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NF VALIDATION
Validation of alternative analytical methods
Application in food microbiology

Summary report

Validation study according to the ISO 16140-2

ESIA™ One Day method

(Certificate number: BIO 12/37 - 11/14)

for the detection of *Cronobacter* spp. in:

- **Milk powders, infant formula and infant cereals without probiotics including ingredients** (25 g sample size)
- **Infant formula and infant cereals with probiotics** (25 g sample size)
- **Milk powder, infant formula and infant cereals with or without probiotics including ingredients (excluding whey protein concentrates)** (375 g sample size)
- **Production environmental samples**

Qualitative method

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LIST OF ABBREVIATIONS

Method & protocol	
CFU	Colony Forming Units
ILS	Interlaboratory Study
MCS	Method Comparison Study
RLOD	Relative Level of Detection
RT	Relative Trueness
RTC	Ready to cook
RTE	Ready to eat
RTRH	Ready to reheat
SE	Relative Sensitivity
SP	Relative Specificity
IC	Internal Control
Interpretation	
AL	Acceptability Limit
alt	Alternative method
$\overline{D}$	Average difference
FN	False Negative results
FNR	False Negative Ratio
FP	False Positive results
FPR	False Positive Ratio
LOD	Limit of Detection
NA	Negative agreement
$NA_{FN\ (alt)}$	Negative Agreement due to false negative alternative-method results
ND	Negative Deviation
$ND_{FN\ (alt)}$	Negative Deviation due to false negative alternative-method results
PA	Positive Agreement
$PA_{FP\ (alt)}$	Positive Agreement due to false positive alternative-method results
PD	Positive deviation
$PD_{FP(alt)}$	Positive Deviation due to false positive alternative-method results
ref	Reference method
TNA	Total Negative Agreement
TND	Total Negative Deviation
Raw data	
/g	Per gram
-	No typical colonies but presence of background microflora
(x)	Number of colonies in the plate
1/2	50% level of target analyte
d	Doubtful result
NC	Non-characteristic colony
NI	No identification
ni	Not isolated colony
m	Minority level of target analyte
M	Majority level of target analyte
p	Pure culture level of target analyte
st	Plate without any colony
(ia)	Inoculation area
Bold typing	**Artificially inoculated samples**

Quality Assurance documents related to this study can be consulted upon request from **bioMérieux**.

The technical protocol and the result interpretation were carried out according to the ISO 16140-2:2016, ISO 16140-2/A1:2024) and the AFNOR technical rules (Revision 13).

Validation protocols	▪ ISO 16140-1:2016 - Microbiology of the food chain - Method validation — *Part 1: Vocabulary* ▪ ISO 16140-2:2016 & ISO 16140-2/A1:2024 - Microbiology of the food chain - Method validation — *Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method* ▪ AFNOR technical rules (Revision 13)
Reference method♦	ISO 22964:2017 - Microbiology of the food chain - Horizontal method for the detection of *Cronobacter* spp.
Alternative method	**ESIA™ One Day for *Cronobacter* spp.**
Scope	☒ **Milk powders, infant formula and infant cereals without probiotics including ingredients** *(25 g sample size)* ☒ **Infant formula and infant cereals with probiotics** *(25 g sample size)* ☒ **Milk powder, infant formula and infant cereals with or without probiotics including ingredients (excluding whey protein concentrates)** *(375 g sample size)* ☒ **Production environmental samples**
Certification organism	AFNOR Certification (http://nf-validation.afnor.org/)

♦ Analyses performed according to the COFRAC accreditation (Accreditation Testing n°1-0144, scope available on www.cofrac.fr)

1 INTRODUCTION

The ESIA™ One Day method was validated in November 2014 (Certificate number BIO 12/37 - 11/14), according to EN ISO 16140:2003 against the ISO/TS 22964:2006 reference method.

A summary of the different validation studies is listed below:

Date	Study	Reference method	Validation standard	Conducted by
November 2014	Initial validation study	ISO/TS 22964:2006	ISO 16140:2003	ADRIA
June 2016	Extension study for using the VITEK® MS for the confirmation procedure	ISO/TS 22964:2006	ISO 16140:2003	ADRIA
October 2018	Renewal study to meet the requirements of the ISO 16140-2:2016 and ISO 22964:2017. Sensitivity, RLOD and ILS were performed again.	ISO 22964:2017	ISO 16140-2:2016	ADRIA
June 2022	Extension study for using the VITEK® MS for the confirmation procedure	/	/	bioMérieux
October 2022	Renewal study	ISO 22964:2017	ISO 16140-2:2016	ADRIA
October 2026	Renewal study with an update of the interpretation according to ISO 16140-2/A1:2024.	ISO 22964:2017	ISO 16140-2/A1:2024	ADRIA

The following categories were tested:

- Milk powders, infant formula and infant cereals without probiotics including ingredients *(25 g sample size)*,
- Infant formula and infant cereals with probiotics (*25 g sample size)*,
- Milk powder, infant formula and infant cereals with or without probiotics including ingredients (excluding whey protein concentrates) *(375 g sample size)*,
- Production environmental samples.

2 METHOD PROTOCOLS

2.1 Alternative method

The flow diagram of the alternative method is provided in **Appendix 1**.

2.1.1 Principle

The ESIA One Day method is based on an enrichment step and streaking on a chromogenic selective Agar plate, ESIA (*Enterobacter sakazakii* isolation Agar). *Cronobacter* spp. appears as blue colonies on the plates.

2.1.2 Protocol

Different enrichment protocols are available depending on the tested categories and sample sizes; they are described in Table 1.

Table 1 Enrichment protocols

Protocol steps	Protocol ① Milk powder, infant formula and infant cereals without probiotics including ingredients	Protocol ② Infant formula and infant cereals with probiotics	Protocol ③ Milk powder, infant formula and infant cereals with or without probiotics	Protocol ④ Ingredients *(excluding whey protein concentrates)*	Protocol ① Production environmental samples
Test portion	25 g	25 g	375 g	375 g	25 g or ml or sample device
Enrichment broth	BPW*	BPW* + Novobiocin (10 mg/l)	Pre-warmed BPW* + Novobiocin (10 mg/l)	Pre-warmed BPW	BPW
Volume of enrichment broth	225 ml	225 ml	1 875 ml (d 1/6)	3 375 ml (d 1/10)	225 ml or 10 ml (swab) or 100 ml (sponge) or 225ml (wipe)
Incubation	18 - 24 h at 37°C ± 1°C	18 - 24 h at 37°C ± 1°C	20 - 26h at 37°C ± 1°C	20 - 26 h at 37°C ± 1°C	18 - 24 h at 37°C ± 1°C
Streaking	10 µl onto ESIA plate Incubation at 44°C ± 1°C for 24 h ± 3 h				
Confirmation	Typical colonies are confirmed by: - The tests described in the reference method after purification step (Oxidase + API ID32E) - API ID 32E on isolated colony without purification step - Fast Crono confirmation test - VITEK MS / VITEK MS PRIME TEST				

*Addition of α-amylase for infant cereals (0.1 g/l)

It is possible to store the enrichment broths for 72 h at 5°C ± 3°C before testing and confirmation.

2.1.3 Restrictions

There is no restriction for use.

2.2 Reference method♦

The reference method is the ISO 22964:2017 - Microbiology of the food chain - Horizontal method for the detection of *Cronobacter* spp. (See **Appendix 2**).

Note that, based on previous data, big sample sizes cannot be used in the reference method procedure due to the impact on the detection levels and the sensitivity performances.

2.3 Study design

As different sample sizes were tested for the reference (10 g) and the alternative methods, it was an unpaired study design for all tested categories except for the type c (surfaces) in the production environmental category.

3 INITIAL VALIDATION, EXTENSION/RENEWAL STUDIES: RESULTS

3.1 Method Comparison Study

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

The study was carried out on a diversity of samples and strains representative of agri-food products. This does not constitute an exhaustive list of the different matrices included in the scope.
For any comment on the alternative method, please contact AFNOR Certification at http://nf-validation.afnor.org/contact-2/.

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

344 samples were analyzed, providing 178 positive and 166 negative results. The distribution per tested category and type is given in Table 2.

Table 2 – Distribution per tested category and type

Category		Type		Protocol	Positive samples	Negative samples	Total
1	Milk powders and ingredients, infant formula and infant cereals without probiotics	a	*Infant formula*	1	11	11	22
		b	*Infant cereals*		11	11	22
		c	*Ingredients: lactoserum, maltodextrin …*		16	15	31
		Total			38	37	75
2	Infant formula and infant cereals with probiotics	a	*Infant formula*	2	16	16	32
		b	*Infant cereals*		15	17	32
		Total			31	33	64
3	Milk powders, ingredients, infant formula and infant cereals with or without probiotics 375g	a	*Milk powders, Infant formula and infant cereals without probiotics*	3	22	15	37
		b	*Infant formula and infant cereals with probiotics*		19	15	34
		c	*Ingredients: maltodextrin, whey, lactose, starch, caseinate…*	4	33	31	64
		Total			74	61	135
4	Production environmental samples	a	*Process water*	1	11	11	22
		b	*Residues and dusts*		12	10	22
		c	*Surfaces*		12	14	26
		Total			35	35	70
Total Protocol 1 - Milk powder, infant formula and infant cereals without probiotics including ingredients (25g) + Environmental samples					**73**	**72**	**145**
Total Protocol 2 - Infant formula and infant cereals with probiotics					**31**	**33**	**64**
Total Protocol 3 - Milk powder, infant formula and infant cereals with or without probiotics (375g)					**41**	**30**	**71**
Total Protocol 4 - Ingredients 375g					**33**	**31**	**64**
All categories					**178**	**166**	**344**

3.1.1.2 Artificial contamination of samples

Artificial contaminations were done by seeding (lyophilized strains or suspensions) or spiking (heat injured strain) protocol. The artificial contaminations are presented in **Appendix 3**.

197 samples were artificially contaminated, using 56 different strains. 168 gave a positive result.
The repartition of the positive samples per inoculation protocol and inoculation level is given in Table 3.

Table 3 - Repartition of the positive samples per inoculation protocol and inoculation level

	Naturally contaminated	Artificially contaminated				Total
		Seeding		Spiking		
		≤ 3 CFU	3<x≤10	≤ 5 CFU	5<x≤10	
Number of positive samples	10	127	34	7	0	178
%	5.6%	71.3%	19.1%	3.9%	0.0%	100.0%

5.6 % of the samples were naturally contaminated.

3.1.1.3 Protocols applied during the validation study

> **Incubation time**

The following incubation times were applied (See Table 4).

Table 4 - Incubation time

	Protocols ① and ②	Protocols ③ and④
Enrichment	18 h	20 h
ESIA	21 h	

> **Confirmation protocols**

The different confirmation protocols which were applied during the validation study are listed in Table 4.

Table 5 - Confirmation protocols

Media		After enrichment broth incubation	After enrichment broth storage
ESIA with purification step onto TSA	Oxidase test	X	/
	API ID 32E	X	/
ESIA without purification step	API ID 32E	X	X
	Fast Crono	X	X

As the use of VITEK MS was validated in a specific extension study using 152 *Cronobacter* strains and 100 non-target strains, this option was not tested for the study. The extension for the VITEK MS PRIME was presented and accepted in June 2022.

In addition, all the broths with a negative result were transferred to CSB and then streaked on CCI Agar plates.

> **Enrichment broth storage**

The positive samples were tested again after storage of the enrichment broth for 72 h at 5°C ± 3°C.

3.1.1.4 Test results

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

Table 6 – Summary of results obtained with the reference and alternative methods (after confirmation) of all samples for each category

Category		PA	PD	TND	TNA	Total
1	Milk powders and ingredients, infant formula and infant cereals without probiotics	21	9	8	37	**75**
2	Infant formula and infant cereals with probiotics	16	9	6	33	**64**
3	Milk powders, ingredients, infant formula and infant cereals with or without probiotics (375 g)	54	10	10	61	**135**
4	Production environmental samples	33	2	0	35	**70**
TOTAL		**124**	**30**	**24**	**166**	**344**

Paired evaluation: $TND = ND_{FN(alt)}$ $TNA = NA + PD_{FP(alt)}$
Unpaired evaluation: $TND = ND + ND_{FN(alt)} + PA_{FP(alt)}$ $TNA = NA + NA_{FN(alt)} + PD_{FP(alt)}$

3.1.1.5 Calculation of relative trueness (RT), sensitivity (SE), false positive ratio (FPR) and false negative ratio (FNR) for the alternative method

The calculations are presented in Table 7.

Table 7 – Calculation of relative trueness (RT), sensitivity (SE), false positive ratio (FPR) and false negative ratio (FNR) for the alternative method

Category		Type		Protocol	PA	$PA_{FP(alt)}$	NA	$NA_{FN(alt)}$	PD	ND	$ND_{FN(alt)}$	$PD_{FP(alt)}$	TND	TNA	SEalt %	SEref %	RT %	FPR %	FNR %
1	Milk powders and ingredients, infant formula and infant cereals without probiotics	a	*Infant formula*	1	6	0	11	0	2	3	0	0	3	11	72.7	81.8	77.3	0.0	0.0
		b	*Infant cereals*		6	0	11	0	3	2	0	0	2	11	81.8	72.7	77.3	0.0	0.0
		c	*Ingredients: lactoserum, maltodextrin, milk powders.*		9	0	15	0	4	3	0	0	3	15	81.3	75.0	77.4	0.0	0.0
		Total			21	0	37	0	9	8	0	0	8	37	78.9	76.3	77.3	0.0	0.0
2	Infant formula and infant cereals with probiotics	a	*Infant formula*	2	7	0	16	0	6	3	0	0	3	16	81.3	62.5	71.9	0.0	0.0
		b	*Infant cereals*		9	0	17	0	3	3	0	0	3	17	80.0	80.0	81.3	0.0	0.0
		Total			16	0	33	0	9	6	0	0	6	33	80.6	71.0	76.6	0.0	0.0
3	Milk powders, ingredients, infant formula and infant cereals with or without probiotics 375g	a	*Milk powders, Infant formula and infant cereals without probiotics*	3	13	0	15	0	3	5	1	0	6	15	72.7	86.4	75.7	0.0	4.5
		b	*Infant formula and infant cereals with probiotics*		16	0	15	0	2	0	1	0	1	15	94.7	89.5	91.2	0.0	5.3
		c	*Ingredients: maltodextrin, whey, lactose, starch, caseinate…*	4	25	0	30	0	5	2	1	1	3	31	90.9	84.8	87.5	3.2	3.0
		Total			54	0	60	0	10	7	3	1	10	61	86.5	86.5	85.2	1.6	4.1
4	Production environmental samples	a	*Process water*	1	10	0	11	0	1	0	0	0	0	11	100.0	90.9	95.5	0.0	0.0
		b	*Residues and dusts*		11	0	9	0	1	0	0	1	0	10	100.0	91.7	95.5	10.0	0.0
		c	*Surfaces*		12	0	14	0	0	0	0	0	0	14	100.0	100.0	100.0	0.0	0.0
		Total			33	0	34	0	2	0	0	1	0	35	100.0	94.3	97.1	2.9	0.0
Total Protocol 1 - Milk powder, infant formula and infant cereals without probiotics including ingredients (25 g) + Environmental samples					**54**	**0**	**71**	**0**	**11**	**8**	**0**	**1**	**8**	**72**	**89.0**	**84.9**	**86.9**	**1.4**	**0.0**
Total Protocol 2 - Infant formula and infant cereals with probiotics					**16**	**0**	**33**	**0**	**9**	**6**	**0**	**0**	**6**	**33**	**80.6**	**71.0**	**76.6**	**0.0**	**0.0**
Total Protocol 3 - Milk powder, infant formula and infant cereals with or without probiotics (375 g)					**29**	**0**	**30**	**0**	**5**	**5**	**2**	**0**	**7**	**30**	**82.9**	**87.8**	**83.1**	**0.0**	**4.9**
Total Protocol 4 - Ingredients (375 g)					**25**	**0**	**30**	**0**	**5**	**2**	**1**	**1**	**3**	**31**	**90.9**	**84.8**	**87.5**	**3.2**	**3.0**
All categories					**124**	**0**	**164**	**0**	**30**	**21**	**3**	**2**	**24**	**166**	**86.5**	**83.1**	**84.3**	**1.2**	**1.7**

A summary of the results is given in Table 8.

