRAC accreditation

ADRIA Développement

Summary report (Version 0)

MicroSEQ® Salmonella spp method

## Appendix 8 – Inclusivity and exclusivity: raw data

INCLUSIVITY (Initial validation study, 2010)						
	Strain	Reference	Origin	Inoculation level CFU/225ml	PCR result	
1.	<i>Salmonella</i>	Agona	A00V38	Feedstuff	5	+
2.	<i>Salmonella</i>	Anatum	6140	Beef Burgundy	7	+
3.	<i>Salmonella</i>	arizonae SIIIa 51 :24,223 :-	CIP 5523	Turkey	4	+
4.	<i>Salmonella</i>	diarizonae SIIIb 47 :IV :253	Ad478	Clams	9	+
5.	<i>Salmonella</i>	diarizonae SIIIb 38 :IV :253	Ad451	Ewe milk	1	+
6.	<i>Salmonella</i>	arizonae	4851	Turkey	1	+
7.	<i>Salmonella</i>	diarizonae SIIIb 61:-,1,5,7		Raw ewe milk	7	+
8.	<i>Salmonella</i>	Blockley	Ad 923	Chicken	5	+
9.	<i>Salmonella</i>	Bovismorbificans	728	Agar	14	+
10.	<i>Salmonella</i>	Braenderup	178	Food	22	+
11.	<i>Salmonella</i>	Brandenburg	Ad 351	Seafood	20	+
12.	<i>Salmonella</i>	Bredenev	396	Ground beef	17	+
13.	<i>Salmonella</i>	Cerro	Ad 689	Dehydrated proteins	2	+
14.	<i>Salmonella</i>	Cremieu	230	Hare	3	+
15.	<i>Salmonella</i>	Derby	Ad 1093	Frozen fish fillet	4	+
16.	<i>Salmonella</i>	diarizonae 38:lv :253	Ad 453	Raw milk cheese	2	+
17.	<i>Salmonella</i>	Dublin	Ad 528	Pancake	9	+
18.	<i>Salmonella</i>	Enteritidis	Ad 926	Raw veal meat	6	+
19.	<i>Salmonella</i>	Gallinarum	Ad 300	Poultry slaughterhouse	2	+
20.	<i>Salmonella</i>	Give	436	Ground beef	7	+
21.	<i>Salmonella</i>	Hadar	35	Poultry	19	+
22.	<i>Salmonella</i>	Havana	Ad 930	Poultry	18	+
23.	<i>Salmonella</i>	Heidelberg	A00E005	Dairy industry environmental sample	17	+
24.	<i>Salmonella</i>	houtenae 43:z4z32	Ad 597	Fish	13	+
25.	<i>Salmonella</i>	Indiana	2	Fish flour	9	+
26.	<i>Salmonella</i>	indica 1,26,14,25:a:enx	Ad 600	Environment	1	+
27.	<i>Salmonella</i>	Infantis	12	Ready to eat food	1	+
28.	<i>Salmonella</i>	Kedougou	Ad 929	Environmental sample (Slaughterhouse)	3	+
29.	<i>Salmonella</i>	Kottbus	1	Environmental sample (slaughterhouse)	11	+
30.	<i>Salmonella</i>	Lagos	173	Sausage	13	+
31.	<i>Salmonella</i>	Landau	Ad 499	/	12	+
32.	<i>Salmonella</i>	Livingstone	E1	Egg white powder	11	+
33.	<i>Salmonella</i>	London	326	Ham	5	+
34.	<i>Salmonella</i>	Manhattan	900	Dairy environmental sample	9	+
35.	<i>Salmonella</i>	Mbandaka	Ad 914	Mayonnaise	9	+
36.	<i>Salmonella</i>	Meleagridis	505	Raw milk	2	+
37.	<i>Salmonella</i>	Montevideo	Ad 912	Raw milk	20	+
38.	<i>Salmonella</i>	Napoli	Ad 928	Bovine	13	+
39.	<i>Salmonella</i>	Newport	540	Toulouse sausage	11	+
40.	<i>Salmonella</i>	Panama	195	Ground beef	14	+
41.	<i>Salmonella</i>	Paratyphi A	ATCC 9150	/	2	+

INCLUSIVITY (Initial validation study, 2010)						
Strain			Reference	Origin	Inoculation level CFU/225ml	PCR result
42.	<i>Salmonella</i>	Paratyphi B	Ad 301	Clinical	3	+
43.	<i>Salmonella</i>	Paratyphi C	ATCC 13428	/	1	+
44.	<i>Salmonella</i>	Regent	328	Duck	3	+
45.	<i>Salmonella</i>	Rissen	39	Poultry	4	+
46.	<i>Salmonella</i>	Saintpaul	F31	Pilchard fillet	6	+
47.	<i>Salmonella</i>	<i>salamae</i> 42:b:enzx	Ad 593	Cereals	7	+
48.	<i>Salmonella</i>	Senftenberg	Ad 355	Seafood	13	+
49.	<i>Salmonella</i>	Tennessee	A00E006	Dairy industry environmental sample	23	+
50.	<i>Salmonella</i>	Thompson	AER301	Poultry	17	+
51.	<i>Salmonella</i>	Typhi	Ad 302	Clinical	1	+
52.	<i>Salmonella</i>	Typhimurium	305	Paella	10	+
53.	<i>Salmonella</i>	Urbana	Ad 501	/	6	+
54.	<i>Salmonella</i>	Virchow	F276	Curry	8	+

EXCLUSIVITY (Initial validation study, 2010)					
	Strain		Origin	Inoculation level CFU/ml	PCR Result
1.	<i>Citrobacter braakii</i>	Ad833	Raw beef meat	5.0 10 <sup>5</sup>	-
2.	<i>Citrobacter diversus</i>	adria 140	Raw milk	5.3 10 <sup>5</sup>	-
3.	<i>Citrobacter freundii</i>	adria 23	Raw pork sausage	6.9 10 <sup>5</sup>	-
4.	<i>Citrobacter freundii</i>	adria 175	Raw duck meat	7.1 10 <sup>5</sup>	-
5.	<i>Citrobacter koseri</i>	adria 71	Frozen vegetables	9.0 10 <sup>5</sup>	-
6.	<i>Cronobacter sakazakii</i>	adria 95	Fermented milk	4.1 10 <sup>5</sup>	-
7.	<i>Enterobacter agglomerans</i>	adria 11	Cheese	5.2 10 <sup>5</sup>	-
8.	<i>Enterobacter amnigenus</i>	A00C068	Raw poultry meat	4.6 10 <sup>5</sup>	-
9.	<i>Enterobacter cloacae</i>	adria 10	Raw milk	4.0 10 <sup>5</sup>	-
10.	<i>Enterobacter intermedius</i>	adria 60	Bean	1.3 10 <sup>5</sup>	-
11.	<i>Enterobacter kobei</i>	Ad 342	Ham	2.7 10 <sup>5</sup>	-
12.	<i>Erwinia carotovora</i>	CIP 8283	Potatoes	2.0 10 <sup>3</sup>	-
13.	<i>Escherichia coli</i>	adria 19	Grated carrots	3.1 10 <sup>5</sup>	-
14.	<i>Escherichia hermanii</i>	Ad 461	Dessert	2.8 10 <sup>5</sup>	-
15.	<i>Escherichia vulneris</i>	adria 127	Raw milk	9.8 10 <sup>5</sup>	-
16.	<i>Hafnia alvei</i>	adria 167	Raw pork sausage	9.2 10 <sup>5</sup>	-
17.	<i>Klebsiella oxytoca</i>	57	Food product	3.2 10 <sup>5</sup>	-
18.	<i>Klebsiella pneumoniae</i>	47	Raw turkey meat	3.9 10 <sup>5</sup>	-
19.	<i>Kluyvera spp</i>	adria 41	Raw milk	3.0 10 <sup>5</sup>	-
20.	<i>Morganella morganii</i>	CIP A236	/	6.5 10 <sup>5</sup>	-
21.	<i>Pantoea agglomerans</i>	adria 86	Frozen vegetables	7.7 10 <sup>5</sup>	-
22.	<i>Proteus mirabilis</i>	Ad639	Mayonnaise	7.3 10 <sup>5</sup>	-
23.	<i>Proteus vulgaris</i>	adria 43	Sliced ham	5.8 10 <sup>4</sup>	-
24.	<i>Providencia rettgeri</i>	adria 112	White liquid egg	3.7 10 <sup>5</sup>	-
25.	<i>Rhanella aquatilis</i>	adria 69	Molluscs	7.0 10 <sup>4</sup>	-
26.	<i>Serratia liquefaciens</i>	26	Egg product	2.6 10 <sup>5</sup>	-
27.	<i>Serratia marcescens</i>	Ad447	Raw milk	6.8 10 <sup>5</sup>	-
28.	<i>Serratia proteomaculans</i>	A00C056	Ham	9.2 10 <sup>4</sup>	-
29.	<i>Shigella flexneri</i>	CIP 8248	/	3.2 10 <sup>5</sup>	-
30.	<i>Shigella sonnei</i>	CIP 8249T (ATCC 29930)	/	3.7 10 <sup>5</sup>	-
31.	<i>Yersinia enterocolitica</i>	adria 32	Bacon	9.4 10 <sup>4</sup>	-
32.	<i>Salmonella bongori</i>	Ad599	Turkey breeding	3.2 10 <sup>5</sup>	+
				4.8 10 <sup>5</sup>	+
				6 (protocol for inclusivity testing)	-
33.	<i>Salmonella bongori</i>	Ad598	Turkey breeding	2,9.10 <sup>5</sup>	-
				10 (protocol for inclusivity testing)	-



INCLUSIVITY (Extension study, 2012) (PPS)											
Strain	Reference	Origin	Inoculation level (cfu/225ml TT broth + I <sub>2</sub> KI + Brilliant Green)	Alternative method				Reference method			
				PCR		Confirmatory tests		MSRV/XLD (ISO 6579)	MKTTn/XLD (U47-100)		
				Rapid Spin	NA Extraction	RVS/XLD	RVS/IRIS				
1	<i>Salmonella</i>	Agona	A00V38	Feedstuff	6	+	+	+	+	/	/
2	<i>Salmonella</i>	Anatum	6140	Beef Burgundy	3	+	+	+	+	/	/
3	<i>Salmonella</i>	<i>arizonae</i> 51:z4,z23:-	CIP 5523	Turkey	6	-	-	+	+	+	+
					76	-	-	+	+	/	/
					380	-	-	+	+	/	/
4	<i>Salmonella</i>	<i>arizonae</i> 50:z4,z23	CIP 5526	Egg powder	9	-	-	+	-	-	-
					40	+	+	+	-	/	/
					200	+	+	+	-	/	/
5	<i>Salmonella</i>	<i>diarizonae</i> 38:IV:z53	Ad451	Raw milk cheese	12	-	-	+	+	+	+
					109	-	-	+	+	/	/
					545	+	-	+	+	/	/
6	<i>Salmonella</i>	<i>diarizonae</i> 61:-:1,5,7	Ad1280	Raw milk cheese	6	-	-	+	+	+	+
					42	-	-	+	+	/	/
					210	-	-	+	+	/	/
7	<i>Salmonella</i>	Blockley	Ad 923	Chicken	3	+	+	+	+	/	/
8	<i>Salmonella</i>	Bovismorbificans	728	Agar	4	+	+	+	+	/	/
9	<i>Salmonella</i>	Braenderup	178	Food product	8	+	+	+	+	/	/
10	<i>Salmonella</i>	Brandenburg	Ad 351	Seafood	6	+	+	+	+	/	/
11	<i>Salmonella</i>	Bredeney	396	Ground beef	5	+	+	+	+	/	/
12	<i>Salmonella</i>	Cerro	Ad 689	Dehydrated proteins	1	+	+	+	+	/	/
13	<i>Salmonella</i>	Cremieu	230	Hare	9	+	+	+	+	/	/
14	<i>Salmonella</i>	Derby	Ad 1093	Frozen fish fillet	8	+	+	+	+	/	/
15	<i>Salmonella</i>	Dublin	Ad 528	Pancake	7	+	+	+	+	/	/
16	<i>Salmonella</i>	Enteritidis	Ad 926	Raw veal meat	8	+	+	+	+	/	/
17	<i>Salmonella</i>	Gallinarum	Ad 300	Poultry slaughterhouse	4	-	-	-	-	-	-
					21	-	-	-	-	-	-
					105	-	-	+	-	-	+
18	<i>Salmonella</i>	Give	436	Ground beef	6	+	+	+	+	/	/
19	<i>Salmonella</i>	Hadar	35	Poultry	6	+	+	+	+	/	/

INCLUSIVITY (Extension study, 2012) (PPS)											
Strain	Reference	Origin	Inoculation level (cfu/225ml TT broth + I <sub>2</sub> KI + Brilliant Green)	Alternative method				Reference method			
				PCR		Confirmatory tests		MSRV/XLD (ISO 6579)	MKTTn/XLD (U47-100)		
				Rapid Spin	NA Extraction	RVS/XLD	RVS/IRIS				
20	<i>Salmonella</i>	Havana	Ad 930	Poultry	4	+	+	+	+	/	/
21	<i>Salmonella</i>	Heidelberg	A00E005	Dairy industry environmental sample	6	+	+	+	+	/	/
22	<i>Salmonella</i>	<i>houtenae</i> 43:z4z32	Ad 597	Fish	12	-	-	+	+	+	+
					85	+	+	+	+	/	/
23	<i>Salmonella</i>	Indiana	2	Fish flour	6	+	+	+	+	/	/
24	<i>Salmonella</i>	<i>indica</i> 1,26,14,25:a:enx	Ad 600	Environmental sample	8	+	-	+	+	+	+
					9	+	-	+	+	/	/
					79	+	-	+	+	/	/
					100	/	+	+	+	/	/
25											
26	<i>Salmonella</i>	Infantis	12	Ready-to-eat	5	+	+	+	+	/	/
27	<i>Salmonella</i>	Kedougou	Ad 929	Environmental sample (slaughterhouse)	4	+	+	+	+	/	/
28	<i>Salmonella</i>	Kottbus	1	Environmental sample (slaughterhouse)	4	+	+	+	+	/	/
29	<i>Salmonella</i>	Livingstone	E1	Egg white powder	15	+	+	+	+	/	/
30	<i>Salmonella</i>	London	326	Ham	13	+	+	+	+	/	/
31	<i>Salmonella</i>	Manhattan	900	Dairy environmental sample	16	+	+	+	+	/	/
32	<i>Salmonella</i>	Mbandaka	Ad 914	Mayonnaise	8	+	+	+	+	/	/
33	<i>Salmonella</i>	Montevideo	Ad 912	Raw milk	3	+	+	+	+	/	/
34	<i>Salmonella</i>	Napoli	Ad 928	Bovine	10	-	-	-	-	+	+
					97	-	-	-	-	/	/
					485	+	+	+	+	/	/
35	<i>Salmonella</i>	Newport	540	Toulouse sausage	5	+	+	+	+	/	/
36	<i>Salmonella</i>	Panama	195	Ground beef	4	+	+	+	+	/	/