Table 8 - Summary of results

		All categories
Sensitivity for the alternative method	$SE_{alt} = \frac{(PA + PD)}{(PA + TND + PD)} x\ 100\ \%$	86.5 %
Sensitivity for the reference method	$SE_{ref} = \frac{(PA + TND)}{(PA + TND + PD)} x\ 100\ \%$	83.1 %
Relative trueness	$RT = \frac{(PA + TNA)}{N} x100\ \%$	84.3 %
False positive ratio for the alternative method (unpaired evaluation)	$FPR = \frac{PA_{FP(alt)} + PD_{FP\ (alt)}}{TNA} x\ 100\ \%$	1.2 %
False negative ratio for the alternative method (unpaired evaluation)	$FNR = \frac{NA_{FN(alt)} + ND_{FN(alt)}}{PA + TND + PD} x\ 100\ \%$	1.7 %

3.1.1.6 Analysis of discordant results

The negative deviations are given in Table 9 and the positive deviations in Table 10.

24 negative deviations were observed, all on artificially contaminated samples:

- For one sample (n°2602 artificially contaminated infant formula without probiotics), confirmation of the non-typical colonies gave positive result (API ID32 and Fast crono test): $ND_{FN(alt)}$ sample. Two additional samples were artificially contaminated with the same strain (*C. sakazakii* Ad2367). Suspect colonies with positive confirmation results were obtained for one of the samples (n°2604). The second sample (n°2603) gave negative result with alternative method while the reference method gave positive result.
- For all negative samples, a subculture in CSB broth was carried out before streaking onto CCI Agar in order to have the same incubation time and steps as the reference method. Two additional positive results were observed when using this protocol, all being found positive by the reference method ($ND_{FN(alt)}$=2): samples 2620 (infant formula with probiotics) and 3126 (starch).

30 positive deviations were observed:

- 24 on artificially contaminated samples,
- 6 on naturally contaminated samples (375 g sample size).

The analyses of discordant results according to the ISO 16140-2 is the following (See Table 11).

Table 9 - Negative deviations

Sample N°	Product	Artificial contamination (spiking protocol)		Protocol	ISO 22964♦ Result	Alternative method: ESIA One Day					Category	Type
		Strain	Inoculation level (CFU/sample)			Typical colonies	Confirmation	Final result	CSB + CCI (ISO on negative samples)	Agreement		
7621	**Infant formula without probiotics**	*C. sakazakii* Ad1446	<0.2	1	+	st	/	-	-	**ND**	1	a
7801	**Infant formula without probiotics**	*C. sakazakii* Ad2396	0.3	1	+	st	/	-	-	**ND**	1	a
7802	**Infant formula without probiotics**	*C. sakazakii* Ad1420	0.1	1	+	st	/	-	-	**ND**	1	a
7628	**Infant cereals without probiotics**	*C. sakazakii* Ad2394	1.0	1	+	st	/	-	-	**ND**	1	b
7630	**Infant cereals without probiotics**	*C. sakazakii* Ad2400	2.0	1	+	-	/	-	-	**ND**	1	b
7633	**Milk proteins**	*C. sakazakii* Ad1420	0.7	1	+	st	/	-	-	**ND**	1	c
2610	**Whole milk powder**	*C. muytjensis* E769	1.0	1	+	-	/	-	-	**ND**	1	c
2613	**Skim milk powder**	*C. muytjensis* E888	<0.25	1	+	st	/	-	-	**ND**	1	c
8027	**Infant formula with probiotics ($3.6x10^2$ CFU/g)**	*C. sakazakii* Ad2370	0.6	2	+	st	/	-	-	**ND**	2	a
8031	**Infant formula with probiotics ($1.8x10^5$ CFU/g)**	*C. sakazakii* Ad2350	0.3	2	+	st	/	-	-	**ND**	2	a
8033	**Infant formula with probiotics ($4.8x10^5$ CFU/g)**	*C. sakazakii* Ad2348	2.1	2	+	st	/	-	-	**ND**	2	a
8035	**Infant cereals with probiotics ($7.1x10^4$ CFU/g)**	*C. sakazakii* Ad2370	0.6	2	+	st	/	-	-	**ND**	2	b
8037	**Infant cereals with probiotics ($2.5x10^5$ CFU/g)**	*C. sakazakii* Ad2350	0.3	2	+	st	/	-	-	**ND**	2	b
8038	**Infant cereals with probiotics ($5.1x10^5$ CFU/g)**	*C. sakazakii* Ad2350	0.3	2	+	st	/	-	-	**ND**	2	b
2591	**Skim milk powder**	*C. muytjensis* E769	1.0	3	+	st	/	-	-	**ND**	3	a
2593	**Skim milk powder**	*C. muytjensis* E888	<0.25	3	+	-	/	-	-	**ND**	3	a
2596	**Infant cereals without probiotics**	*C. turincensis* Ad1445	1.0	3	+	st	/	-	-	**ND**	3	a
2602	**Infant formula without probiotics**	*C. sakazakii* Ad2367	10.0	3	+	-	+	-	/	**$ND_{FN(alt)}$**	3	a
2603	**Infant formula without probiotics**	*C. sakazakii* Ad2367	10.0	3	+	st	/	-	-	**ND**	3	a
2606	**Infant formula without probiotics**	*C. sakazakii* Ad2380	1.0	3	+	st	/	-	-	**ND**	3	a
2620	**Infant formula with probiotics ($7.2x10^4$ CFU/g)**	*C. sakazakii* Ad2353	4.0	3	+	st	/	-	+	**$ND_{FN(alt)}$**	3	b
3109	**Starch**	*C. sakazakii* Ad946	2.4	4	+	-	/	-	-	**ND**	3	c
3111	**Corn starch**	*C. sakazakii* Ad2286	0.8	4	+	-	/	-	-	**ND**	3	c
3126	**Wheat starch**	*C. sakazakii* Ad2288	2.3	4	+	st	/	-	+	**$ND_{FN(alt)}$**	3	c

Table 10 - Positive deviations

Sample N°	Product	Artificial contamination (spiking protocol)		Protocol	ISO 22964♦ Result	Alternative method: ESIA One Day				Category	Type
		Strain	Inoculation level (CFU/sample)			Typical colonies	Confirmation	Final result	Agreement		
7622	**Infant formula without probiotics**	*C. sakazakii* Ad1420	0.7	1	-	+p	+	+	**PD**	1	a
7623	**Infant formula without probiotics**	*C. sakazakii* Ad2394	1.0	1	-	+p	+	+	**PD**	1	a
7631	**Infant cereals without probiotics**	*C. sakazakii* Ad1446	<0.2	1	-	+p	+	+	**PD**	1	b
7798	**Infant cereals without probiotics**	*C. sakazakii* Ad893	4.7	1	-	+p		+	**PD**	1	b
9130	**Infant cereals without probiotics**	*C. sakazakii* Ad2413	0.7	1	-	+p	+	+	**PD**	1	b
7635	**Caseinate**	*C. sakazakii* Ad2395	1.7	1	-	+p	+	+	**PD**	1	c
7805	**Corn flour**	*C. sakazakii* Ad2383	0.6	1	-	+p	+	+	**PD**	1	c
8459	**Whey protein concentrate**	*C. sakazakii* Ad2349	3.0	1	-	+p	+	+	**PD**	1	c
2612	**Skim milk powder**	*C. muytjensis* E888	<0.25	1	-	+pd	+	+	**PD**	1	c
8028	**Infant formula with probiotics (<10 CFU/g)**	*C. sakazakii* Ad2370	0.6	2	-	+p	+	+	**PD**	2	a
8029	**Infant formula with probiotics ($1.3x10^5$ CFU/g)**	*C. sakazakii* Ad2370	0.6	2	-	+p	+	+	**PD**	2	a
8032	**Infant formula with probiotics ($3.0x10^4$ CFU/g)**	*C. sakazakii* Ad2348	2.1	2	-	+M	+	+	**PD**	2	a
8135	**Infant formula with probiotics ($4.2x10^5$ CFU/g)**	*C. sakazakii* Ad2352	0.7	2	-	+p (3)	+	+	**PD**	2	a
8448	**Infant formula with probiotics ($4.2x10^5$ CFU/g)**	*C. turincensis* Ad1445	6.0	2	-	+p	+	+	**PD**	2	a
9610	**Infant formula with probiotics ($4.2x10^5$ CFU/g)**	*C. sakazakii* Ad940	1.6	2	-	+p	+	+	**PD**	2	a
8140	**Infant cereals with probiotics ($7.1x10^4$ CFU/g)**	*C. sakazakii* Ad2361	0.7	2	-	+p	+	+	**PD**	2	b
9126	**Infant cereals with probiotics ($7.1x10^4$ CFU/g)**	*C. sakazakii* Ad2413	0.7	2	-	+p	+	+	**PD**	2	b
9127	**Infant cereals with probiotics ($5.6x10^5$ CFU/g)**	*C. sakazakii* Ad2413	0.7	2	-	+p	+	+	**PD**	2	b
2640	Skim milk powder			3	-	+p	+	+	**PD**	3	a
2649	Infant cereals without probiotics			3	-	+m/+	+	+	**PD**	3	a
3472	**Infant formula without probiotics**	*C. sakazakii* Ad2411	3.4	3	-	+p	+	+	**PD**	3	a
2636	**Infant cereals with probiotics ($3.2x10^6$ CFU/g)**	*C. sakazakii* SU12-74	0.9	3	-	+p	+	+	**PD**	3	b
2869	Infant formula with probiotics ($9.6x10^6$ CFU/g)			3	-	+M	+	+	**PD**	3	b
3104	**Wheat starch**	*C. sakazakii* Ad916	1.5	4	-	+p	+	+	**PD**	3	c
3112	**Wheat starch**	*C. sakazakii* Ad2286	0.8	4	-	+p	+	+	**PD**	3	c
3631	Starch			4	-	+p	+	+	**PD**	3	c
3642	Starch			4	-	+p	+	+	**PD**	3	c
3643	Starch			4	-	+p	+	+	**PD**	3	c
2467	**Process water (rinse)**	*C. sakazakii* Ad1226	7.6	1	-	+p	+	+	**PD**	4	a
3146	**Dust from vacuum**	*C. sakazakii* SU 12-7	1.5	1	-	+p	+	+	**PD**	4	b

Table 11 - Analyses of discordant results

Category		Type		Protocol	Study design	N+	TND	PD	Paired study				Unpaired study		Combined	
									TND-PD	AL	TND+PD	AL	TND-PD	AL	(ND+ PPND)-PD	AL
1	Milk powders and ingredients, infant formula and infant cereals without probiotics	a	*Infant formula*	1	Unpaired	11	3	2					1		1	
		b	*Infant cereals*		Unpaired	11	2	3					-1		-1	
		c	*Ingredients: lactoserum, maltodextrin, milk powders*		Unpaired	16	3	4					-1		-1	
					Total	38	8	9					**-1**	**3**	**-1**	**3**
2	Infant formula and infant cereals with probiotics	a	*Infant formula*	2	Unpaired	16	3	6					-3		-3	
		b	*Infant cereals*		Unpaired	15	3	3					0		0	
					Total	31	6	9					**-3**	**3**	**-3**	**3**
3	Milk powders, ingredients, infant formula and infant cereals with or without probiotics 375 g	a	*Milk powders, Infant formula and infant cereals without probiotics*	3	Unpaired	22	6	3					3		3	
		b	*Infant formula and infant cereals with probiotics*		Unpaired	19	1	2					-1		-1	
		c	*Ingredients: maltodextrin, whey, lactose, starch, caseinate…*	4	Unpaired	33	3	5					-2		-2	
					Total	74	10	10					**0**	**4**	**0**	**4**
4	Production environmental samples	a	*Process water*	1	Unpaired	11	0	1					-1		-1	
		b	*Residues and dusts*		Unpaired	12	0	1					-1		-1	
		c	*Surfaces*		Paired	12	0	0	0		0				0	
					Total	35	0	2	**0**	**3**	**0**	**6**	**-2**	**3**	**-2**	**3**
Total Protocol 1 - Milk powder, infant formula and infant cereals without probiotics including ingredients (25 g) + Environmental samples						**73**	**8**	**11**	/	/	/	/	**-3**	**4**	**-3**	**4**
Total Protocol 2 - Infant formula and infant cereals with probiotics						**31**	**6**	**9**	/	/	/	/	**-3**	**3**	**-3**	**3**
Total Protocol 3 - Milk powder, infant formula and infant cereals with or without probiotics (375 g)						**41**	**7**	**5**	/	/	/	/	**2**	**3**	**2**	**3**
Total Protocol 4 - Ingredients (375 g)						**33**	**3**	**5**	/	/	/	/	**-2**	**3**	**-2**	**3**
All categories						**178**	**24**	**30**	**0**	**3**	**0**	**3**	**-6**	**5**	**-6**	**5**

The observed values for (TND) - PD) and (TND + PD) meet the acceptability limit for each individual category, for all protocols, and for all the combined categories (observed values<AL).

3.1.1.7 Enrichment broth storage at 5 ± 3 °C for 72 h

The following changes were observed (See Table 12).

Table 12 - Changes observed after storage

Sample N°	Product	Agreement before storage	Agreement after storage	Category	Type
2611	Skim milk powder	PA	ND	1	c
8454	Infant cereals with probiotics ($7.1x10^4$ CFU/g)	PA	ND	2	b
3125	Maltodextrin	PA	ND	3	c
3146	Dust from vacuum	PD	NA	4	b

The analyses of discordant results become (See Table 13).

Table 13 - Analysis of discordant after storage 72 h at 5 ± 3°C

Category		Type		Protocol	Study design	N+	TND	PD	Paired study				Unpaired study		Combined	
									TND-PD	AL	TND+PD	AL	TND-PD	AL	(ND+ PPND)-PD	AL
1	Milk powders and ingredients, infant formula and infant cereals without probiotics	a	*Infant formula*	1	Unpaired	11	3	2					1		1	
		b	*Infant cereals*		Unpaired	11	2	3					-1		-1	
		c	*Ingredients: lactoserum, maltodextrin, milk powders*		Unpaired	16	4	4					0		0	
					Total	38	9	9					0	3	0	3
2	Infant formula and infant cereals with probiotics	a	*Infant formula*	2	Unpaired	16	3	6					-3		-3	
		b	*Infant cereals*		Unpaired	15	4	3					1		1	
					Total	31	7	9					-2	3	-2	3
3	Milk powders, ingredients, infant formula and infant cereals with or without probiotics 375 g	a	*Milk powders, Infant formula and infant cereals without probiotics*	3	Unpaired	22	6	3					3		3	
		b	*Infant formula and infant cereals with probiotics*		Unpaired	19	1	2					-1		-1	
		c	*Ingredients: maltodextrin, whey, lactose, starch, caseinate…*	4	Unpaired	33	4	5					-1		-1	
					Total	74	11	10					1	4	1	4
4	Production environmental samples	a	*Process water*	1	Unpaired	11	0	1					-1		-1	
		b	*Residues and dusts*		Unpaired	11	0	0					0		0	
		c	*Surfaces*		Paired	12	0	0	0		0				0	
					Total	34	0	1	0	3	0	6	-1	3	-1	3
Total Protocol 1 - Milk powder, infant formula and infant cereals without probiotics including ingredients (25 g) + Environmental samples						**72**	**9**	**10**	/	/	/	/	-1	4	-1	4
Total Protocol 2 - Infant formula and infant cereals with probiotics						**31**	**7**	**9**	/	/	/	/	-2	3	-2	3
Total Protocol 3 - Milk powder, infant formula and infant cereals with or without probiotics (375 g)						**41**	**7**	**5**	/	/	/	/	2	3	2	3
Total Protocol 4 - Ingredients (375 g)						**33**	**4**	**5**	/	/	/	/	-1	3	-1	3
All categories						**177**	**27**	**29**	0	3	0	3	-2	5	-2	5

The observed values for (TND) - PD) and (TND + PD) meet the acceptability limit for each individual category, for all protocols and for all the combined categories (observed values<AL)

3.1.1.8 Confirmation

All the typical colonies isolated on ESIA plates were confirmed with both confirmation procedure (API ID 32E and Fast Crono) except for two samples (1792 and 3634): $PD_{FP(alt)}$ samples. In these cases, doubtful and typical colonies were respectively observed on ESIA plates and were confirmed as *Escherichia vulneris* (sample 1792) and *Leclercia adecarboxylata* (sample 3634)

3.1.2 Relative level of detection

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

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

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

3.1.2.1 Experimental design

One matrix should be tested per category and per protocol. At least, three inoculation levels were used:

- A negative control: 5 samples,
- A low contamination level providing fractional recovery data, with 20 replicates,
- A high contamination level, with 5 replicates.