INCLUSIVITY (Extension study, 2012) (PPS)											
Strain	Reference	Origin	Inoculation level (cfu/225ml TT broth + I <sub>2</sub> KI + Brilliant Green)	Alternative method				Reference method			
				PCR		Confirmatory tests		MSRV/XLD (ISO 6579)	MKTTn/XLD (U47-100)		
				Rapid Spin	NA Extraction	RVS/XLD	RVS/IRIS				
37	<i>Salmonella</i>	Paratyphi A	ATCC 9150	/	4	-	-	-	-	+	+
					82	-	-	-	-	/	/
					410	-	-	-	-	/	/
38	<i>Salmonella</i>	Paratyphi B	Ad 301	Clinical	8	+	+	+	+	/	/
39	<i>Salmonella</i>	Paratyphi C	ATCC 13428	/	4	+	+	+	+	/	/
40	<i>Salmonella</i>	Regent	328	Duck	4	+	+	+	+	/	/
41	<i>Salmonella</i>	Rissen	39	Poultry	12	-	-	-	-	+	+
					76	-	-	-	-	/	/
					380	+	+	+	+	/	/
42	<i>Salmonella</i>	Saintpaul	F31	Pilchard fillet	11	+	+	+	+	/	/
	<i>Salmonella</i>	<i>salamae</i> 42:b:enzx	Ad 593	Cereals	17	+	+	+	+	/	/
44	<i>Salmonella</i>	Senftenberg	Ad355	Seafood	16	+	+	+	+	+	+
					79	+	+	+	+	/	/
45	<i>Salmonella</i>	Typhi	Ad 302	Clinical	7	+	+	+	+	/	/
46	<i>Salmonella</i>	Typhimurium	305	Paella	2	+	+	+	+	/	/
47	<i>Salmonella</i>	Typhimurium 1,4 [5], 12 :- :-	Ad 1333	Tiramisu	19	-	-	+	+	-	+
					136	+	+	+	+	/	/
					1060	+	+	+	+	/	/
48	<i>Salmonella</i>	Typhimurium 1,4 [5], 12 : i :-	Ad 1334	Ready-to-eat meal (meat)	5	+	+	+	+	/	/
49	<i>Salmonella</i>	Typhimurium 1,4,[5],12:-:1,2	Ad 1335	Primary production environmental sample	10	+	+	+	+	/	/
50	<i>Salmonella</i>	Urbana	Ad 501	Food product	10	+	+	+	+	/	/
	<i>Salmonella</i>	Virchow	F276	Spice(curry)	7	+	+	+	+	/	/

**PPS extension study (2012): additional assays by adding sterilized poultry faeces in the primary enrichment broth**

Strain			Inoculation level (CFU/225ml TT broth + I <sub>2</sub> KI + Brilliant Green)	MicroSEQ <i>Salmonella</i> spp				Reference method	
				PCR		Confirmatory tests		MSRV (ISO 6579/A1)	MKTTn/XLD (U47-100)
				Rapid Spin	NA Extraction	XLD	IRIS		
<i>Salmonella</i>	<i>diarizonae</i>	Ad451	106	+	+	+	+	+	+
<i>Salmonella</i>	<i>diarizonae</i>	Ad1301	97	-	-	-	-	+	+
<i>Salmonella</i>	<i>arizonae</i>	CIP 5523	37	+	+	+	+	+	+
<i>Salmonella</i>	<i>arizonae</i>	CIP 5522	74	-/+ (Ct 37.69)*	-/+ (Ct 37.21)*	+	+	+	+
<i>Salmonella</i>	Paratyphi A	ATCC 9150	73	+	+	+	+	-	+
<i>Salmonella</i>	Paratyphi A	ATCC 11511	62	+	+	-	+ (5 colonies)	-	+
<i>Salmonella</i>	Gallinarum	1	77	+	+	+	+	-	+
<i>Salmonella</i>	Gallinarum	Ad300	75	+	+	+	+	+	-

INCLUSIVITY (Renewal study, 2018)												
Strains		Reference	Origin	Inoculation level(cfu/225ml TT Broth+l <sub>2</sub> KI +Brilliant Green)	Alternative method after subculture in BPW 4 h					Reference method if necessary		
					PCR		Confirmatory tests			MSRV/ XLD	MKTTn/ XLD	
					Rapid Spin Result (Cq)	MagMax Result (Cq)	RVS/XLD	RVS/ <i>Brilliance</i> Salmonella	Latex test			
1	<i>Salmonella</i>	Abaetetuba	Ad2318	Unknown	49	+(15,67)	+(20,53)	+	+	+		
2	<i>Salmonella</i>	Aberdeen	CIP 105618	Unknown	36	+(32,20)	+(34,50)	+	+	+		
3	<i>Salmonella</i>	Abortusequi	Ad2321	Unknown	19	-(38,00)	-(35,85)	st	st	/	/	/
	<i>Salmonella</i>				108	-(36,08)	-(36,02)	st	st	/	+(H2S-)	+(H2S-)
	<i>Salmonella</i>				108 (with 25g faeces)	+(15,78)	+(20,28)	-	+ (white)	+w	/	/
4	<i>Salmonella</i>	Abortusovis	Ad2320	Ovine foetus	8	-	-	st	st	/	/	/
	<i>Salmonella</i>				151	-(36,08)	-	st	st	/	-	+(H2S-)
	<i>Salmonella</i>				151 (with 25g faeces)	+(35,36)	+(26,93)	-/(48 h)	-/(48 h)	+vw	/	/
5	<i>Salmonella</i>	Adelaïde	Ad2319	Turkey breeding environment	87	+(19,84)	+(22,17)	+	+	+vw	/	/
6	<i>Salmonella</i>	Anatum	A00E007	Dusts	38	+(25,61)	+(28,61)	+	+	+	/	/
7	<i>Salmonella</i>	arizonae 48:z4,z23:-	Ad1850	Poultry environmental sample	28	+(27,63)	+(29,90)	+	+	+vw	/	/
8	<i>Salmonella</i>	Bareilly	Ad 1687	Chocolate industry	41	+(15,84)	+(19,34)	+	+	+	/	/
9	<i>Salmonella</i>	bongori 66 :z35:-	Ad 599	Environmental sample	20	i/-	+(29,16)	+	+(white)	+	/	/
	<i>Salmonella</i>				54	-	-	+	+(white)	+	+	+
	<i>Salmonella</i>				54 (with 25g faeces)	+(29,49)	+(33,22)	+	+	+	/	/
10	<i>Salmonella</i>	Braenderup	Adria 111	Pork meat	40	+(23,63)	+(27,10)	+	+	+	/	/
11	<i>Salmonella</i>	Caracas	Ad2322	Spice	56	+(14,63)	+(16,88)	+	+	+	/	/
12	<i>Salmonella</i>	Chester	CIP 103543	Unknown	57	+(18,67)	+(18,88)	+	+	+	/	/
13	<i>Salmonella</i>	Cubana	Ad2323	Dust feed environment	41	+(35,07)	-(36,99)	+	+	+	/	/
14	<i>Salmonella</i>	diarizonae 61:k:1,5,7	Ad 1300	Raw ewe milk	32	+(16,23)	+(18,95)	+	+	+	/	/
15	<i>Salmonella</i>	Dublin	Ad 529	Beef meat	40	+(23,25)	+(25,09)	+	+(pâle)	+	/	/
16	<i>Salmonella</i>	Enteritidis	Ad 477	Hen meat	20	+(20,44)	+(20,08)	+	+	+	/	/
17	<i>Salmonella</i>	Gaminara	Ad2324	Boar meat	53	+(16,00)	+(19,10)	+	+	+	/	/
18	<i>Salmonella</i>	Hadar	24871	Chicken meat	26	+(15,95)	+(18,46)	+	+	+	/	/
19	<i>Salmonella</i>	houtenae 50:g,z51	Ad 596	Dairy product	32	-	-	+	+	+w	/	/
	<i>Salmonella</i>				319	-	-	+	+	+	+	+
	<i>Salmonella</i>				319(with 25g faeces)	-(37,08)	-	+	+	+	/	/
	<i>Salmonella</i>				BHI broth	-(39,10)	-	+(yellow edges)	+(pâle)	+	/	/

INCLUSIVITY (Renewal study, 2018)												
	Strains	Reference	Origin	Inoculation level(cfu/225ml TT Broth+l <sub>2</sub> KI +Brilliant Green)	Alternative method after subculture in BPW 4 h					Reference method if necessary		
					PCR		Confirmatory tests			MSRV/ XLD	MKTTn/ XLD	
					Rapid Spin Result (Cq)	MagMax Result (Cq)	RVS/XLD	RVS/Brilliance Salmonella	Latex test			
20	<i>Salmonella</i>	Hvittingfoss	Ad2325	Raw stuff	45	+(15,53)	+(18,95)	+	+	+	/	/
21	<i>Salmonella</i>	Indiana	Ad 174	White cheese	22	+(21,92)	+(26,03)	+	+	+	/	/
22	<i>Salmonella</i>	<i>indica</i> 11:b:e,n,x	Ad2337	Chicken breeding environment	12	+(27,06)	+(28,43)	+	+	+	/	/
23	<i>Salmonella</i>	Infantis	F401B	Cheese	28	+(15,17)	+(18,99)	+	+	+	/	/
24	<i>Salmonella</i>	Javiana	Ad2326	Turkey meat	36	+(14,82)	+(20,19)	+	+	+	/	/
25	<i>Salmonella</i>	Kentucky	Ad1756	Poultry environmental sample	25	+(15,13)	+(17,42)	+	+	+	/	/
26	<i>Salmonella</i>	Lille	Adria 37	Food product	52	+(15,09)	+(17,20)	+	+	+	/	/
27	<i>Salmonella</i>	Livingstone	Ad 1107	Dusts	20	+(16,21)	+(18,58)	+	+	+	/	/
28	<i>Salmonella</i>	Meleagridis	505	Raw milk	37	+(16,07)	+(19,08)	+	+	+	/	/
29	<i>Salmonella</i>	Michigan	Ad2327	Low moisture sausage	45	+(23,43)	+(24,50)	+	+	+	/	/
30	<i>Salmonella</i>	Minnesota	Ad2328	Feed	32	+(23,93)	+(25,40)	+	+	+	/	/
31	<i>Salmonella</i>	Mississippi	Ad2329	Parakeet	43	+(16,03)	+(17,45)	+	+	+	/	/
32	<i>Salmonella</i>	Muenchen	CIP 106178	Unknown	28	+(15,04)	+(16,77)	+	+	+	/	/
33	<i>Salmonella</i>	Newport	Adria 586	Sausage	10	+(16,41)	+(19,50)	+	+	+	/	/
34	<i>Salmonella</i>	Oranienburg	Ad1724	Cereals	46	+(16,91)	+(19,49)	+	+	+	/	/
35	<i>Salmonella</i>	Panama	Adria 8	Ground beef	25	+(17,00)	+(19,80)	+	+	+	/	/
36	<i>Salmonella</i>	Poona	Ad2330	Poultry feed	45	+(14,39)	+(18,19)	+	+	+	/	/
37	<i>Salmonella</i>	Putten	Ad2331	Feed for chicken	45	+(15,52)	+(18,05)	+	+	+	/	/
38	<i>Salmonella</i>	Rubislaw	Ad2332	Shark cartilage	44	+(16,57)	+(17,56)	+	+	+	/	/
39	<i>Salmonella</i>	Schwarzengrund	Ad2333	Egg products environment	39	+(18,84)	+(21,48)	+	+	+	/	/
40	<i>Salmonella</i>	Stanley	Ad 1688	Chocolate industry	23	-(37,49)	+(35,31)	st	st	/	/	/
	<i>Salmonella</i>				138	+(34,24)	-	+(H2S-)	+	+	+	+
	<i>Salmonella</i>				138 (with 25g faeces)	+(14,55)	+(21,31)	+	+	+	+	/
41	<i>Salmonella</i>	Tennessee	A00E006	Dusts from dairy industry	13	+(16,53)	+(17,61)	+	+	+	/	/
42	<i>Salmonella</i>	Thompson	AER301	Poultry	8	+(14,89)	+(18,57)	+	+	+	/	/
43	<i>Salmonella</i>	Typhimurium	Ad 1070	Pork meat	6	+(15,99)	+(18,20)	+	+	+	/	/
44	<i>Salmonella</i>	Urbana	Ad 2334	Shrimps	47	+(16,91)	+(21,52)	+	+	+	/	/
45	<i>Salmonella</i>	Veneziana	Adria 233	Food product	72	+(15,91)	+(20,00)	+	+	+	/	/

INCLUSIVITY (Renewal study, 2018)												
	Strains		Reference	Origin	Inoculation level(cfu/225ml TT Broth+l <sub>2</sub> KI +Brilliant Green)	Alternative method after subculture in BPW 4 h					Reference method if necessary	
						PCR		Confirmatory tests			MSRV/ XLD	MKTTn/ XLD
						Rapid Spin Result (Cq)	MagMax Result (Cq)	RVS/XLD	RVS/Brilliance Salmonella	Latex test		
46	<i>Salmonella</i>	Wandsworth	Ad2335	Fillet of mullet	88	+(15,89)	+(20,58)	+	+	+	/	/
47	<i>Salmonella</i>	Weltevreden	Ad2336	Treated water	20	+(14,42)	+(17,61)	+	+	+	/	/
48	<i>Salmonella</i>	Bardo	Adria 569	Meat for sausage	24	+(15,08)	+(18,57)	+	+	+	/	/
49	<i>Salmonella</i>	Bovismorbificans	Adria 6629	Sausage	22	+(16,34)	+(19,01)	+	+	+	/	/
50	<i>Salmonella</i>	Landau	Ad 499	Unknown	33	+(19,88)	+(23,53)	+	+	+	/	/
51	<i>Salmonella</i>	<i>houtenae</i> (43:z4,z32)	Ad597	Fish	84	+(17,71)	+(17,78)	+	+ (small colonies)	+	/	/
					BHI broth	+(17,90)	+(19,44)					
52	<i>Salmonella</i>	<i>houtenae</i> ( 6,14:24,z23:-)	Ad1834	Raw ewe milk	88	-(37,51)	-	+	+ (small colonies)	+	/	/
					BHI broth	-(39,78)	+(19,42)					
53	<i>Salmonella</i>	<i>houtenae</i> (38:z4,z23:-)	Ad2681	Clinic (sanke)	79	-	-	+	+ (small colonies)	+	/	/
					BHI broth	-(39,78)	-(38,62)					
54	<i>Salmonella</i>	<i>houtenae</i> ( 1,40:z4,z23:-)	Ad2682	Primary production environment	90	+(35,42)	-	+	+ (small colonies)	+	/	/
					BHI broth	-(37,98)	-(38,65)					