A total plate count determination on each matrix was performed to estimate the total microbial load on the day of analysis.

Four matrix/strain pairs were analyzed by the reference method and by the alternative method (See Table 14).

Table 14 - Defined (matrix/strain) pairs for the RLOD determination

Category		Matrix	Strain	Origin	Storage conditions after inoculation and before analysis	Sample size	Protocol	Study design
1	**Milk powders, infant formula and infant cereals without probiotics including ingredients**	Infant cereals	*Cronobacter dublinensis* E798	Unknown	Seeding protocol Lyophilized strain 2 weeks at room temperature	25 g	①	*Unpaired*
2	**Infant formula and infant cereals with probiotics**	Infant formula with probiotics	*Cronobacter sakazakii* Ad2413	Dairy product	Seeding protocol Lyophilized strain 2 weeks at room temperature	25 g	②	*Unpaired*
3	**Milk powders infant formula and infant cereals with or without probiotics, including ingredients**	Maltodextrin	*Cronobacter turicensis* Ad1445	Milk powder	Seeding protocol Lyophilized strain 2 weeks at room temperature	375 g	④	*Unpaired*
		Infant formula with probiotics	*Cronobacter sakazakii* Ad2412	Infant formula	Seeding protocol Lyophilized strain 2 weeks at room temperature	375 g	③	*Unpaired*
4	**Production environmental samples**	Process water	*Cronobacter muytjensii* E888	Milk powder	Seeding protocol 48 h at 5°C ± 3°C	25 ml	①	*Unpaired*

3.1.2.2 Calculation and interpretation of the RLOD

The raw data are given in **Appendix 5**.

The RLOD calculations were performed using the Excel spreadsheet available at http://standards.iso.org/iso/16140 - RLOD version 4 (2024-01-10). The RLOD are given Table 15.

Table 15 – Presentation of RLOD before and after confirmation of the alternative method results

Category	Matrix / strain	AL	RLOD [95% confidence limit]
1	Infant cereals / *Cronobacter dublinensis* E798	2.5	2.1 [0.9; 5.0]
2	Infant formula with probiotics / *Cronobacter sakazakii* Ad2413		1.2 [0.7; 2.1]
3	Maltodextrin (375g) / *Cronobacter turicensis* Ad1445		2.0 [1.0; 4.1]
4	Infant formula with probiotics (375g) / *Cronobacter sakazakii* Ad2412		0.7 [0.3; 1.6]
5	Process water (rinse) / *Cronobacter muytjensii* E888		1.4 [0.5; 3.7]
Combined			**1.3 [1.0; 1.9]**

The Relative Levels of Detection (RLOD) meet the Acceptability Limit (AL) for all the tested matrix/strain pairs.

The LOD_{50} calculations were done using the Excel spreadsheet available at http://standards.iso.org/iso/16140 POD-LOD calculation program - version 12, 2024-03-05. The tests are given in Table 16.

Table 16 - LOD_{50} results

Category	(Strain / matrix) pair	Level of detection at 50% (CFU / test portion)		Level of detection at 95% (CFU / test portion)	
		Reference method	Alternative method	Reference method	Alternative method
1	Infant cereals / *Cronobacter dublinensis* E798	0.8 [0.5; 1.4]	1.5 [0.8; 2.8]	3.4 [2.0; 5.9]	6.6 [3.5; 12.2]
2	Infant formula with probiotics / *Cronobacter sakazakii* Ad2413	0.4 [0.3; 0.6]	0.6 [0.4; 0.9]	1.8 [1.2; 2.8]	2.7 [1.8; 4.0]
3	Maltodextrin (375g) / *Cronobacter turicensis* Ad1445	0.3 [0.2; 0.6]	0.7 [0.4; 1.2]	1.4 [0.8; 2.5]	3.1 [1.9; 5.2]
4	Infant formula with probiotics (375g) / *Cronobacter sakazakii* Ad2412	0.6 [0.4; 1.0]	0.4 [0.3; 0.8]	2.7 [1.6; 4.5]	1.9 [1.1; 3.4]
5	Process water (rinse) / *Cronobacter muytjensii* E888	0.5 [0.3; 1.0]	0.7 [0.4; 1.5]	2.3 [1.2; 4.4]	3.2 [1.5; 6.5]
Combined results		**0.5 [0.4; 0.6]**	**0.7 [0.6; 0.9]**	**2.2 [1.8; 2.8]**	**3.2 [2.5; 4.0]**

The LOD_{50} varies from 0.3 to 0.8 CFU/ test portion for the reference method and from 0.4 to 1.5 CFU/ test portion for the alternative method.

3.1.3 Inclusivity / exclusivity

The inclusivity is the ability of the alternative method to detect the target analyte from a wide range of strains. The exclusivity is the lack of interference from a relevant range of non-target strains of the alternative method.

3.1.3.1 Test protocols

- **Inclusivity**

The study was run again on 50 target strains. The strains were grown in BHI and then diluted in order to inoculate between 10 to 100 cells /225 ml BPW + Novobiocin (10mg /L). The broths were then streaked onto ESIA plates before proceeding to the confirmatory tests.

- **Exclusivity**

33 non-target strains were tested for the initial validation study (study run by ISHA). 31 non-target strains were tested for the previous renewal validation study.

3.1.3.2 Results

Raw data are given in **Appendix 6**.

- **Inclusivity**

The 50 tested target strains gave typical colonies on ESIA plates and were confirmed using the API ID 32E or the Fast Crono test.

Note that for 15 strains, addition of milk in the BPW + Novobiocin was necessary to recover the *Cronobacter* spp. strain.

- **Exclusivity**

No cross reaction was observed with 33 and 31 non-target strains tested for initial validation and renewal validation studies respectively.

3.1.4 Practicability

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

Storage conditions, shelf-life and modalities of utilization after first use	Store the plates at 2 - 8°C in their boxes until the expiry date.		
Time to result	Steps	**Reference method**	**Alternative method**
	Negative samples		
	Sampling, enrichment	Day 0	Day 0
	Subculture in CSB	Day 1	/
	Streaking on plates	Day 2	Day 1
	Final negative result	Day 3	Day 2
	Positive results		
	Streaking onto TSA	Day 3	Day2
	Confirmation result	Day 4	Days 2 (tests without purification step) or 3 (tests after purification step
Common step with the reference method	None		

The negative and positive results are available in 2 days with the ESIA method, while 4 days are required for positive results with the reference 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.

3.2.1 Study organisation

- *Collaborators number*

15 laboratories (16 collaborators) from 5 different countries participated to the study.
2 collaborators for Lab G were involved in the study.

- *Matrix and strain used*

Infant formula with probiotics (*Lactobacillus reuteri* DSM 17938) was inoculated with *Cronobacter sakazakii* Ad 940 strain.
In order to facilitate the study, infant formula was first homogenized in sterile water.

- *Samples*

Samples were prepared and inoculated on Monday 29th of January 2018, as described below:

- 24 blind coded samples (25 mL) for *Cronobacter* spp. detection by the ESIA™ One Day method
- 24 blind coded samples (10 mL) for *Cronobacter* spp. detection by the ISO 22964:2017 reference method
- 1 sample (labelled “Sample for anaerobic lactic flora”) for anaerobic lactic flora enumeration in MRS agar;

1 water flask labelled “Temperature Control” with a temperature probe.

- *Inoculation*

The targeted inoculation levels were the following:

- Level 0: 0 CFU/g,
- Level 1: level providing as much as possible fractional positive result (2 CFU/sample),
- Level 2:10 CFU/sample.

- *Analyses*

Collaborative study laboratories and the expert laboratory carried out the analyses on Tuesday 30th or Wednesday 31st January 2018 with the alternative (**protocol ②**

dedicated to infant formula with probiotics and infant cereals) and reference method. The typical colonies were confirmed by the Fast Crono except for collaborator N which used Biochemical galleries.

3.2.2 Experimental parameters controls

3.2.2.1 Strain stability and background microflora stability

Strain stability was checked by inoculating the matrix at 2 CFU/sample and 100 CFU/g. Enumerations were performed for the high contamination level and detection analyses were performed for the low contamination level after 24 h and 48 h storage at 5 ± 3°C. *Triplicates* were analysed. The aerobic mesophilic flora was also enumerated; the results are given in Table 17.

Table 17 - Sample stability

Day	Reference method (detection) - 10 g			Alternative method (detection) - 25 g			CFU/g			Lactic acid flora (CFU/g)
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	
Day 0	-	+	+	+	+	+	281	273	455	$3.8\ 10^5$
Day 1	+	+	+	-	+	+	110	60	90	$6.2\ 10^5$
Day 2	+	+	+	+	+	+	50	20	0	$5.5\ 10^5$

A decrease in the count level 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 (b/sample)	True level (b/ sample)*	Low limit / sample	High limit / sample
Level 0	1 - 4 - 6 - 11 - 14 - 18 - 20 - 24 26 - 28 - 31 - 34 - 37 - 40 - 43 - 44	/	/	/	/
Level 1	3 - 5 - 10 - 15 - 16 - 19 - 22 - 23 27 - 30 - 35 - 38 - 41 - 42 - 46 - 48	2	2.6	2.2	3.1
Level 2	2 - 7 - 8 - 9 - 12 - 13 - 17 - 21 25 - 29 - 32 - 33 - 36 - 39 - 45 - 47	10	9.8	8.0	12.0

* **Due to the decrease in the count level observed in the stability study, the true levels at the time of the study were probably lower.**

3.2.2.3 Logistic conditions

Temperature conditions are given in Table 19.

Table 19 - Sample temperatures at receipt

Collaborators	Temperature measured by the probe (°C)	Temperature measured at receipt (°C)	Receipt date and time	Analysis date
A	3.6	2.0	31/01/2018 15h00	31/01/2018
B	1.8	5.1	30/01/2018 09h00	30/01/2018
C	6.1	3.5	30/01/2018 10h300	30/01/2018
D	1.8	4.2	30/01/2018 09h35	30/01/2018
E	-16.5	5.0	30/01/2018 18h00	30/01/2018
F	6.7	9.7	30/01/2018 12h00	30/01/2018
G1	1.2	1.4	31/01/2018 10h00	31/01/2018
G2	1.4	1.5	31/01/2018 10h00	31/01/2018
H	1.7	1.8	30/01/2018 11h40	30/01/2018
I	5.9	4.1	30/01/2018 10h00	30/01/2018
J	1.5	2.6	30/01/2018 09h45	30/01/2018
K	2.1	4.9	31/01/2018 09h00	31/01/2018
L	1.4	1.4	30/01/2018 11h00	30/01/2018
M	1.3	3.9	30/01/2018 09h30	30/01/2018
N	1.5	6.0	30/01/2018 10h20	30/01/2018
O	2.9	6.0	30/01/2018 11h00	30/01/2018

No problem was encountered during the transport or at receipt except for 2 collaborators:

- For Lab E, the probe measured a temperature of -16.5°C; the probe probably failed as the Lab measured a temperature at receipt of 5.0°C.
- For Lab F, the temperature measured at receipt by the Lab was 9.7°C but the probe measured a temperature of 6.7°C.

For the other collaborators, all the samples were delivered on time and in appropriate conditions. Temperatures during shipment and at receipt were all correct.

3.2.3 Results analysis

Raw data are given in **Appendix 7**.

3.2.3.1 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	7/8
L2	8/8	8/8

3.2.3.2 Results observed by the collaborative laboratories

- **Aerobic mesophilic flora enumeration**

Depending on the Lab results, the enumeration levels varied from $4.0x10^4$ to $8.1x10^5$ CFU/g.

- ***Cronobacter* spp. detection**

16 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)

Collaborators	Contamination level		
	L0	L1	L2
A	0	7	8
B	0	7	8
C	0	6	8
D	0	7	8
E	0	7	8
F	0	7	8
G1	0	7	8
G2	0	5	8
H	0	6	8
I	0	7	8
J	0	8	8
K	0	7	8
L	0	6	8
M	0	6	8
N	0	7	8
O	0	8	8
Total	$P_0 = 0$	$P_1 = 108$	$P_2 = 128$

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

Collaborators	Contamination level					
	L0		L1		L2	
	ESIA	*Final result*	*ESIA*	*Final result*	*ESIA*	*Final result*
A	0	0	5	5	8	8
B	0	0	3	3	8	8
C	0	0	5	5	8	8
D	0	0	6	6	8	8
E	0	0	5	5	8	8
F	0	0	6	6	8	8
G1	0	0	6	6	8	8
G2	0	0	6	6	8	8
H	0	0	7	7	8	8
I	0	0	7	7	8	8
J	0	0	8	8	8	8
K	0	0	7	7	8	8
L	0	0	6	6	8	8
M	0	0	7	7	8	8
N	3	3	8	8	8	8
O	0	0	7	7	8	8
Total	$P_0 = 3$	$CP_0 = 3$	P1=99	$CP_1 = 99$	P_2=128	$CP_2 = 128$

Lab N obtained typical colonies on ESIA plates for unspiked samples (N4, N6, N20 and N24). The colonies were confirmed as *Cronobacter* spp. This Lab mentioned that some flasks leaked. This could explain these contaminations.

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 and the results from Lab N were excluded for interpretation.

3.2.3.3 *Results of the collaborators retained for interpretation*

The results obtained with the 15 collaborators kept for interpretation are presented in Table 23 (reference method) and Table 24 (alternative method).

Table 23 - Positive results by the reference method (Without Lab N)

Collaborators	Contamination level		
	L0	L1	L2
A	0	7	8
B	0	7	8
C	0	6	8
D	0	7	8
E	0	7	8
F	0	7	8
G1	0	7	8
G2	0	5	8
H	0	6	8
I	0	7	8
J	0	8	8
K	0	7	8
L	0	6	8
M	0	6	8
O	0	8	8
Total	$P_0 = 0$	$P_1 = 101$	$P_2 = 120$

Table 24 - Positive results (before and after confirmation) by the alternative method (Without Lab N)

Collaborators	Contamination level					
	L0		L1		L2	
	ESIA	*Final result*	*ESIA*	*Final result*	*ESIA*	*Final result*
A	0	0	5	5	8	8
B	0	0	3	3	8	8
C	0	0	5	5	8	8
D	0	0	6	6	8	8
E	0	0	5	5	8	8
F	0	0	6	6	8	8
G1	0	0	6	6	8	8
G2	0	0	6	6	8	8
H	0	0	7	7	8	8
I	0	0	7	7	8	8
J	0	0	8	8	8	8
K	0	0	7	7	8	8
L	0	0	6	6	8	8
M	0	0	7	7	8	8
O	0	0	7	7	8	8
Total	**P_0 = 0**	**CP_0 = 0**	**P1=91**	**CP_1 = 91**	**P_2=120**	**CP_2 = 120**

3.2.4 Calculation and interpretation

3.2.4.1 Calculation of the specificity percentage (SP)

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

Table 25 - Percentage specificity

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

N: number of all L0 tests

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

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

3.2.4.2 *Calculation of the sensitivity of the alternative method (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): 91.0% of positive samples for the reference method and 75.8% for the alternative method. This inoculation level was then 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+) **PA = 81**	Positive deviation (R-/A+) **PD = 10**
Alternative method negative (A-)	Total negative deviation (A-/R+) **TND = 20** **(0 $PA_{FP(alt)}$ and 0 $ND_{FN(alt)}$)**	Total negative agreement (A-/R-) **TNA = 9** **(0 $PA_{FP(alt)}$ and 0 $NA_{FN(alt)}$)**

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

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

		Level 1
Sensitivity for the alternative method	$SE_{alt} = \frac{(PA + PD)}{(PA + TND + PD)}\ x\ 100\ \%$	82.0 %
Sensitivity for the reference method	$SE_{ref} = \frac{(PA + TND)}{(PA + TND + PD)}\ x\ 100\ \%$	91.0 %
Relative trueness	$RT = \frac{(PA + TNA)}{N} x100\ \%$	75.0 %
False positive ratio for the alternative method (unpaired evaluation)	$FPR = \frac{PA_{FP(alt)} + PD_{FP\,(alt)}}{TNA}\ x\ 100\ \%$	0.0 %
False negative ratio for the alternative method (unpaired evaluation)	$FNR = \frac{NA_{FN(alt)} + ND_{FN(alt)}}{PA + TND + PD}\ x\ 100\ \%$	0.0 %

3.2.5 Interpretation of data

The negative deviations are listed in Table 28 for Level 1. The positive deviations are listed in Table 29 for Level 1.