## Appendix 9 - Inter-laboratory study: results obtained by the collaborators and the expert laboratory (initial validation study)

Laboratory: **A**  
 Aerobic mesophilic flora : *Not done*

N°Sample	Reference method ISO 6579						Alternative method MicroSEQ Salmonella			Agreement
	RVS		MKTTn		Confirmation result	Final result	PCR result	Confirmation	Final result	
	XLD	Rambach	XLD	Rambach						
A3	-	-	-	-	/	-	-	/	-	=
A4	-	-	-	-	/	-	-	/	-	=
A8	-	-	-	-	/	-	-	/	-	=
A11	-	-	-	-	/	-	-	/	-	=
A13	-	-	-	-	/	-	-	/	-	=
A18	-	-	-	-	/	-	-	/	-	=
A21	-	-	-	-	/	-	-	/	-	=
A24	-	-	-	-	/	-	-	/	-	=
A1	+	+	+	+	+	+	+	+	+	=
A6	+	+	+	+	+	+	+	+	+	=
A7	+	+	+	+	+	+	+	+	+	=
A12	+	+	+	+	+	+	+	+	+	=
A14	+	+	+	+	+	+	+	+	+	=
A16	+	+	+	+	+	+	+	+	+	=
A20	+	+	+	+	+	+	+	+	+	=
A23	+	+	+	+	+	+	+	+	+	=
A2	+	+	+	+	+	+	+	+	+	=
A5	+	+	+	+	+	+	+	+	+	=
A9	+	+	+	+	+	+	+	+	+	=
A10	+	+	+	+	+	+	+	+	+	=
A15	+	+	+	+	+	+	+	+	+	=
A17	+	+	+	+	+	+	+	+	+	=
A19	+	+	+	+	+	+	+	+	+	=
A22	+	+	+	+	+	+	+	+	+	=



Laboratory:

**B**

Aerobic mesophilic flora

*Not done*

N°Sample	Reference method ISO 6579						Alternative method MicroSEQ Salmonella			Agreement
	RVS		MKTn		Confirmation result	Final result	PCR result	Confirmation	Final result	
	XLD	Brilliance salmonella	XLD	Brilliance salmonella						
B3	-	-	-	-	/	-	-	/	-	=
B4	-	-	-	-	/	-	-	/	-	=
B8	-	-	-	-	/	-	-	/	-	=
B11	-	-	-	-	/	-	-	/	-	=
B13	-	-	-	-	/	-	-	/	-	=
B18	-	-	-	-	/	-	-	/	-	=
B21	-	-	-	-	/	-	-	/	-	=
B24	-	-	-	-	/	-	-	/	-	=
B1	+	+	+	+	+	+	+	+	+	=
B6	+	+	+	+	+	+	+	+	+	=
B7	+	+	+	+	+	+	+	+	+	=
B12	+	+	+	+	+	+	+	+	+	=
B14	+	+	+	+	+	+	+	+	+	=
B16	+	+	+	+	+	+	+	+	+	=
B20	+	+	+	+	+	+	+	+	+	=
B23	+	+	+	+	+	+	+	+	+	=
B2	+	+	+	+	+	+	+	+	+	=
B5	+	+	+	+	+	+	+	+	+	=
B9	+	+	+	+	+	+	+	+	+	=
B10	+	+	+	+	+	+	+	+	+	=
B15	+	+	+	+	+	+	+	+	+	=
B17	+	+	+	+	+	+	+	+	+	=
B19	+	+	+	+	+	+	+	+	+	=
B22	+	+	+	+	+	+	+	+	+	=

**Laboratory:** C  
 Aerobic mesophilic flora: Not done

N°Sample	Reference method ISO 6579						Alternative method MicroSEQ Salmonella			Agreement
	RVS		MKTn		Confirmation result	Final result	PCR result	Confirmation	Final result	
	XLD	Brilliance salmonella	XLD	Brilliance salmonella						
C3	-	-	-	-	/	-	-	/	-	=
C4	-	-	+	+	-	-	-	/	-	
C8	-	-	-	-	/	-	-	/	-	=
C11	-	-	-	-	/	-	-	/	-	=
C13	-	-	+	-	-	-	-	/	-	=
C18	-	-	-	-	/	-	-	/	-	=
C21	-	-	-	-	/	-	-	/	-	=
C24	-	-	+	-	/	-	-	/	-	=
C1	+	+	+	+	+	+	+	+	+	=
C6	+	+	+	+	+	+	+	+	+	=
C7	+	+	+	+	+	+	+	+	+	=
C12	+	+	+	+	+	+	+	+	+	=
C14	+	+	+	+	+	+	+	+	+	=
C16	/ (agar plate empty)	/ (agar plate empty)	+	+	+	+	+	+	+	=
C20	+	+	+	+	+	+	+	+	+	=
C23	+	+	+	+	+	+	+	+	+	=
C2	+	+	+	+	+	+	+	+	+	=
C5	+	+	+	+	+	+	+	+	+	=
C9	+	+	+	+	+	+	+	+	+	=
C10	+	+	+	+	+	+	+	+	+	=
C15	+	+	+	+	+	+	+	+	+	=
C17	+	+	+	+	+	+	+	+	+	=
C19	+	+	+	+	+	+	+	+	+	=
C22	+	+	+	+	+	+	+	+	+	=

Laboratory : **D**  
 Aerobic mesophilic flora : 9,5.10<sup>4</sup>/g

N°Sample	Reference method ISO 6579						Alternative method MicroSEQ Salmonella			Agreement
	RVS		MKTn		Confirmation result	Final result	PCR result	Confirmation	Final result	
	XLD	Brilliance salmonella	XLD	Brilliance salmonella						
D3	-	-	-	-	/	-	-	/	-	=
D4	-	-	-	-	/	-	-	/	-	=
D8	-	-	-	-	/	-	-	/	-	=
D11	-	-	-	-	/	-	-	/	-	=
D13	-	-	-	-	/	-	-	/	-	=
D18	-	-	-	-	/	-	-	/	-	=
D21	-	-	-	-	/	-	-	/	-	=
D24	-	-	-	-	/	-	-	/	-	=
D1	+	+	+	+	+	+	+	+	+	=
D6	+	+	+	+	+	+	+	+	+	=
D7	+	+	+	+	+	+	+	+	+	=
D12	+	+	+	+	+	+	+	+	+	=
D14	+	+	+	+	+	+	+	+	+	=
D16	+	+	+	+	+	+	+	+	+	=
D20	+	+	+	+	+	+	+	+	+	=
D23	+	+	+	+	+	+	+	+	+	=
D2	+	+	+	+	+	+	+	+	+	=
D5	+	+	+	+	+	+	+	+	+	=
D9	+	+	+	+	+	+	+	+	+	=
D10	+	+	-	+	+	+	+	+	+	=
D15	+	+	+	+	+	+	+	+	+	=
D17	+	+	+	+	+	+	+	+	+	=
D19	+	+	+	+	+	+	+	+	+	=
D22	+	+	+	+	+	+	+	+	+	=