20 negative deviations and 10 positive deviations were observed. These results could be related to:

- The different sample size tested in the reference method (10g) and the alternative method (25 g).
- The use of a selective enrichment broth for the alternative method.
- The unpaired study design.

Table 28 - Negative deviations for Level 1

Collaborator	Sample N°	Confirmation result
A	**A3**	**-**
	A16	**-**
B	**B15**	**-**
	B16	**-**
	B22	**-**
	B23	**-**
C	**C19**	**-**
D	**D10**	**-**
E	**E5**	**-**
	E19	**-**
F	**F10**	**-**
	F15	**-**
G1	**G16**	**-**
	G23	**-**
G2	**G46**	**-**
H	**H10**	**-**
K	**K15**	**-**
L	**L19**	**-**
M	**M15**	**-**
O	**O16**	**-**

Table 29 - Positive deviations for Level 1

Collaborator	Sample N°
F	**F19**
G1	**G15**
G2	**G30**
	G35
H	**H3**
	H5
K	**K22**
L	**L16**
M	**M3**
	M16

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

$$(p+)_{ref} = \frac{P_{x\,(ref)}}{N_{x\,(ref)}}$$

where

$P_{x(ref)}$ = is number of samples with a positive result obtained with the reference method at level x (L_1 or L_2) for all laboratories

$N_{x(ref)}$ = is number of samples tested at level x (L_1 or L_2) with the reference method by all laboratories

$$(p+)_{alt} = \frac{CP_{x\,(alt)}}{N_{x\,(alt)}}$$

where

$CP_{x(alt)}$ = is number of samples with a confirmed positive result obtained with the alternative method at level x (L_1 or L_2) for all laboratories

$N_{x(alt)}$ = is number of samples tested at level x (L_1 or L_2) with the alternative method by all laboratories

$$(TND - PD)_{max} = \sqrt{3N_{x\,(ref)}\; x\; ((p+)_{ref} + (p+)_{alt} - 2((p+)_{ref}\; x\; (p+)_{alt}))}$$

where

$N_{x(ref)}$ = is number of samples tested for level x (L_1 or L_2) with the reference method by all laboratories.

The calculations are the following, according to the EN ISO 16140-2:2016 (See Table 30).

Table 30 - Calculations

N_X	120
$(p+)_{ref}$	0.8
$(p+)_{alt}$	0.8
AL = (TND - PD) max	10.8
ND - PD	10
Conclusion	TND - PD ≤ AL

The ISO 16140-2 requirements are fulfilled as (TND - PD) meet the AL.

3.2.6 Evaluation of the RLOD between laboratories

The LOD $_{50\%}$ was calculated using the ISO 16140-2 Excel spreadsheet available at https://standards.iso.org/iso/16140/-2/ed-1/en/amd/1/PODLOD-interlab_ver2.xlsm.

The RLOD is defined as the ratio of the LODs of the alternative method and the reference method: **RLOD = LOD_{alt}/LOD_{ref}.**

The results are given in Table 31.

Table 31 - LOD $_{50\%}$ and RLOD

Method	LOD 50%	RLOD
Reference	1.0 [0.8 ; 1.2]	1.2
Alternative	1.2 [1.0 ; 1.5]	

4 CONCLUSION

The **method comparison study conclusions** are:

☒ In the sensitivity study, 4 categories were tested. The protocol of the alternative method showed 30 positive deviations (PD) and 24 negative deviations (TND). The observed values for (TND - PD) and (TND + PD) meet the acceptability limit (observed values ≤ AL) for each individual category and for all the combined categories.

☒ The Relative Levels of Detection (RLOD) meet the Acceptability Limit (AL) for all the tested matrix/strain pairs.

☒ The inclusivity and exclusivity testing did give the expected results for 50 target strains and the 64 non-target strains.

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

☒ The negative and positive results are available in 2 days, while 4 days are required for positive results with the reference method.

☒ The alternative method fulfils all the ISO 16140-2:2016, ISO 16140-2/A1:2024 requirements and AFNOR technical rules (Revision 13).

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

☒ The data and interpretations comply with the ISO 16140-2:2016, ISO 16140-2/A1:2024 requirements and AFNOR technical rules (Revision 13). **The ESIA™ One Day *Cronobacter* method is considered equivalent to the ISO standard.**

Quimper, 07 October 2026

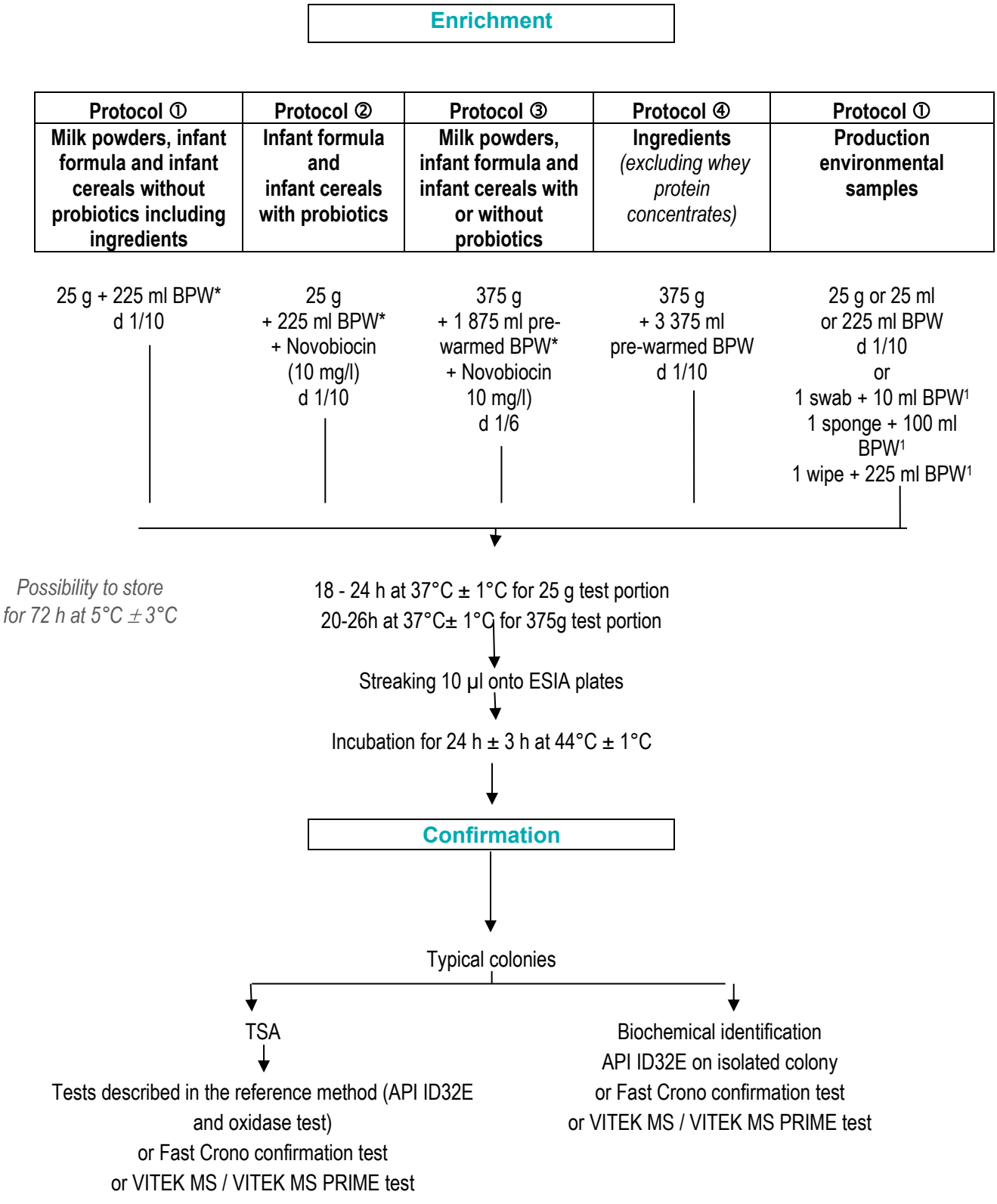
Lizaïg GOUGUET
Study Engineer
Method performance in food microbiology

I hereby attest to the validation of the results of the analyses carried out under the COFRAC accreditation.

Astrid CARIOU
Manager
Method performance in food microbiology

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: ESIA™ One Day



Addition of α-amylase for infant cereals (0.1 g/l)

[1] Pre-moisten dehydrated sponge (1 ml) or swab with BPW (10 ml) and add 9 ml or 90 ml BPW for analysis. If neutralization is needed, substitute the BPW with Letheen broth for pre-moisten.

Appendix 2 – Flow diagram of the reference method: ISO 22964:2017 - Microbiology of the food chain - Horizontal method for the detection of *Cronobacter* spp.

10 g + 90 ml BPW*

1 swab + 10 ml BPW [2]

1 sponge + 100 ml BPW [2]

1 wipe + 225 ml BPW [2]

↓

Incubation 18 h ± 2 h

at 34 – 38°C

↓

0.1 ml + 10 ml CSB

↓

Incubation 24 h ± 2 h

at 41.5°C ± 1°C

↓

Streaking onto CCI Agar plate

↓

Incubation 24 h ± 2 h

at 41.5°C ± 1°C

↓

Confirmatory test on one typical colony, and four other colonies

(if the first one is negative (typical colony: blue to blue-green))

↓

Streaking onto TSA

↓

Incubation 18 h – 24 h

at 37°C ± 1°C

↓

Biochemical confirmation (oxidase, mini-galleries)

[2] Pre-moisten dehydrated sponge (1 ml) or swab with BPW (10 ml) and add 9 ml or 90 ml BPW for analysis. If neutralization is needed, substitute the BPW with Letheen broth for pre-moisten.

Appendix 3 – Artificial contamination of samples

Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Artificial contaminations (spiking or seeding protocol)						Protocol	Global result	Category	Type
			Strain	Origin	Protocol	Injury measure-ment	Inoculation level/sample					
							Enume-ration	Mean				
2017	**7618**	**Infant formula without probiotics**	*C. sakazakii* Ad2394	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.0	1	+	1	a
2017	**7619**	**Infant formula without probiotics**	*C. sakazakii* Ad2395	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.7	1	+	1	a
2017	**7620**	**Infant formula without probiotics**	*C. sakazakii* Ad2400	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.0	1	+	1	a
2017	**7621**	**Infant formula without probiotics**	*C. sakazakii* Ad1446	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	<0.2	1	+	1	a
2017	**7622**	**Infant formula without probiotics**	*C. sakazakii* Ad1420	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.7	1	+	1	a
2017	**7623**	**Infant formula without probiotics**	*C. sakazakii* Ad2394	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.0	1	+	1	a
2017	**7795**	**Infant formula without probiotics**	*C. sakazakii* Ad893	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	4.7	1	+	1	a
2017	**7796**	**Infant formula without probiotics**	*C. sakazakii* Ad2378	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	<0.2	1	+	1	a
2017	**7799**	**Infant formula without probiotics**	*C. sakazakii* Ad893	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	4.7	1	-	1	a
2017	**7801**	**Infant formula without probiotics**	*C. sakazakii* Ad2396	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.3	1	+	1	a
2017	**7802**	**Infant formula without probiotics**	*C. sakazakii* Ad1420	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.1	1	+	1	a
2017	**9128**	**Infant formula without probiotics**	*C. sakazakii* Ad2413	Infant formula	Seeding lyophilized strain 1 weeks at room temperature	/	/	0.7	1	+	1	a
2017	**9129**	**Infant formula without probiotics**	*C. sakazakii* Ad2413	Infant formula	Seeding lyophilized strain 1 weeks at room temperature	/	/	0.7	1	-	1	a
2017	**7624**	**Infant cereals without probiotics**	*C. sakazakii* Ad2395	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.7	1	+	1	b
2017	**7625**	**Infant cereals without probiotics**	*C. sakazakii* Ad2400	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.0	1	+	1	b

Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Artificial contaminations (spiking or seeding protocol)						Protocol	Global result	Category	Type
			Strain	Origin	Protocol	Injury measure-ment	Inoculation level/sample					
							Enume-ration	Mean				
2017	**7626**	**Infant cereals without probiotics**	*C. sakazakii* Ad1446	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	<0.2	1	-	1	b
2017	**7627**	**Infant cereals without probiotics**	*C. sakazakii* Ad1420	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.7	1	-	1	b
2017	**7628**	**Infant cereals without probiotics**	*C. sakazakii* Ad2394	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.0	1	+	1	b
2017	**7629**	**Infant cereals without probiotics**	*C. sakazakii* Ad2395	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.7	1	+	1	b
2017	**7630**	**Infant cereals without probiotics**	*C. sakazakii* Ad2400	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.0	1	+	1	b
2017	**7631**	**Infant cereals without probiotics**	*C. sakazakii* Ad1446	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	<0.2	1	+	1	b
2017	**7797**	**Infant cereals without probiotics**	*C. muytjensis* E888	Milk powder	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.7	1	+	1	b
2017	**7798**	**Infant cereals without probiotics**	*C. sakazakii* Ad893	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	4.7	1	+	1	b
2017	**7800**	**Infant cereals without probiotics**	*C. sakazakii* Ad1420	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.1	1	+	1	b
2017	**8455**	**Infant cereals without probiotics**	*C. muytjensis* E769	Milk powder	Seeding lyophilized strain 2 weeks at room temperature	/	/	3.0	1	-	1	b
2017	**8456**	**Infant cereals without probiotics**	*C. sakazakii* Ad2341	Wheat starch	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.0	1	-	1	b
2017	**9130**	**Infant cereals without probiotics**	*C. sakazakii* Ad2413	Infant formula	Seeding lyophilized strain 1 weeks at room temperature	/	/	0.7	1	+	1	b
2017	**9131**	**Infant cereals without probiotics**	*C. sakazakii* Ad2413	Infant formula	Seeding lyophilized strain 1 weeks at room temperature	/	/	0.7	1	+	1	b
2017	**7632**	**Lactoserum**	*C. sakazakii* Ad1420	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.7	1	+	1	c
2017	**7633**	**Milk proteins**	*C. sakazakii* Ad1420	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.7	1	+	1	c
2017	**7634**	**Lactose**	*C. sakazakii* Ad2394	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.0	1	+	1	c

Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Artificial contaminations (spiking or seeding protocol)						Protocol	Global result	Category	Type
			Strain	Origin	Protocol	Injury measure-ment	Inoculation level/sample					
							Enume-ration	Mean				
2017	**7635**	**Caseinate**	*C. sakazakii* Ad2395	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.7	1	+	1	c
2017	**7636**	**Lactoserum proteins concentrate**	*C. sakazakii* Ad2400	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.0	1	+	1	c
2017	**7637**	**Maltodextrine**	*C. sakazakii* Ad1446	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	<0.2	1	+	1	c
2017	**7638**	**Lactoserum proteins concentrate**	*C. sakazakii* Ad1420	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.7	1	-	1	c
2017	**7803**	**Lactoserum**	*C. malonaticus* E752	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	<0.1	1	-	1	c
2017	**7804**	**Lactoserum**	*C. sakazakii* Ad2381	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	<0.7	1	-	1	c
2017	**7805**	**Corn flour**	*C. sakazakii* Ad2383	Environmental sample	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.6	1	+	1	c
2017	**7806**	**Milk powder (ingredient)**	*C. sakazakii* Ad2359	Environmental sample	Seeding lyophilized strain 2 weeks at room temperature	/	/	3.7	1	+	1	c
2017	**8458**	**Lactose**	*C. turicensis* Ad1445	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	6.0	1	+	1	c
2017	**8459**	**Whey protein concentrate**	*C. sakazakii* Ad2349	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	3.0	1	+	1	c
2017	**2609**	**Skim milk powder**	*C. muytjensis* E769	Milk powder	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.0	1	+	1	c
2017	**2610**	**Whole milk powder**	*C. muytjensis* E769	Milk powder	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.0	1	+	1	c
2017	**2611**	**Skim milk powder**	*C. muytjensis* E769	Milk powder	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.0	1	+	1	c
2017	**2612**	**Skim milk powder**	*C. muytjensis* E888	Milk powder	Seeding lyophilized strain 1 weeks at room temperature	/	/	<0.3	1	+	1	c
2017	**2613**	**Skim milk powder**	*C. muytjensis* E888	Milk powder	Seeding lyophilized strain 1 weeks at room temperature	/	/	<0.3	1	+	1	c
2017	**2614**	**Skim milk powder**	*C. muytjensis* E888	Milk powder	Seeding lyophilized strain 1 weeks at room temperature	/	/	<0.3	1	+	1	c

Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Artificial contaminations (spiking or seeding protocol)						Protocol	Global result	Category	Type
			Strain	Origin	Protocol	Injury measure-ment	Inoculation level/sample					
							Enume-ration	Mean				
2017	**8027**	**Infant formula with probiotics (3,6.10^2 CFU/g)**	*C. sakazakii* Ad2370	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.6	2	+	2	a
2017	**8028**	**Infant formula with probiotics (<10 CFU/g)**	*C. sakazakii* Ad2370	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.6	2	+	2	a
2017	**8029**	**Infant formula with probiotics (1.3x10^5 CFU/g)**	*C. sakazakii* Ad2370	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.6	2	+	2	a
2017	**8030**	**Infant formula with probiotics (<10 CFU/g)**	*C. sakazakii* Ad2350	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.3	2	+	2	a
2017	**8031**	**Infant formula with probiotics (1.8x10^5 CFU/g)**	*C. sakazakii* Ad2350	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.3	2	+	2	a
2017	**8032**	**Infant formula with probiotics (3.0x10^4 CFU/g)**	*C. sakazakii* Ad2348	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.1	2	+	2	a
2017	**8033**	**Infant formula with probiotics (4.8x10^5 CFU/g)**	*C. sakazakii* Ad2348	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.1	2	+	2	a
2017	**8131**	**Infant formula with probiotics (5.6x10^5 CFU/g)**	*C. dublinensis* DSM18705	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	<0.4	2	-	2	a
2017	**8132**	**Infant formula with probiotics (1.2x10^7 CFU/g)**	*C. dublinensis* DSM18705	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	<0.4	2	-	2	a
2017	**8133**	**Infant formula with probiotics (4.3x10^5 CFU/g)**	*C. sakazakii* Ad2351	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	3.4	2	+	2	a
2017	**8134**	**Infant formula with probiotics (6.8x10^5 CFU/g)**	*C. sakazakii* Ad2351	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	3.4	2	+	2	a

Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Artificial contaminations (spiking or seeding protocol)						Protocol	Global result	Category	Type
			Strain	Origin	Protocol	Injury measure-ment	Inoculation level/sample					
							Enume-ration	Mean				
2017	**8135**	**Infant formula with probiotics (4.2x10^5 CFU/g)**	*C. sakazakii* Ad2352	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.7	2	+	2	a
2017	**8136**	**Infant formula with probiotics (6.8x10^5 CFU/g)**	*C. sakazakii* Ad2352	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.7	2	+	2	a
2017	**8137**	**Infant formula with probiotics (7.5x10^5 CFU/g)**	*C. sakazakii* Ad2356	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.7	2	+	2	a
2017	**8138**	**Infant formula with probiotics (8.6x10^5 CFU/g)**	*C. sakazakii* Ad2361	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.7	2	+	2	a
2017	**8448**	**Infant formula with probiotics (4.2x10^5 CFU/g)**	*C. turicensis* Ad1445	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	6.0	2	+	2	a
2017	**8449**	**Infant formula with probiotics (<10 CFU/g)**	*C. sakazakii* Ad2349	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	3.0	2	-	2	a
2017	**8450**	**Infant formula with probiotics (7.0x10^5 CFU/g)**	*C. muytjensis* E769	Milk powder	Seeding lyophilized strain 2 weeks at room temperature	/	/	3.0	2	-	2	a
2017	**9610**	**Infant formula with probiotics (4.2x10^5 CFU/g)**	*C. sakazakii* Ad940	Dairy product	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.6	2	+	2	a
2017	**9611**	**Infant formula with probiotics (5.9x10^5 CFU/g)**	*C. sakazakii* Ad940	Dairy product	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.6	2	+	2	a
2017	**8034**	**Infant cereals with probiotics (5.6x10^5 CFU/g)**	*C. sakazakii* Ad2370	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.6	2	-	2	b
2017	**8035**	**Infant cereals with probiotics (7.1x10^4 CFU/g)**	*C. sakazakii* Ad2370	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.6	2	+	2	b

Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Artificial contaminations (spiking or seeding protocol)						Protocol	Global result	Category	Type
			Strain	Origin	Protocol	Injury measure-ment	Inoculation level/sample					
							Enume-ration	Mean				
2017	**8036**	**Infant cereals with probiotics ($1.7x10^4$ CFU/g)**	*C. sakazakii* Ad2350	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.3	2	-	2	b
2017	**8037**	**Infant cereals with probiotics ($2.5x10^5$ CFU/g)**	*C. sakazakii* Ad2350	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.3	2	+	2	b
2017	**8038**	**Infant cereals with probiotics ($5.1x10^5$ CFU/g)**	*C. sakazakii* Ad2350	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.3	2	+	2	b
2017	**8039**	**Infant cereals with probiotics ($6.7x10^5$ CFU/g)**	*C. sakazakii* Ad2348	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.1	2	+	2	b
2017	**8040**	**Infant cereals with probiotics ($2.7x10^3$ CFU/g)**	*C. sakazakii* Ad2348	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.1	2	+	2	b
2017	**8041**	**Infant cereals with probiotics ($1.7x10^5$ CFU/g)**	*C. sakazakii* Ad2348	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.1	2	+	2	b
2017	**8139**	**Infant cereals with probiotics ($6.7x10^6$ CFU/g)**	*C. sakazakii* Ad2361	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.7	2	+	2	b
2017	**8140**	**Infant cereals with probiotics ($7.1x10^4$ CFU/g)**	*C. sakazakii* Ad2361	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.7	2	+	2	b
2017	**8141**	**Infant cereals with probiotics ($2.7x10^3$ CFU/g)**	*C. sakazakii* Ad2356	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.7	2	+	2	b
2017	**8142**	**Infant cereals with probiotics ($2.3x10^5$ CFU/g)**	*C. sakazakii* Ad2356	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.7	2	+	2	b
2017	**8143**	**Infant cereals with probiotics ($5.6x10^5$ CFU/g)**	*C. sakazakii* Ad2352	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.7	2	+	2	b

Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Artificial contaminations (spiking or seeding protocol)						Protocol	Global result	Category	Type
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							Enume-ration	Mean				
2017	**8144**	**Infant cereals with probiotics ($1.7x10^5$ CFU/g)**	*C. sakazakii* Ad2351	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	3.4	2	+	2	b
2017	**8145**	**Infant cereals with probiotics ($5.1x10^5$ CFU/g)**	*C. dublinensis* DSM18705	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	<0.4	2	-	2	b
2018	**8451**	**Infant cereals with probiotics ($2.3x10^5$ CFU/g)**	*C. sakazakii* Ad2341	Wheat starch	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.0	2	-	2	b
2018	**8452**	**Infant cereals with probiotics ($5.6x10^5$ CFU/g)**	*C. sakazakii* Ad704	Milk powder	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.7	2	-	2	b
2018	**8453**	**Infant cereals with probiotics ($1.7x10^5$ CFU/g)**	*C. turicensis* Ad1445	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	6.0	2	-	2	b
2018	**8454**	**Infant cereals with probiotics ($7.1x10^4$ CFU/g)**	*C. sakazakii* Ad2349	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	3.0	2	+	2	b
2018	**9126**	**Infant cereals with probiotics ($7.1x10^4$ CFU/g)**	*C. sakazakii* Ad2413	Infant formula	Seeding lyophilized strain 1 weeks at room temperature	/	/	0.7	2	+	2	b
2018	**9127**	**Infant cereals with probiotics ($5.6x10^5$ CFU/g)**	*C. sakazakii* Ad2413	Infant formula	Seeding lyophilized strain 1 weeks at room temperature	/	/	0.7	2	+	2	b
2018	**2589**	**Skim milk powder**	*C. muytjensis* E769	Milk powder	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.0	3	+	3	a
2018	**2590**	**Whole milk powder**	*C. muytjensis* E769	Milk powder	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.0	3	+	3	a
2018	**2591**	**Skim milk powder**	*C. muytjensis* E769	Milk powder	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.0	3	+	3	a
2018	**2592**	**Skim milk powder**	*C. muytjensis* E888	Milk powder	Seeding lyophilized strain 1 weeks at room temperature	/	/	<0.3	3	-	3	a

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							Enume-ration	Mean				
2018	**2593**	**Skim milk powder**	*C. muytjensis* E888	Milk powder	Seeding lyophilized strain 1 weeks at room temperature	/	/	<0.3	3	+	3	a
2018	**2594**	**Skim milk powder**	*C. muytjensis* E888	Milk powder	Seeding lyophilized strain 1 weeks at room temperature	/	/	<0.3	3	-	3	a
2018	**2595**	**Infant cereals without probiotics**	*C. turicensis* Ad1445	Infant formula	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.0	3	+	3	a
2018	**2596**	**Infant cereals without probiotics**	*C. turicensis* Ad1445	Infant formula	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.0	3	+	3	a
2018	**2597**	**Infant cereals without probiotics**	*C. turicensis* Ad1445	Infant formula	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.0	3	+	3	a
2018	**2598**	**Infant cereals without probiotics**	*C. turicensis* Ad1445	Infant formula	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.0	3	+	3	a
2018	**2599**	**Infant cereals without probiotics**	*C. sakazakii* Ad1418	Environmental sample from dairy industry	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.3	3	+	3	a
2018	**2600**	**Infant cereals without probiotics**	*C. sakazakii* Ad1418	Environmental sample from dairy industry	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.3	3	+	3	a
2018	**2601**	**Infant cereals without probiotics**	*C. sakazakii* Ad1418	Environmental sample from dairy industry	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.3	3	+	3	a
2018	**2602**	**Infant formula without probiotics**	*C. sakazakii* Ad2367	Environmental sample from dairy industry	Seeding lyophilized strain 1 weeks at room temperature	/	/	10.0	3	+	3	a
2018	**2603**	**Infant formula without probiotics**	*C. sakazakii* Ad2367	Environmental sample from dairy industry	Seeding lyophilized strain 1 weeks at room temperature	/	/	10.0	3	+	3	a
2018	**2604**	**Infant formula without probiotics**	*C. sakazakii* Ad2367	Environmental sample from dairy industry	Seeding lyophilized strain 1 weeks at room temperature	/	/	10.0	3	+	3	a
2018	**2606**	**Infant formula without probiotics**	*C. sakazakii* Ad2380	Environmental sample from dairy industry	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.0	3	+	3	a
2018	**2607**	**Infant formula without probiotics**	*C. sakazakii* Ad2380	Environmental sample from dairy industry	Seeding lyophilized strain 1 weeks at room temperature	/	/	1.0	3	-	3	a
2018	**3469**	**Skim milk powder**	*C. sakazakii* Ad831	Milk powder	Spiking HT 8min 56°C	1,68	6-4-3-4-6	4.6	3	+	3	a
2018	**3470**	**Skim milk powder**	*C. sakazakii* Ad935	Dairy product	Spiking HT 8min 56°C	1,00	5-1-3-1-4	2.8	3	+	3	a
2018	**3471**	**Infant formula without probiotics**	*C. sakazakii* Ad2411	Infant formula	Spiking HT 8min 56°C	1,48	3-4-4-2-4	3.4	3	+	3	a

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							Enume-ration	Mean				
2018	**3472**	**Infant formula without probiotics**	*C. sakazakii* Ad2411	Infant formula	Spiking HT 8min 56°C	1,48	3-4-4-2-4	3.4	3	+	3	a
2018	**3473**	**Infant formula without probiotics**	*C. sakazakii* Ad941	Dairy product	Spiking HT 8min 56°C	1,70	3-5-5-3-9	5.0	3	+	3	a
2018	**2620**	**Infant formula with probiotics (7,2.10⁴ CFU/g)**	*C. sakazakii* Ad2353	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	4.0	3	+	3	b
2018	**2621**	**Infant formula with probiotics (6,0.10⁴ CFU/g)**	*C. sakazakii* Ad2353	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	4.0	3	+	3	b
2018	**2623**	**Infant formula with probiotics (6,1.10⁶ CFU/g)**	*C. sakazakii* Ad2353	Infant formula	Seeding lyophilized strain 2 weeks at room temperature	/	/	4.0	3	+	3	b
2018	**2625**	**Infant formula with probiotics (5,1.10⁵ CFU/g)**	*C. sakazakii* SU12-116	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.5	3	+	3	b
2018	**2626**	**Infant formula with probiotics (4,7.10⁵ CFU/g)**	*C. sakazakii* SU12-116	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.5	3	+	3	b
2018	**2627**	**Infant formula with probiotics (1,1.10⁶ CFU/g)**	*C. sakazakii* SU12-116	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.5	3	+	3	b
2018	**2628**	**Infant formula with probiotics (1,4.10⁴ CFU/g)**	*C. sakazakii* SU12-116	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.5	3	+	3	b
2018	**2629**	**Infant formula with probiotics (3,0.10⁴ CFU/g)**	*C. sakazakii* SU12-116	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.5	3	+	3	b
2018	**2630**	**Infant cereals with probiotics (1,4.10⁵ CFU/g)**	*C. sakazakii* Ad2393	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.9	3	+	3	b

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							Enume-ration	Mean				
2018	**2631**	**Infant cereals with probiotics (2,1.10^5 CFU/g)**	*C. sakazakii* Ad2393	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.9	3	+	3	b
2018	**2632**	**Infant cereals with probiotics (7,8.10^5 CFU/g)**	*C. sakazakii* Ad2393	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.9	3	+	3	b
2018	**2633**	**Infant cereals with probiotics (2,5.10^5 CFU/g)**	*C. sakazakii* Ad2393	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.9	3	+	3	b
2018	**2634**	**Infant cereals with probiotics (4,5.10^4 CFU/g)**	*C. sakazakii* Ad2393	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.9	3	+	3	b
2018	**2635**	**Infant cereals with probiotics (9,1.10^3 CFU/g)**	*C. sakazakii* SU12-74	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.9	3	+	3	b
2018	**2636**	**Infant cereals with probiotics (3,2.10^6 CFU/g)**	*C. sakazakii* SU12-74	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.9	3	+	3	b
2018	**2637**	**Infant cereals with probiotics (1,3.10^5 CFU/g)**	*C. sakazakii* SU12-74	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.9	3	+	3	b
2018	**2638**	**Infant cereals with probiotics (1,4.10^6 CFU/g)**	*C. sakazakii* SU12-74	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.9	3	+	3	b
2018	**2639**	**Infant cereals with probiotics (2,2.10^5 CFU/g)**	*C. sakazakii* SU12-74	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.9	3	+	3	b
2018	**3101**	**Starch**	*C. sakazakii* Ad916	Milk powder	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.5	4	+	3	c
2018	**3102**	**Caseinates**	*C. sakazakii* Ad916	Milk powder	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.5	4	+	3	c
2018	**3103**	**Corn starch**	*C. sakazakii* Ad916	Milk powder	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.5	4	+	3	c