**Laboratory:** E  
 Aerobic mesophilic flora: 1,5.10<sup>4</sup>/g

N°Sample	Reference method ISO 6579						Alternative method MicroSEQ Salmonella			Agreement
	RVS		MKTTn		Confirmation result	Final result	PCR result	Confirmation	Final result	
	XLD	Brilliance salmonella	XLD	Brilliance salmonella						
E3	-	-	-	-	/	-	-	/	-	=
E4	-	-	-	-	/	-	-	/	-	=
E8	-	-	-	-	/	-	-	/	-	=
E11	-	-	-	-	/	-	-	/	-	=
E13	+	+ 1 colony	+	-	-	-	-	/	-	=
E18	-	-	-	-	/	-	-	/	-	=
E21	+	-	+	-	-	-	-	/	-	=
E24	-	-	-	-	/	-	-	/	-	=
E1	+	+	+	+	+	+	+	+	+	=
E6	+	+	+	+	+	+	+	+	+	=
E7	+	+	+	+	+	+	+	+	+	=
E12	+	+	+	+	+	+	+	+	+	=
E14	+	+	+	+	+	+	+	+	+	=
E16	+	+	+	+	+	+	+	+	+	=
E20	+	+	+	+	+	+	+	+	+	=
E23	+	+	+	+	+	+	+	+	+	=
E2	+	+	+	+	+	+	+	+	+	=
E5	+	+	+	+	+	+	+	+	+	=
E9	+	+	+	+	+	+	+	+	+	=
E10	+	+	+	+	+	+	+	+	+	=
E15	+	+	+	+	+	+	+	+	+	=
E17	+	+	+	+	+	+	+	+	+	=
E19	+	+	+	+	+	+	+	+	+	=
E22	+	+	+	+	+	+	+	+	+	=

Laboratory: **F**  
 Aerobic mesophilic flora:  $2,0 \cdot 10^5/g$

N°Sample	Reference method ISO 6579						Alternative method MicroSEQ Salmonella			Agreement
	RVS		MKTTn		Confirmation result	Final result	PCR result	Confirmation	Final result	
	XLD	Brilliance salmonella	XLD	Brilliance salmonella						
F3	-	-	-	-	/	-	-	/	-	=
F4	-	-	-	-	/	-	-	/	-	=
F8	-	-	-	-	/	-	-	/	-	=
F11	-	-	-	-	/	-	-	/	-	=
F13	-	-	-	-	/	-	-	/	-	=
F18	-	-	-	-	/	-	-	/	-	=
F21	-	-	-	-	/	-	-	/	-	=
F24	-	-	-	-	/	-	-	/	-	=
F1	+	+	+	+	+	+	+	+	+	=
F6	+	+	+	+	+	+	+	+	+	=
F7	+	+	+	+	+	+	+	+	+	=
F12	+	+	+	+	+	+	+	+	+	=
F14	+	+	+	+	+	+	+	+	+	=
F16	+	+	+	+	+	+	+	+	+	=
F20	+	+	+	+	+	+	+	+	+	=
F23	+	+	+	+	+	+	+	+	+	=
F2	+	+	+	+	+	+	+	+	+	=
F5	+	+	+	+	+	+	+	+	+	=
F9	+	+	+	+	+	+	+	+	+	=
F10	+	+	-	+	+	+	+	+	+	=
F15	+	+	+	+	+	+	+	+	+	=
F17	+	+	+	+	+	+	+	+	+	=
F19	+	+	+	+	+	+	+	+	+	=
F22	+	+	+	+	+	+	+	+	+	=

Laboratory: **G**  
 Aerobic mesophilic flora:  $2,6.10^4/g$

N°Sample	Reference method ISO 6579						Alternative method MicroSEQ Salmonella			Agreement
	RVS		MKTTn		Confirmation result	Final result	PCR result	Confirmation	Final result	
	XLD	Brilliance salmonella	XLD	Brilliance salmonella						
G3	-	-	-	-	/	-	-	/	-	=
G4	-	-	-	-	/	-	-	/	-	=
G8	-	-	-	-	/	-	-	/	-	=
G11	-	-	-	-	/	-	-	/	-	=
G13	-	-	-	-	/	-	-	/	-	=
G18	-	-	-	-	/	-	-	/	-	=
G21	-	-	-	-	/	-	-	/	-	=
G24	-	-	-	-	/	-	-	/	-	=
G1	+	+	+	+	+	+	+	+	+	=
G6	+	+	+	+	+	+	+	+	+	=
G7	+	+	+	+	+	+	+	+	+	=
G12	+	+	+	+	+	+	+	+	+	=
G14	+	+	+	+	+	+	+	+	+	=
G16	+	+	+	+	+	+	+	+	+	=
G20	+	+	+	+	+	+	+	+	+	=
G23	+	+	+	+	+	+	+	+	+	=
G2	+	+	+	+	+	+	+	+	+	=
G5	+	+	+	+	+	+	+	+	+	=
G9	+	+	+	+	+	+	+	+	+	=
G10	+	+	+	+	+	+	+	+	+	=
G15	+	+	+	+	+	+	+	+	+	=
G17	+	+	+	+	+	+	+	+	+	=
G19	+	+	+	+	+	+	+	+	+	=
G22	+	+	+	+	+	+	+	+	+	=

Laboratory: H  
 Aerobic mesophilic flora: 5,7.10<sup>4</sup>/g

N°Sample	Reference method ISO 6579						Alternative method MicroSEQ Salmonella			Agreement
	RVS		MKTn		Confirmation result	Final result	PCR result	Confirmation	Final result	
	XLD	Brilliance salmonella	XLD	Brilliance salmonella						
H3	-	-	-	-	/	-	-	/	-	=
H4	-	-	-	-	/	-	-	/	-	=
H8	-	-	-	-	/	-	-	/	-	=
H11	-	-	-	-	/	-	-	/	-	=
H13	-	-	-	-	/	-	-	/	-	=
H18	-	-	-	-	/	-	-	/	-	=
H21	-	-	-	-	/	-	-	/	-	=
H24	-	-	-	-	/	-	-	/	-	=
H1	+	+	+	+	+	+	+	+	+	=
H6	+	+	+	+	+	+	+	+	+	=
H7	+	+	+	+	+	+	+	+	+	=
H12	+	+	+	+	+	+	+	+	+	=
H14	+	+	+	+	+	+	+	+	+	=
H16	+	+	+	+	+	+	+	+	+	=
H20	+	+	+	+	+	+	+	+	+	=
H23	+	+	+	+	+	+	+	+	+	=
H2	+	+	+	+	+	+	+	+	+	=
H5	+	+	+	+	+	+	+	+	+	=
H9	+	+	+	+	+	+	+	+	+	=
H10	+	+	+	+	+	+	+	+	+	=
H15	+	+	+	+	+	+	+	+	+	=
H17	+	+	+	+	+	+	+	+	+	=
H19	+	+	+	+	+	+	+	+	+	=
H22	+	+	+	+	+	+	+	+	+	=

Laboratory:

I

Analysed at Day 1

Aerobic mesophilic flora :

4,1.10<sup>4</sup>/g

N°Sample	Reference method ISO 6579						Alternative method MicroSEQ Salmonella			Agreement
	RVS		MKTTn		Confirmation result	Final result	PCR result	Confirmation	Final result	
	XLD	Brilliance salmonella	XLD	Brilliance salmonella						
I3	-	-	-	-	/	-	-	/	-	=
I4	-	-	-	-	/	-	-	/	-	=
I8	-	-	-	-	/	-	-	/	-	=
I11	-	-	-	-	/	-	-	/	-	=
I13	-	-	-	-	/	-	-	/	-	=
I18	-	-	-	-	/	-	-	/	-	=
I21	-	-	-	-	/	-	-	/	-	=
I24	-	-	-	-	/	-	-	/	-	=
I1	+	+	+	+	+	+	+	+	+	=
I6	+	+	+	+	+	+	+	+	+	=
I7	+	+	+	+	+	+	+	+	+	=
I12	+	+	+	+	+	+	+	+	+	=
I14	+	+	+	+	+	+	+	+	+	=
I16	+	+	+	+	+	+	+	+	+	=
I20	+	+	+	+	+	+	+	+	+	=
I23	+	+	+	+	+	+	+	+	+	=
I2	+	+	+	+	+	+	+	+	+	=
I5	+	+	+	+	+	+	+	+	+	=
I9	+	+	+	+	+	+	+	+	+	=
I10	+	+	+	+	+	+	+	+	+	=
I15	+	+	+	+	+	+	+	+	+	=
I17	+	+	+	+	+	+	+	+	+	=
I19	+	+	+	+	+	+	+	+	+	=
I22	+	+	+	+	+	+	+	+	+	=



Laboratory: **J**  
 Aerobic mesophilic flora:  $5,5.10^4/g$

N°Sample	Reference method ISO 6579						Alternative method MicroSEQ Salmonella			Agreement
	RVS		MKTTn		Confirmation result	Final result	PCR result	Confirmation	Final result	
	XLD	Brilliance salmonella	XLD	Brilliance salmonella						
J3	-	-	-	-	/	-	-	/	-	=
J4	-	-	-	-	/	-	-	/	-	=
J8	-	-	-	-	/	-	-	/	-	=
J11	-	-	-	-	/	-	-	/	-	=
J13	-	-	-	-	/	-	-	/	-	=
J18	-	-	-	-	/	-	-	/	-	=
J21	-	-	-	-	/	-	-	/	-	=
J24	-	-	-	-	/	-	-	/	-	=
J1	+	+	+	+	+	+	+	+	+	=
J6	+	+	+	+	+	+	+	+	+	=
J7	+	+	+	+	+	+	+	+	+	=
J12	+	+	+	+	+	+	+	+	+	=
J14	+	+	+	+	+	+	+	+	+	=
J16	+	+	+	+	+	+	+	+	+	=
J20	+	+	+	+	+	+	+	+	+	=
J23	+	+	+	+	+	+	+	+	+	=
J2	+	+	+	+	+	+	+	+	+	=
J5	+	+	+	+	+	+	+	+	+	=
J9	+	+	+	+	+	+	+	+	+	=
J10	+	+	+	+	+	+	+	+	+	=
J15	+	+	+	+	+	+	+	+	+	=
J17	+	+	+	+	+	+	+	+	+	=
J19	+	+	+	+	+	+	+	+	+	=
J22	+	+	+	+	+	+	+	+	+	=

Laboratory: **K**  
 Aerobic mesophilic flora:  $1,4 \cdot 10^5/g$

N°Sample	Reference method ISO 6579						Alternative method MicroSEQ Salmonella			Agreement
	RVS		MKTTn		Confirmation result	Final result	PCR result	Confirmation	Final result	
	XLD	Brilliance salmonella	XLD	Brilliance salmonella						
K3	-	-	-	-	/	-	-	/	-	=
K4	-	-	-	-	/	-	-	/	-	=
K8	-	-	-	-	/	-	-	/	-	=
K11	-	-	-	-	/	-	-	/	-	=
K13	-	-	-	-	/	-	-	/	-	=
K18	-	-	-	-	/	-	-	/	-	=
K21	-	-	+	-	-	-	-	/	-	=
K24	-	-	-	-	/	-	-	/	-	=
K1	+	+	+	+	+	+	+	+	+	=
K6	+	+	+	+	+	+	+	+	+	=
K7	+	+	+	+	+	+	+	+	+	=
K12	+	+	+	+	+	+	+	+	+	=
K14	+	+	+	+	+	+	+	+	+	=
K16	+	+	+	+	+	+	+	+	+	=
K20	+	+	+	+	+	+	+	+	+	=
K23	+	+	+	+	+	+	+	+	+	=
K2	+	+	+	+	+	+	+	+	+	=
K5	+	+	+	+	+	+	+	+	+	=
K9	+	+	+	+	+	+	+	+	+	=
K10	+	+	+	+	+	+	+	+	+	=
K15	+	+	+	+	+	+	+	+	+	=
K17	+	+	+	+	+	+	+	+	+	=
K19	+	+	+	+	+	+	+	+	+	=
K22	+	+	+	+	+	+	+	+	+	=

Laboratory:

L

Reception at Day 2(25°C)

Aerobic mesophilic flora:

Not done

N°Sample	Reference method ISO 6579						Alternative method MicroSEQ Salmonella			Agreement
	RVS		MKTn		Confirmation result	Final result	PCR result	Confirmation	Final result	
	XLD	Brilliance salmonella	XLD	Brilliance salmonella						
L3	-	-	-	-	/	-	-	/	-	=
L4	-	-	-	-	/	-	-	/	-	=
L8	-	-	-	-	/	-	-	/	-	=
L11	-	-	-	-	/	-	-	/	-	=
L13	-	-	-	-	/	-	+	-	- (PPNC)	=
L18	-	-	-	-	/	-	-	/	-	=
L21	-	-	-	-	/	-	-	/	-	=
L24	-	-	-	-	/	-	-	/	-	=
L1	+	+	+	+	+	+	+	+	+	=
L6	+	+	+	+	+	+	+	+	+	=
L7	+	+	+	+	+	+	+	+	+	=
L12	+	+	+	+	+	+	+	+	+	=
L14	+	+	+	+	+	+	+	+	+	=
L16	+	+	+	+	+	+	+	+	+	=
L20	+	+	+	+	+	+	+	+	+	=
L23	+	+	+	+	+	+	+	+	+	=
L2	+	+	+	+	+	+	+	+	+	=
L5	+	+	+	+	+	+	+	+	+	=
L9	+	+	+	+	+	+	+	+	+	=
L10	+	+	+	+	+	+	+	+	+	=
L15	+	+	+	+	+	+	+	+	+	=
L17	+	+	+	+	+	+	+	+	+	=
L19	+	+	+	+	+	+	+	+	+	=
L22	+	+	+	+	+	+	+	+	+	=