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2018	**3104**	**Wheat starch**	*C. sakazakii* Ad916	Milk powder	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.5	4	+	3	c
2018	**3106**	**Lactose**	*C. sakazakii* Ad946	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.4	4	+	3	c
2018	**3107**	**Maltodextrin**	*C. sakazakii* Ad946	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.4	4	+	3	c
2018	**3108**	**Whey**	*C. sakazakii* Ad946	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.4	4	+	3	c
2018	**3109**	**Starch**	*C. sakazakii* Ad946	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.4	4	+	3	c
2018	**3110**	**Caseinates**	*C. sakazakii* Ad946	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.4	4	+	3	c
2018	**3111**	**Corn starch**	*C. sakazakii* Ad2286	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.8	4	+	3	c
2018	**3112**	**Wheat starch**	*C. sakazakii* Ad2286	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.8	4	+	3	c
2018	**3113**	**Corn starch**	*C. sakazakii* Ad2286	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.8	4	+	3	c
2018	**3114**	**Lactose**	*C. sakazakii* Ad2286	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.8	4	+	3	c
2018	**3122**	**Starch**	*C. sakazakii* Ad2286	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	0.8	4	+	3	c
2018	**3123**	**Whey**	*C. sakazakii* Ad2288	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.3	4	+	3	c
2018	**3124**	**Maltodextrin**	*C. sakazakii* Ad2288	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.3	4	+	3	c
2018	**3125**	**Maltodextrin**	*C. sakazakii* Ad916	Milk powder	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.5	4	+	3	c
2018	**3126**	**Wheat starch**	*C. sakazakii* Ad2288	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.3	4	+	3	c
2018	**3127**	**Caseinates**	*C. sakazakii* Ad2288	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.3	4	+	3	c

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2018	**3128**	**Corn starch**	*C. sakazakii* Ad2288	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.3	4	+	3	c
2018	**3129**	**Lactose**	*C. sakazakii* Ad2288	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.3	4	+	3	c
2018	**3130**	**Corn starch**	*C. sakazakii* SU 12-7	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.5	4	+	3	c
2018	**3131**	**Starch**	*C. sakazakii* Ad946	Dairy product	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.4	4	+	3	c
2018	**3132**	**Maltodextrin**	*C. sakazakii* SU 12-7	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.5	4	+	3	c
2018	**3133**	**Whey**	*C. sakazakii* Ad2357	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	6.0	4	+	3	c
2018	**3134**	**Starch**	*C. sakazakii* Ad2357	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	6.0	4	+	3	c
2018	**3135**	**Lactose**	*C. sakazakii* Ad2344	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.5	4	+	3	c
2018	**3136**	**Caseinates**	*C. sakazakii* Ad2344	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.5	4	+	3	c
2018	**3474**	**Maltodextrin**	*C. sakazakii* Ad831	Milk powder	Spiking HT 8min 56°C	1,68	6-4-3-4-6	4.6	4	+	3	c
2018	**3475**	**Whey**	*C. sakazakii* Ad935	Dairy product	Spiking HT 8min 56°C	1,00	5-1-3-1-4	2.8	4	+	3	c
2018	**386**	**Water after cleaning**	*C. sakazakii* Ad2289	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	5-3-7-5-2	4.4	1	+	4	a
2018	**387**	**Water after cleaning**	*C. sakazakii* Ad2342	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	2-1-5-4-1	2.6	1	+	4	a
2018	**388**	**Water after cleaning**	*C. sakazakii* Ad2360	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	3-6-5-4-5	4.6	1	+	4	a
2018	**389**	**Water before cleaning**	*C. sakazakii* Ad2379	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	5-3-4-1-1	2.8	1	-	4	a
2018	**390**	**Water before cleaning**	*C. sakazakii* Ad2289	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	5-3-7-5-2	4.4	1	-	4	a
2018	**391**	**Water before cleaning**	*C. sakazakii* Ad2342	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	2-1-5-4-1	2.6	1	-	4	a

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							Enume-ration	Mean				
2018	**392**	**Water before cleaning**	*C. sakazakii* Ad2360	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	3-6-5-4-5	4.6	1	+	4	a
2018	**2465**	**Process water (rinse)**	*C. sakazakii* Ad12-26	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	8-6-8-10-6	7.6	1	+	4	a
2018	**2466**	**Process water (rinse)**	*C. sakazakii* Ad12-26	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	8-6-8-10-6	7.6	1	+	4	a
2018	**2467**	**Process water (rinse)**	*C. sakazakii* Ad1226	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	8-6-8-10-6	7.6	1	+	4	a
2018	**2468**	**Process water (rinse)**	*C. sakazakii* Ad2355	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	11-7-5-9-8	8.0	1	+	4	a
2018	**2469**	**Process water (rinse)**	*C. sakazakii* Ad2355	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	11-7-5-9-8	8.0	1	+	4	a
2018	**2470**	**Process water (rinse)**	*C. sakazakii* Ad2355	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	11-7-5-9-8	8.0	1	+	4	a
2018	**3137**	**Dust from vacuum**	*C. sakazakii* Ad2357	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	6.0	1	+	4	b
2018	**3138**	**Dust from vacuum**	*C. sakazakii* SU 12-7	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.5	1	+	4	b
2018	**3139**	**Dust from vacuum**	*C. sakazakii* SU 12-7	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.5	1	+	4	b
2018	**3140**	**Dust from vacuum**	*C. sakazakii* SU 12-7	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.5	1	+	4	b
2018	**3141**	**Dust from vacuum**	*C. sakazakii* Ad2357	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	6.0	1	+	4	b
2018	**3142**	**Dust from vacuum**	*C. sakazakii* Ad2344	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.5	1	+	4	b
2018	**3143**	**Dust from vacuum**	*C. sakazakii* Ad2344	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.5	1	+	4	b
2018	**3144**	**Dust from vacuum**	*C. sakazakii* Ad2344	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	2.5	1	+	4	b
2018	**3145**	**Dust from vacuum**	*C. sakazakii* Ad2357	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	6.0	1	+	4	b

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			Strain	Origin	Protocol	Injury measure-ment	Inoculation level/sample					
							Enume-ration	Mean				
2018	**3146**	**Dust from vacuum**	*C. sakazakii* SU 12-7	Environmental sample from dairy industry	Seeding lyophilized strain 2 weeks at room temperature	/	/	1.5	1	+	4	b
2018	**393**	**Wipe after cleaning**	*C. sakazakii* Ad2289	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	5-3-7-5-2	4.4	1	-	4	c
2018	**394**	**Wipe after cleaning**	*C. sakazakii* Ad2342	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	2-1-5-4-1	2.6	1	-	4	c
2018	**395**	**Wipe before cleaning**	*C. sakazakii* Ad2360	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	3-6-5-4-5	4.6	1	+	4	c
2018	**396**	**Wipe before cleaning**	*C. sakazakii* Ad2360	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	3-6-5-4-5	4.6	1	+	4	c
2018	**397**	**Wipe before cleaning**	*C. sakazakii* Ad2379	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	5-3-4-1-1	2.8	1	-	4	c
2018	**398**	**Wipe before cleaning**	*C. sakazakii* Ad2379	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	5-3-4-1-1	2.8	1	-	4	c
2018	**399**	**Wipe before cleaning**	*C. sakazakii* Ad2289	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	5-3-7-5-2	4.4	1	+	4	c
2018	**400**	**Wipe before cleaning**	*C. sakazakii* Ad2342	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	2-1-5-4-1	2.6	1	+	4	c
2018	**2159**	**Wipe after cleaning**	*C. sakazakii* Ad2406	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	5-3-6-6-5	5.0	1	+	4	c
2018	**2160**	**Wipe after cleaning**	*C. sakazakii* Ad2406	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	5-3-6-6-5	5.0	1	+	4	c
2018	**2161**	**Wipe after cleaning**	*C. sakazakii* Ad2406	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	5-3-6-6-5	5.0	1	+	4	c
2018	**2162**	**Wipe after cleaning**	*C. sakazakii* Ad2408	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	6-1-2-4-2	3.0	1	+	4	c
2018	**2163**	**Wipe after cleaning**	*C. sakazakii* Ad2408	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	6-1-2-4-2	3.0	1	+	4	c
2018	**2164**	**Wipe before cleaning**	*C. sakazakii* Ad2409	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	2-2-1-4-2	2.2	1	+	4	c
2018	**2165**	**Wipe before cleaning**	*C. sakazakii* Ad2409	Environmental sample from dairy industry	Seeding 48h 2-8°C	/	2-2-1-4-2	2.2	1	+	4	c

Appendix 4 – Sensitivity study: raw data

MILK POWDERS AND INGREDIENTS, INFANT FORMULA AND INFANT CEREALS WITHOUT PROBIOTICS (25 g sample size – protocol 1)																				
Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Protocol	Reference method: ISO 22964♦			Alternative method: ESIA One Day											Category	Type
				CSB	Confirmation	ISO 22964 Result	Enrichment						Enrichment after 72h at 5°C ± 3°C						
							ESIA					CSB + CCI	ESIA						
				CCI			Typical colonies	API ID32E	Fast Crono	Final result	Agreement		Typical colonies	API ID32E	Fast Crono	Final result	Agreement		
2017	**7618**	**Infant formula without probiotics**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	a
2017	**7619**	**Infant formula without probiotics**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	a
2017	**7620**	**Infant formula without probiotics**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	a
2017	**7621**	**Infant formula without probiotics**	1	+p	+	+	st			-	**ND**	-	st			-	**ND**	1	a
2017	**7622**	**Infant formula without probiotics**	1	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	1	a
2017	**7623**	**Infant formula without probiotics**	1	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	1	a
2017	**7795**	**Infant formula without probiotics**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	a
2017	**7796**	**Infant formula without probiotics**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	a
2017	**7799**	**Infant formula without probiotics**	1	st	/	-	st			-	**NA**	-						1	a
2017	**7801**	**Infant formula without probiotics**	1	+p	+	+	st			-	**ND**	-	st			-	**ND**	1	a
2017	**7802**	**Infant formula without probiotics**	1	+p	+	+	st			-	**ND**	-	st			-	**ND**	1	a
2017	8433	Infant formula without probiotics	1	st	/	-	st			-	**NA**	-						1	a
2017	8434	Infant formula without probiotics	1	st	/	-	st			-	**NA**	-						1	a
2017	8435	Infant formula without probiotics	1	st	/	-	st			-	**NA**	-						1	a
2017	8436	Infant formula without probiotics	1	st	/	-	-			-	**NA**	-						1	a
2017	8437	Infant formula without probiotics	1	st	/	-	st			-	**NA**	-						1	a
2017	8438	Infant formula without probiotics	1	st	/	-	st			-	**NA**	-						1	a
2017	8439	Infant formula without probiotics	1	st	/	-	st			-	**NA**	-						1	a
2017	8440	Infant formula without probiotics	1	-	/	-	st			-	**NA**	-						1	a
2017	8441	Infant formula without probiotics	1	-	/	-	st			-	**NA**	-						1	a
2017	**9128**	**Infant formula without probiotics**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	a
2017	**9129**	**Infant formula without probiotics**	1	st	/	-	st			-	**NA**	-						1	a
2017	**7624**	**Infant cereals without probiotics**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	b
2017	**7625**	**Infant cereals without probiotics**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	b
2017	**7626**	**Infant cereals without probiotics**	1	st	/	-	st			-	**NA**	-						1	b
2017	**7627**	**Infant cereals without probiotics**	1	st	/	-	st			-	**NA**	-						1	b
2017	**7628**	**Infant cereals without probiotics**	1	+p	+	+	st			-	**ND**	-	st			-	**ND**	1	b
2017	**7629**	**Infant cereals without probiotics**	1	+p	+	+	+p	+	+	+	**PA**		+M	+	+	+	**PA**	1	b
2017	**7630**	**Infant cereals without probiotics**	1	+p	+	+	-			-	**ND**	-	-			-	**ND**	1	b
2017	**7631**	**Infant cereals without probiotics**	1	st	/	-	+p	+	+	+	**PD**		+M	+	+	+	**PD**	1	b
2017	**7797**	**Infant cereals without probiotics**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	b
2017	**7798**	**Infant cereals without probiotics**	1	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	1	b
2017	**7800**	**Infant cereals without probiotics**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	b
2017	8426	Infant cereals without probiotics	1	st	/	-	st			-	**NA**	-						1	b
2017	8427	Infant cereals without probiotics	1	st	/	-	st			-	**NA**	-						1	b
2017	8428	Infant cereals without probiotics	1	st	/	-	-			-	**NA**	-						1	b
2017	8429	Infant cereals without probiotics	1	st	/	-	st			-	**NA**	-						1	b
2017	8430	Infant cereals without probiotics	1	st	/	-	st			-	**NA**	-						1	b
2017	8431	Infant cereals without probiotics	1	st	/	-	st			-	**NA**	-						1	b
2017	8432	Infant cereals without probiotics	1	-	/	-	st			-	**NA**	-						1	b

MILK POWDERS AND INGREDIENTS, INFANT FORMULA AND INFANT CEREALS WITHOUT PROBIOTICS (25 g sample size – protocol 1)																				
Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Protocol	Reference method: ISO 22964♦			Alternative method: ESIA One Day												Category	Type
				CSB	Confirmation	ISO 22964 Result	Enrichment						Enrichment after 72h at 5°C ± 3°C							
							ESIA					CSB + CCI	ESIA							
				CCI			Typical colonies	API ID32E	Fast Crono	Final result	Agreement		Typical colonies	API ID32E	Fast Crono	Final result	Agreement		
2017	**8455**	**Infant cereals without probiotics**	1	st	/	-	-			-	**NA**	-						1	b
2017	**8456**	**Infant cereals without probiotics**	1	-	/	-	st			-	**NA**	-						1	b
2017	**9130**	**Infant cereals without probiotics**	1	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	1	b
2017	**9131**	**Infant cereals without probiotics**	1	+p	+	+	+M	+	+	+	**PA**		+m	+	+	+	**PA**	1	b
2017	**7632**	**Lactoserum**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	c
2017	**7633**	**Milk proteins**	1	+p	+	+	st			-	**ND**	-	st			-	**ND**	1	c
2017	**7634**	**Lactose**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	c
2017	**7635**	**Caseinate**	1	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	1	c
2017	**7636**	**Lactoserum proteins concentrate**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	c
2017	**7637**	**Maltodextrin**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	c
2017	**7638**	**Lactoserum proteins concentrate**	1	st	/	-	st			-	**NA**	-						1	c
2017	**7803**	**Lactoserum**	1	st	/	-	st			-	**NA**	-						1	c
2017	**7804**	**Lactoserum**	1	st	/	-	st			-	**NA**	-						1	c
2017	**7805**	**Corn flour**	1	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	1	c
2017	**7806**	**Milk powder (ingredient)**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	c
2017	8442	Caseinate	1	st	/	-	st			-	**NA**	-	st			-	**NA**	1	c
2017	8443	Lactose	1	st	/	-	st			-	**NA**	-						1	c
2017	8444	Whey protein concentrate	1	st	/	-	st			-	**NA**	-						1	c
2017	8445	Milk proteins	1	-	/	-	st			-	**NA**	-						1	c
2017	8446	Maltodextrin	1	-	/	-	-			-	**NA**	-						1	c
2017	8447	Whey permeate	1	st	/	-	st			-	**NA**	-						1	c
2017	**8458**	**Lactose**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	c
2017	**8459**	**Whey protein concentrate**	1	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	1	c
2017	9132	Milk proteins	1	st	/	-	st			-	**NA**	-						1	c
2018	**2609**	**Skim milk powder**	1	+p	+	+	+Md	+	+	+	**PA**		+p	+	+	+	**PA**	1	c
2018	**2610**	**Whole milk powder**	1	+p	+	+	-			-	**ND**	-	st			-	**ND**	1	c
2018	**2611**	**Skim milk powder**	1	+p	+	+	+p	+	+	+	**PA**		st			-	**ND**	1	c
2018	**2612**	**Skim milk powder**	1	st	/	-	+pd	+	+	+	**PD**		+p	+	+	+	**PD**	1	c
2018	**2613**	**Skim milk powder**	1	+p	+	+	st			-	**ND**	-	st			-	**ND**	1	c
2018	**2614**	**Skim milk powder**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	1	c
2018	2615	Skim milk powder	1	st	/	-	st			-	**NA**	-						1	c
2018	2616	Whole milk powder	1	st	/	-	st			-	**NA**	-						1	c
2018	2617	Skim milk powder	1	st	/	-	st			-	**NA**	-						1	c
2018	2618	Skim milk powder	1	st	/	-	-			-	**NA**	-						1	c
2018	2619	Skim milk powder	1	st	/	-	st			-	**NA**	-						1	c

INFANT FORMULA AND INFANT CEREALS WITH PROBIOTICS (25 g sample size – protocol 2)																			
Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Protocol	Reference method: ISO 22964♦			Alternative method: ESIA One Day											Category	Type
				CSB			Enrichment						Enrichment after 72h at 5°C ± 3°C						
							ESIA						ESIA						
				CCI	Confirmation	ISO 22964 Result	Typical colonies	API ID32E	Fast Crono	Final result	Agreement	CSB + CCI	Typical colonies	API ID32E	Fast Crono	Final result	Agreement		
2017	**8027**	**Infant formula with probiotics ($3.6x10^2$ CFU/g)**	2	+p	+	+	st			-	**ND**	-	st			-	**ND**	2	a
2017	**8028**	**Infant formula with probiotics (<10 CFU/g)**	2	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	2	a
2017	**8029**	**Infant formula with probiotics ($1.3x10^5$ CFU/g)**	2	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	2	a
2017	**8030**	**Infant formula with probiotics (<10 CFU/g)**	2	+p	+	+	+M	+	+	+	**PA**		+p	+	+	+	**PA**	2	a
2017	**8031**	**Infant formula with probiotics ($1.8x10^5$ CFU/g)**	2	+p	+	+	st			-	**ND**	-	st			-	**ND**	2	a
2017	**8032**	**Infant formula with probiotics ($3.0x10^4$ CFU/g)**	2	st	/	-	+M	+	+	+	**PD**		+p	+	+	+	**PD**	2	a
2017	**8033**	**Infant formula with probiotics ($4.8x10^5$ CFU/g)**	2	+p	+	+	st			-	**ND**	-	st			-	**ND**	2	a
2017	**8131**	**Infant formula with probiotics ($5.6x10^5$ CFU/g)**	2	st	/	-	st			-	**NA**	-						2	a
2017	**8132**	**Infant formula with probiotics ($1.2x10^7$ CFU/g)**	2	st	/	-	st			-	**NA**	-						2	a
2017	**8133**	**Infant formula with probiotics ($4.3x10^5$ CFU/g)**	2	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	2	a
2017	**8134**	**Infant formula with probiotics ($6.8x10^5$ CFU/g)**	2	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	2	a
2017	**8135**	**Infant formula with probiotics ($4.2x10^5$ CFU/g)**	2	st	/	-	+p (3)	+	+	+	**PD**		+p (ia)	+	+	+	**PD**	2	a
2017	**8136**	**Infant formula with probiotics ($6.8x10^5$ CFU/g)**	2	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	2	a
2017	**8137**	**Infant formula with probiotics ($7.5x10^5$ CFU/g)**	2	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	2	a
2017	**8138**	**Infant formula with probiotics ($8.6x10^5$ CFU/g)**	2	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	2	a
2017	8403	Infant formula with probiotics ($4.2x10^5$ CFU/g)	2	st	/	-	st			-	**NA**	-						2	a
2017	8404	Infant formula with probiotics ($5.9x10^5$ CFU/g)	2	st	/	-	st			-	**NA**	-						2	a
2017	8405	Infant formula with probiotics ($4.3x10^5$ CFU/g)	2	st	/	-	st			-	**NA**	-						2	a
2017	8406	Infant formula with probiotics ($6.8x10^5$ CFU/g)	2	st	/	-	st			-	**NA**	-						2	a
2017	8407	Infant formula with probiotics ($8.6x10^5$ CFU/g)	2	st	/	-	st			-	**NA**	-						2	a
2017	8408	Infant formula with probiotics ($8.0x10^5$ CFU/g)	2	st	/	-	st			-	**NA**	-						2	a
2017	8409	Infant formula with probiotics (<10 CFU/g)	2	st	/	-	st			-	**NA**	-						2	a
2017	8410	Infant formula with probiotics (<10 CFU/g)	2	st	/	-	st			-	**NA**	-						2	a

INFANT FORMULA AND INFANT CEREALS WITH PROBIOTICS (25 g sample size – protocol 2)																				
Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Protocol	Reference method: ISO 22964♦			Alternative method: ESIA One Day												Category	Type
				CSB			Enrichment						Enrichment after 72h at 5°C ± 3°C							
							ESIA						ESIA							
				CCI	Confirmation	ISO 22964 Result	Typical colonies	API ID32E	Fast Crono	Final result	Agreement	CSB + CCI	Typical colonies	API ID32E	Fast Crono	Final result	Agreement			
2017	8411	Infant formula with probiotics (<10 CFU/g)	2	st	/	-	st			-	**NA**	-	st			-	**NA**	2	a
2017	8412	Infant formula with probiotics ($1.2x10^7$ CFU/g)	2	st	/	-	st			-	**NA**	-						2	a
2017	8413	Infant formula with probiotics ($4.2x10^6$ CFU/g)	2	st	/	-	st			-	**NA**	-						2	a
2017	8414	Infant formula with probiotics ($7.0x10^5$ CFU/g)	2	st	/	-	st			-	**NA**	-						2	a
2017	**8448**	**Infant formula with probiotics ($4.2x10^5$ CFU/g)**	2	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	2	a
2017	**8449**	**Infant formula with probiotics (<10 CFU/g)**	2	st	/	-	st			-	**NA**	-						2	a
2017	**8450**	**Infant formula with probiotics ($7.0x10^5$ CFU/g)**	2	st	/	-	st			-	**NA**	-						2	a
2017	**9610**	**Infant formula with probiotics ($4.2x10^5$ CFU/g)**	2	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	2	a
2017	**9611**	**Infant formula with probiotics ($5.9x10^5$ CFU/g)**	2	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	2	a
2017	**8034**	**Infant cereals with probiotics ($5.6x10^5$ CFU/g)**	2	st	/	-	st			-	**NA**	-						2	b
2017	**8035**	**Infant cereals with probiotics ($7.1x10^4$ CFU/g)**	2	+p	+	+	st			-	**ND**	-	st			-	**ND**	2	b
2017	**8036**	**Infant cereals with probiotics ($1.7x10^4$ CFU/g)**	2	st	/	-	st			-	**NA**	-						2	b
2017	**8037**	**Infant cereals with probiotics ($2.5x10^5$ CFU/g)**	2	+p	+	+	st			-	**ND**	-	st			-	**ND**	2	b
2017	**8038**	**Infant cereals with probiotics ($5.1x10^5$ CFU/g)**	2	+p	+	+	st			-	**ND**	-	st			-	**ND**	2	b
2017	**8039**	**Infant cereals with probiotics ($6.7x10^5$ CFU/g)**	2	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	2	b
2017	**8040**	**Infant cereals with probiotics ($2.7x10^3$ CFU/g)**	2	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	2	b
2017	**8041**	**Infant cereals with probiotics ($1.7x10^5$ CFU/g)**	2	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	2	b
2017	**8139**	**Infant cereals with probiotics ($6.7x10^6$ CFU/g)**	2	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	2	b
2017	**8140**	**Infant cereals with probiotics ($7.1x10^4$ CFU/g)**	2	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	2	b
2017	**8141**	**Infant cereals with probiotics ($2.7x10^3$ CFU/g)**	2	+M	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	2	b
2017	**8142**	**Infant cereals with probiotics ($2.3x10^5$ CFU/g)**	2	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	2	b
2017	**8143**	**Infant cereals with probiotics ($5.6x10^5$ CFU/g)**	2	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	2	b
2017	**8144**	**Infant cereals with probiotics ($1.7x10^5$ CFU/g)**	2	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	2	b

INFANT FORMULA AND INFANT CEREALS WITH PROBIOTICS (25 g sample size – protocol 2)																					
Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Protocol	Reference method: ISO 22964♦			Alternative method: ESIA One Day													Category	Type
				CSB			Enrichment						Enrichment after 72h at 5°C ± 3°C								
							ESIA						ESIA								
				CCI	Confirmation	ISO 22964 Result	Typical colonies	API ID32E	Fast Crono	Final result	Agreement	CSB + CCI	Typical colonies	API ID32E	Fast Crono	Final result	Agreement				
2017	**8145**	**Infant cereals with probiotics ($5.1x10^5$ CFU/g)**	2	st	/	-	st			-	**NA**	-								2	b
2017	8415	Infant cereals with probiotics ($7.4x10^5$ CFU/g)	2	st	/	-	st			-	**NA**	-								2	b
2017	8416	Infant cereals with probiotics ($2.3x10^5$ CFU/g)	2	st	/	-	st			-	**NA**	-								2	b
2017	8417	Infant cereals with probiotics ($8.7x10^6$ CFU/g)	2	st	/	-	st			-	**NA**	-								2	b
2017	8418	Infant cereals with probiotics ($5.6x10^5$ CFU/g)	2	st	/	-	st			-	**NA**	-								2	b
2017	8419	Infant cereals with probiotics ($1.0x10^6$ CFU/g)	2	st	/	-	st			-	**NA**	-								2	b
2017	8420	Infant cereals with probiotics ($1.7x10^5$ CFU/g)	2	st	/	-	st			-	**NA**	-								2	b
2017	8421	Infant cereals with probiotics ($4.0x10^5$ CFU/g)	2	st	/	-	st			-	**NA**	-								2	b
2017	8422	Infant cereals with probiotics ($7.1x10^4$ CFU/g)	2	st	/	-	st			-	**NA**	-								2	b
2017	8423	Infant cereals with probiotics ($4.4x10^5$ CFU/g)	2	st	/	-	st			-	**NA**	-								2	b
2017	8424	Infant cereals with probiotics ($5.1x10^5$ CFU/g)	2	st	/	-	st			-	**NA**	-								2	b
2017	8425	Infant cereals with probiotics ($6.7x10^5$ CFU/g)	2	st	/	-	st			-	**NA**	-								2	b
2017	**8451**	**Infant cereals with probiotics ($2.3x10^5$ CFU/g)**	2	st	/	-	st			-	**NA**	-								2	b
2017	**8452**	**Infant cereals with probiotics ($5.6x10^5$ CFU/g)**	2	st	/	-	st			-	**NA**	-								2	b
2017	**8453**	**Infant cereals with probiotics ($1.7x10^5$ CFU/g)**	2	st	/	-	st			-	**NA**	-								2	b
2017	**8454**	**Infant cereals with probiotics ($7.1x10^4$ CFU/g)**	2	+p	+	+	+p (3)	+	+	+	**PA**		st			-	**ND**			2	b
2017	**9126**	**Infant cereals with probiotics ($7.1x10^4$ CFU/g)**	2	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**			2	b
2017	**9127**	**Infant cereals with probiotics ($5.6x10^5$ CFU/g)**	2	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**			2	b

MILK POWDERS, INGREDIENTS, INFANT FORMULA AND INFANT CEREALS WITH OR WITHOUT PROBIOTICS (375 g sample size – protocols 3 and 4 (ingredients))																			
Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Protocol	Reference method: ISO 22964♦			Alternative method: ESIA One Day											Category	Type
				CSB	Confirmation	ISO 22964 Result	Enrichment					CSB + CCI	Enrichment after 72h at 5°C ± 3°C						
							ESIA						ESIA						
				CCI			Typical colonies	API ID32E	Fast Crono	Final result	Agreement		Typical colonies	API ID32E	Fast Crono	Final result	Agreement		
2018	**2589**	**Skim milk powder**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	a
2018	**2590**	**Whole milk powder**	3	+p	+	+	+p	+	+	+	**PA**		+p(4)	+	+	+	**PA**	3	a
2018	**2591**	**Skim milk powder**	3	+p	+	+	st			-	**ND**	-	-			-	**ND**	3	a
2018	**2592**	**Skim milk powder**	3	st	/	-	-			-	**NA**	-						3	a
2018	**2593**	**Skim milk powder**	3	+p	+	+	-			-	**ND**	-	-			-	**ND**	3	a
2018	**2594**	**Skim milk powder**	3	st	/	-	st			-	**NA**	-						3	a
2018	**2595**	**Infant cereals without probiotics**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	a
2018	**2596**	**Infant cereals without probiotics**	3	+p	+	+	st			-	**ND**	-	st			-	**ND**	3	a
2018	**2597**	**Infant cereals without probiotics**	3	+p	+	+	+M	+	+	+	**PA**		+p	+	+	+	**PA**	3	a
2018	**2598**	**Infant cereals without probiotics**	3	+p	+	+	+M	+	+	+	**PA**		+M	+	+	+	**PA**	3	a
2018	**2599**	**Infant cereals without probiotics**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	a
2018	**2600**	**Infant cereals without probiotics**	3	+p	+	+	+M	+	+	+	**PA**		+1/2	+	+	+	**PA**	3	a
2018	**2601**	**Infant cereals without probiotics**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	a
2018	**2602**	**Infant formula without probiotics**	3	+p	+	+	-	+	+	-	**ND$_{FN(alt)}$**		-			-	**ND**	3	a
2018	**2603**	**Infant formula without probiotics**	3	+p	+	+	st			-	**ND**	-	-			-	**ND**	3	a
2018	**2604**	**Infant formula without probiotics**	3	+p	+	+	+Md	+	+	+	**PA**		+p	+	+	+	**PA**	3	a
2018	**2606**	**Infant formula without probiotics**	3	+p	+	+	st			-	**ND**	-	st			-	**ND**	3	a
2018	**2607**	**Infant formula without probiotics**	3	st	/	-	-			-	**NA**	-						3	a
2018	2640	Skim milk powder	3	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	3	a
2018	2641	Skim milk powder	3	st	/	-	st			-	**NA**	-						3	a
2018	2642	Skim milk powder	3	st	/	-	st			-	**NA**	-						3	a
2018	2643	Half-skim milk powder	3	st	/	-	st			-	**NA**	-						3	a
2018	2644	Infant formula without probiotics	3	st	/	-	st			-	**NA**	-						3	a
2018	2645	Infant formula without probiotics	3	st	/	-	st			-	**NA**	-						3	a
2018	2646	Infant formula without probiotics	3	st	/	-	st			-	**NA**	-						3	a
2018	2647	Infant cereals without probiotics	3	st	/	-	-			-	**NA**	-						3	a
2018	2648	Infant cereals without probiotics	3	st	/	-	st			-	**NA**	-	st			-	**NA**	3	a
2018	2649	Infant cereals without probiotics	3	st	/	-	+m/+	+	+	+	**PD**		+m/+	+	+	+	**PD**	3	a
2018	**3469**	**Skim milk powder**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	a
2018	**3470**	**Skim milk powder**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	a

MILK POWDERS, INGREDIENTS, INFANT FORMULA AND INFANT CEREALS WITH OR WITHOUT PROBIOTICS (375 g sample size – protocols 3 and 4 (ingredients))																			
Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Protocol	Reference method: ISO 22964♦			Alternative method: ESIA One Day											Category	Type
				CSB			Enrichment						Enrichment after 72h at 5°C ± 3°C						
							ESIA						ESIA						
				CCI	Confirmation	ISO 22964 Result	Typical colonies	API ID32E	Fast Crono	Final result	Agreement	CSB + CCI	Typical colonies	API ID32E	Fast Crono	Final result	Agreement		
2018	**3471**	**Infant formula without probiotics**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	a
2018	**3472**	**Infant formula without probiotics**	3	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	3	a
2018	**3473**	**Infant formula without probiotics**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	a
2018	3751	Infant cereals without probiotics	3	st	/	-	st			-	**NA**	-						3	a
2018	3752	Infant cereals without probiotics	3	st	/	-	st			-	**NA**	-						3	a
2018	3753	Infant cereals without probiotics	3	st	/	-	st			-	**NA**	-						3	a
2018	3797	Infant formula without probiotics	3	st	/	-	st			-	**NA**	-						3	a
2018	**2620**	**Infant formula with probiotics ($7.2x10^4$ CFU/g)**	3	+p	+	+	st			-	**ND**	+	st			-	**ND**	3	b
2018	**2621**	**Infant formula with probiotics ($6.0x10^4$ CFU/g)**	3	+p	+	+	+p (2)	+	+	+	**PA**		+p (1)	+	+	+	**PA**	3	b
2018	**2623**	**Infant formula with probiotics ($6.1x10^6$ CFU/g)**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	b
2018	**2625**	**Infant formula with probiotics ($5.1x10^5$ CFU/g)**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	b
2018	**2626**	**Infant formula with probiotics ($4.7x10^5$ CFU/g)**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	b
2018	**2627**	**Infant formula with probiotics ($1.1x10^6$ CFU/g)**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	b
2018	**2628**	**Infant formula with probiotics ($1.4x10^4$ CFU/g)**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	b
2018	**2629**	**Infant formula with probiotics ($3.0x10^4$ CFU/g)**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	b
2018	**2630**	**Infant cereals with probiotics ($1.4x10^5$ CFU/g)**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	b
2018	**2631**	**Infant cereals with probiotics ($2.1x10^5$ CFU/g)**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	b
2018	**2632**	**Infant cereals with probiotics ($7.8x10^5$ CFU/g)**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	b
2018	**2633**	**Infant cereals with probiotics ($2.5x10^5$ CFU/g)**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	b
2018	**2634**	**Infant cereals with probiotics ($4.5x10^4$ CFU/g)**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	b
2018	**2635**	**Infant cereals with probiotics ($9.1x10^3$ CFU/g)**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	b
2018	**2636**	**Infant cereals with probiotics ($3.2x10^6$ CFU/g)**	3	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	3	b
2018	**2637**	**Infant cereals with probiotics ($1.3x10^5$ CFU/g)**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	b