Laboratory: **M**  
 Aerobic mesophilic flora: 1,2.10<sup>5</sup>/g

N°Sample	Reference method ISO 6579						Alternative method MicroSEQ Salmonella			Agreement
	RVS		MKTTn		Confirmation result	Final result	PCR result	Confirmation	Final result	
	XLD	Brilliance salmonella	XLD	Brilliance salmonella						
M3	-	-	-	-	/	-	-	/	-	=
M4	-	-	-	-	/	-	-	/	-	=
M8	-	-	-	-	/	-	-	/	-	=
M11	-	-	-	-	/	-	-	/	-	=
M13	-	-	-	-	/	-	-	/	-	=
M18	-	-	-	-	/	-	-	/	-	=
M21	-	-	-	-	/	-	-	/	-	=
M24	-	-	-	-	/	-	-	/	-	=
M1	+	+	+	+	+	+	+	+	+	=
M6	+	+	+	+	+	+	+	+	+	=
M7	+	+	+	+	+	+	+	+	+	=
M12	+	+	+	+	+	+	+	+	+	=
M14	+	+	+	+	+	+	+	+	+	=
M16	+	+	+	+	+	+	+	+	+	=
M20	+	+	+	+	+	+	+	+	+	=
M23	+	+	+	+	+	+	+	+	+	=
M2	+	+	+	+	+	+	+	+	+	=
M5	+	+	+	+	+	+	+	+	+	=
M9	+	+	+	+	+	+	+	+	+	=
M10	+	+	+	+	+	+	+	+	+	=
M15	+	+	+	+	+	+	+	+	+	=
M17	+	+	+	+	+	+	+	+	+	=
M19	+	+	+	+	+	+	+	+	+	=
M22	+	+	+	+	+	+	+	+	+	=

Laboratory:

N

Inversion between N7 and N21?

Aerobic mesophilic flora:

3,7.10<sup>3</sup>/g

N°Sample	Reference method ISO 6579						Alternative method MicroSEQ Salmonella			Agreement
	RVS		MKTTn		Confirmation result	Final result	PCR result	Confirmation	Final result	
	XLD	Brilliance salmonella	XLD	Brilliance salmonella						
N3	-	-	-	-	/	-	-	/	-	=
N4	-	-	-	-	/	-	-	/	-	=
N8	-	-	-	-	/	-	-	/	-	=
N11	-	-	-	-	/	-	-	/	-	=
N13	-	-	-	-	/	-	-	/	-	=
N18	-	-	-	-	/	-	-	/	-	=
N21	+	+	+	+	+	+	+/+	+	+	=
N24	-	-	-	-	/	-	-	/	-	=
N1	+	+	+	+	+	+	+	+	+	=
N6	+	+	+	+	+	+	+	+	+	=
N7	-	-	-	-	/	-	-/-	/	-	=
N12	+	+	+	+	+	+	+	+	+	=
N14	+	+	+	+	+	+	+	+	+	=
N16	+	+	+	+	+	+	+	+	+	=
N20	+	+	+	+	+	+	+	+	+	=
N23	+	+	+	+	+	+	+	+	+	=
N2	+	+	+	+	+	+	+	+	+	=
N5	+	+	+	+	+	+	+	+	+	=
N9	+	+	+	+	+	+	+	+	+	=
N10	+	+	+	+	+	+	+	+	+	=
N15	+	+	+	+	+	+	+	+	+	=
N17	+	+	+	+	+	+	+	+	+	=
N19	+	+	+	+	+	+	+	+	+	=
N22	+	+	+	+	+	+	+	+	+	=

Laboratory: **O**Aerobic mesophilic flora:  $5,9.10^4/g$ 

N°Sample	Reference method ISO 6579						Alternative method MicroSEQ Salmonella			Agreement
	RVS		MKTTn		Confirmation result	Final result	PCR result	Confirmation	Final result	
	XLD	Brilliance salmonella	XLD	Brilliance salmonella						
O3	-	-	-	-	/	-	-	/	-	=
O4	-	-	-	-	/	-	-	/	-	=
O8	-	-	-	-	/	-	-	/	-	=
O11	-	-	-	-	/	-	-	/	-	=
O13	-	-	-	-	/	-	-	/	-	=
O18	-	-	-	-	/	-	-	/	-	=
O21	-	-	-	-	/	-	-	/	-	=
O24	-	-	-	-	/	-	-	/	-	=
O1	+	+	+	+	+	+	+	+	+	=
O6	+	+	+	+	+	+	+	+	+	=
O7	+	+	+	+	+	+	+	+	+	=
O12	+	+	+	+	+	+	+	+	+	=
O14	+	+	+	+	+	+	+	+	+	=
O16	+	+	+	+	+	+	+	+	+	=
O20	+	+	+	+	+	+	+	+	+	=
O23	+	+	+	+	+	+	+	+	+	=
O2	+	+	+	+	+	+	+	+	+	=
O5	+	+	+	+	+	+	+	+	+	=
O9	+	+	+	+	+	+	+	+	+	=
O10	+	+	+	+	+	+	+	+	+	=
O15	+	+	+	+	+	+	+	+	+	=
O17	+	+	+	+	+	+	+	+	+	=
O19	+	+	+	+	+	+	+	+	+	=
O22	+	+	+	+	+	+	+	+	+	=

Laboratory: P (ADRIA)

Aerobic mesophilic flora: 1,6.10<sup>5</sup>/g

N°Sample	Reference method ISO 6579 ♦						Alternative method -MicroSEQ Salmonella			Agreement
	RVS		MKTTn		Confirmation result	Final result	PCR result	Confirmation	Final result	
	XLD	Brilliance salmonella	XLD	Brilliance salmonella						
P3	-	-	-	-	/	-	-	/	-	=
P4	-	-	-	-	/	-	-	/	-	=
P8	-	-	-	-	/	-	-	/	-	=
P11	-	-	-	-	/	-	-	/	-	=
P13	-	-	-	-	/	-	-	/	-	=
P18	-	-	-	-	/	-	-	/	-	=
P21	-	-	-	-	/	-	-	/	-	=
P24	-	-	-	-	/	-	-	/	-	=
P1	+	+	+	+	+	+	+	+	+	=
P6	+	+	+	+	+	+	+	+	+	=
P7	+	+	+	+	+	+	+	+	+	=
P12	+	+	+	+	+	+	+	+	+	=
P14	+	+	+	+	+	+	+	+	+	=
P16	+	+	+	+	+	+	+	+	+	=
P20	+	+	+	+	+	+	+	+	+	=
P23	+	+	+	+	+	+	+	+	+	=
P2	+	+	+	+	+	+	+	+	+	=
P5	+	+	+	+	+	+	+	+	+	=
P9	+	+	+	+	+	+	+	+	+	=
P10	+	+	+	+	+	+	+	+	+	=
P15	+	+	+	+	+	+	+	+	+	=
P17	+	+	+	+	+	+	+	+	+	=
P19	+	+	+	+	+	+	+	+	+	=
P22	+	+	+	+	+	+	+	+	+	=

♦ Analyses performed according to the COFRAC accreditation