MILK POWDERS, INGREDIENTS, INFANT FORMULA AND INFANT CEREALS WITH OR WITHOUT PROBIOTICS (375 g sample size – protocols 3 and 4 (ingredients))																				
Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Protocol	Reference method: ISO 22964♦			Alternative method: ESIA One Day												Category	Type
				CSB			Enrichment						Enrichment after 72h at 5°C ± 3°C							
							ESIA						ESIA							
				CCI	Confirmation	ISO 22964 Result	Typical colonies	API ID32E	Fast Crono	Final result	Agreement	CSB + CCI	Typical colonies	API ID32E	Fast Crono	Final result	Agreement			
2018	**2638**	**Infant cereals with probiotics ($1.4x10^6$ CFU/g)**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	b
2018	**2639**	**Infant cereals with probiotics ($2.2x10^5$ CFU/g)**	3	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	b
2018	2864	Infant cereals with probiotics ($2.9x10^5$ CFU/g)	3	st	/	-	-			-	**NA**	-						3	b
2018	2865	Infant cereals with probiotics ($4.8x10^4$ CFU/g)	3	st	/	-	-			-	**NA**	-						3	b
2018	2866	Infant cereals with probiotics ($1.2x10^7$ CFU/g)	3	st	/	-	-			-	**NA**	-	st			-	**NA**	3	b
2018	2867	Infant formula with probiotics ($1.6x10^6$ CFU/g)	3	st	/	-	st			-	**NA**	-						3	b
2018	2868	Infant formula with probiotics ($1.5x10^6$ CFU/g)	3	st	/	-	-			-	**NA**	-						3	b
2018	2869	Infant formula with probiotics ($9.6x10^6$ CFU/g)	3	st	/	-	+M	+	+	+	**PD**		+p	+	+	+	**PD**	3	b
2018	3754	Infant cereals with probiotics ($2.5x10^5$ CFU/g)	3	st	/	-	st			-	**NA**	-						3	b
2018	3755	Infant cereals with probiotics ($1.4x10^6$ CFU/g)	3	st	/	-	st			-	**NA**	-						3	b
2018	3756	Infant cereals with probiotics ($2.2x10^5$ CFU/g)	3	st	/	-	st			-	**NA**	-						3	b
2018	3757	Infant cereals with probiotics ($4.8x10^4$ CFU/g)	3	st	/	-	st			-	**NA**	-						3	b
2018	3758	Infant cereals with probiotics ($2.9x10^5$ CFU/g)	3	st	/	-	st			-	**NA**	-						3	b
2018	3798	Infant formula with probiotics ($1.6x10^6$ CFU/g)	3	st	/	-	st			-	**NA**	-						3	b
2018	3799	Infant formula with probiotics ($7.2x10^4$ CFU/g)	3	st	/	-	st			-	**NA**	-						3	b
2018	3800	Infant formula with probiotics ($6.0x10^4$ CFU/g)	3	st	/	-	st			-	**NA**	-						3	b
2018	3801	Infant formula with probiotics ($1.5x10^6$ CFU/g)	3	st	/	-	st			-	**NA**	-						3	b
2018	3802	Infant formula with probiotics ($4.7x10^5$ CFU/g)	3	st	/	-	st			-	**NA**	-						3	b
2018	2870	Starch	4	st	/	-	st			-	**NA**	-						3	c
2018	2871	Whey	4	st	/	-	st			-	**NA**	-						3	c
2018	2872	Caseinates	4	st	/	-	st			-	**NA**	-	st			-	**NA**	3	c
2018	2873	Lactose	4	st	/	-	st			-	**NA**	-						3	c
2018	**3101**	**Starch**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3102**	**Caseinates**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3103**	**Corn starch**	4	+p	+	+	+md/+	+	+	+	**PA**		+p	+	+	+	**PA**	3	c

MILK POWDERS, INGREDIENTS, INFANT FORMULA AND INFANT CEREALS WITH OR WITHOUT PROBIOTICS (375 g sample size – protocols 3 and 4 (ingredients))																			
Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Protocol	Reference method: ISO 22964♦			Alternative method: ESIA One Day											Category	Type
				CSB	Confirmation	ISO 22964 Result	Enrichment						Enrichment after 72h at 5°C ± 3°C						
							ESIA						ESIA						
				CCI			Typical colonies	API ID32E	Fast Crono	Final result	Agreement	CSB + CCI	Typical colonies	API ID32E	Fast Crono	Final result	Agreement		
2018	**3104**	**Wheat starch**	4	-	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	3	c
2018	**3106**	**Lactose**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3107**	**Maltodextrin**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3108**	**Whey**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3109**	**Starch**	4	+p	+	+	-			-	**ND**	-	st			-	**ND**	3	c
2018	**3110**	**Caseinates**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3111**	**Corn starch**	4	+p	+	+	-			-	**ND**	-	st			-	**ND**	3	c
2018	**3112**	**Wheat starch**	4	-	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	3	c
2018	**3113**	**Corn starch**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3114**	**Lactose**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3122**	**Starch**	4	+p	+	+	+p (4)	+	+	+	**PA**		+p (1)	+	+	+	**PA**	3	c
2018	**3123**	**Whey**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3124**	**Maltodextrin**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3125**	**Maltodextrin**	4	+p	+	+	+p (1)	+	+	+	**PA**		st			-	**ND**	3	c
2018	**3126**	**Wheat starch**	4	+p	+	+	st			-	**ND**	+	st			-	**ND**	3	c
2018	**3127**	**Caseinates**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3128**	**Corn starch**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3129**	**Lactose**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3130**	**Corn starch**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3131**	**Starch**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3132**	**Maltodextrin**	4	+p	+	+	+p	+	+	+	**PA**		+p (2)	+	+	+	**PA**	3	c
2018	**3133**	**Whey**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3134**	**Starch**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3135**	**Lactose**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3136**	**Caseinates**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3474**	**Maltodextrin**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	**3475**	**Whey**	4	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	3	c
2018	3739	Caseinate	4	st	/	-	st			-	**NA**	-						3	c
2018	3631	Starch	4	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	3	c
2018	3632	Starch	4	st	/	-	st			-	**NA**	-						3	c
2018	3633	Lactose	4	st	/	-	st			-	**NA**	-						3	c
2018	3634	Starch	4	+p	- (*Buttiauxella agrestis/Leclercia adecraboxylata*)	-	+p	- (*Leclercia adecarboxylata*)	+	-	**$PD_{FP(alt)}$**	-						3	c
2018	3635	Whey	4	st	/	-	st			-	**NA**	-						3	c
2018	3636	Starch	4	st	/	-	st			-	**NA**	-						3	c
2018	3637	Maltodextrin	4	st	/	-	st			-	**NA**	-						3	c
2018	3638	Maltodextrin	4	st	/	-	st			-	**NA**	-						3	c
2018	3639	Maltodextrin	4	st	/	-	st			-	**NA**	-						3	c
2018	3640	Maltodextrin	4	st	/	-	st			-	**NA**	-						3	c
2018	3641	Starch	4	st	/	-	st			-	**NA**	-						3	c
2018	3642	Starch	4	st	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	3	c

MILK POWDERS, INGREDIENTS, INFANT FORMULA AND INFANT CEREALS WITH OR WITHOUT PROBIOTICS (375 g sample size – protocols 3 and 4 (ingredients))																				
Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Protocol	Reference method: ISO 22964♦			Alternative method: ESIA One Day												Category	Type
				CSB	Confirmation	ISO 22964 Result	Enrichment						Enrichment after 72h at 5°C ± 3°C							
							ESIA						ESIA							
				CCI			Typical colonies	API ID32E	Fast Crono	Final result	Agreement	CSB + CCI	Typical colonies	API ID32E	Fast Crono	Final result	Agreement			
2018	3643	Starch	4	-	/	-	+p	+	+	+	**PD**		+p	+	+	+	**PD**	3	c
2018	3644	Lactose	4	st	/	-	st			-	**NA**	-						3	c
2018	3645	Caseinate	4	st	/	-	st			-	**NA**	-	st			-	**NA**	3	c
2018	3803	Whey	4	st	/	-	st			-	**NA**	-						3	c
2018	3804	Whey	4	st	/	-	st			-	**NA**	-						3	c
2018	3805	Whey	4	st	/	-	st			-	**NA**	-						3	c
2018	3806	Whey	4	st	/	-	st			-	**NA**	-						3	c
2018	3807	Lactose	4	st	/	-	st			-	**NA**	-						3	c
2018	3808	Lactose	4	st	/	-	st			-	**NA**	-						3	c
2018	3809	Lactose	4	st	/	-	st			-	**NA**	-						3	c
2018	3810	Lactose	4	st	/	-	st			-	**NA**	-						3	c
2018	3811	Starch	4	st	/	-	st			-	**NA**	-						3	c
2018	3812	Starch	4	st	/	-	st			-	**NA**	-						3	c
2018	3813	Maltodextrin	4	st	/	-	st			-	**NA**	-						3	c
2018	3814	Maltodextrin	4	st	/	-	st			-	**NA**	-						3	c
2018	3815	Maltodextrin	4	st	/	-	st			-	**NA**	-						3	c
2018	3816	Maltodextrin	4	st	/	-	st			-	**NA**	-						3	c

PRODUCTION ENVIRONMENTAL SAMPLES (25 g (mL) sample size – protocol 1)																				
Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Protocol	Reference method: ISO 22964♦			Alternative method: ESIA One Day												Category	Type
				CSB	Confirmation	ISO 22964 Result	Enrichment						Enrichment after 72h at 5°C ± 3°C							
							ESIA					CSB + CCI	ESIA							
				CCI			Typical colonies	API ID32E	Fast Crono	Final result	Agreement		Typical colonies	API ID32E	Fast Crono	Final result	Agreement		
2018	347	Water before cleaning	1	st	/	-	st			-	NA	-						4	a
2018	348	Water before cleaning	1	+M	+	+	+p	+	+	+	PA		+p	+	+	+	PA	4	a
2018	349	Water before cleaning	1	+md/-	/	-	st			-	NA	-	-			-	NA	4	a
2018	**386**	**Water after cleaning**	1	+p	+	+	+p	+	+	+	PA		+p	+	+	+	PA	4	a
2018	**387**	**Water after cleaning**	1	+p	+	+	+p	+	+	+	PA		+p	+	+	+	PA	4	a
2018	**388**	**Water after cleaning**	1	+p	+	+	+M	+	+	+	PA		+p	+	+	+	PA	4	a
2018	**389**	**Water before cleaning**	1	st	/	-	st			-	NA	-						4	a
2018	**390**	**Water before cleaning**	1	st	/	-	st			-	NA	-						4	a
2018	**391**	**Water before cleaning**	1	-	/	-	-			-	NA	-						4	a
2018	**392**	**Water before cleaning**	1	+p	+	+	+p	+	+	+	PA		+p	+	+	+	PA	4	a
2018	1789	Rinse water	1	-	/	-	-			-	NA	-						4	a
2018	1790	Process water	1	st	/	-	-			-	NA	-						4	a
2018	1791	Rinse water	1	-	/	-	-			-	NA	-						4	a
2018	2166	Process water	1	-	/	-	-			-	NA	-						4	a
2018	2167	Process water	1	-	/	-	st			-	NA	-						4	a
2018	2168	Process water	1	-	/	-	st			-	NA	-						4	a
2018	**2465**	**Process water (rinse)**	1	+p	+	+	+p	+	+	+	PA		+p	+	+	+	PA	4	a
2018	**2466**	**Process water (rinse)**	1	+p	+	+	+p	+	+	+	PA		+p	+	+	+	PA	4	a
2018	**2467**	**Process water (rinse)**	1	st	/	-	+p	+	+	+	PD		+M	+	+	+	PD	4	a
2018	**2468**	**Process water (rinse)**	1	+p	+	+	+p	+	+	+	PA		+p	+	+	+	PA	4	a
2018	**2469**	**Process water (rinse)**	1	+p	+	+	+p	+	+	+	PA		+p	+	+	+	PA	4	a
2018	**2470**	**Process water (rinse)**	1	+p	+	+	+p	+	+	+	PA		+p	+	+	+	PA	4	a
2018	345	Waste	1	st	/	-	st			-	NA	-						4	b
2018	346	Waste	1	st	/	-	st			-	NA	-						4	b
2018	350	Dusts	1	-	/	-	-			-	NA	-	-			-	NA	4	b
2018	351	Dusts	1	st	/	-	st			-	NA	-						4	b
2018	352	Dust from vacuum	1	+M	+	+	+M	+	+	+	PA		+M	+	+	+	PA	4	b
2018	1792	Waste	1	-	/	-	+md(1)/+d	- (E.vulneris)	-	-	$PD_{FP(alt)}$	-	-			-	NA	4	b
2018	1793	Dust	1	-	/	-	-			-	NA	-						4	b
2018	1794	Dust from vacuum	1	+1/2	+	+	+M	+	+	+	PA		+m	+	+	+	PA	4	b
2018	2169	Waste	1	st	/	-	st			-	NA	-						4	b
2018	2170	Waste	1	st	/	-	st			-	NA	-						4	b
2018	2171	Dust from vacuum	1	-	/	-	-			-	NA	-						4	b
2018	2172	Dust from vacuum	1	-	/	-	-			-	NA	-						4	b
2018	**3137**	**Dust from vacuum**	1	+p	+	+	+p	+	+	+	PA		+M	+	+	+	PA	4	b
2018	**3138**	**Dust from vacuum**	1	+p	+	+	+p	+	+	+	PA		+p	+	+	+	PA	4	b
2018	**3139**	**Dust from vacuum**	1	+p	+	+	+p	+	+	+	PA		+p	+	+	+	PA	4	b
2018	**3140**	**Dust from vacuum**	1	+p	+	+	+p	+	+	+	PA		+p	+	+	+	PA	4	b
2018	**3141**	**Dust from vacuum**	1	+p	+	+	+p	+	+	+	PA		+p	+	+	+	PA	4	b
2018	**3142**	**Dust from vacuum**	1	+p	+	+	+p	+	+	+	PA		+p	+	+	+	PA	4	b
2018	**3143**	**Dust from vacuum**	1	+p	+	+	+p	+	+	+	PA		+p	+	+	+	PA	4	b
2018	**3144**	**Dust from vacuum**	1	+p	+	+	+p	+	+	+	PA		+p	+	+	+	PA	4	b

PRODUCTION ENVIRONMENTAL SAMPLES (25 g (mL) sample size – protocol 1)																				
Year of analysis	Sample N°	Product (lactic bacteria enumeration done by the expert laboratory)	Protocol	Reference method: ISO 22964♦			Alternative method: ESIA One Day											Category	Type
				CSB	Confirmation	ISO 22964 Result	Enrichment					CSB + CCI	Enrichment after 72h at 5°C ± 3°C						
							ESIA						ESIA						
				CCI			Typical colonies	API ID32E	Fast Crono	Final result	Agreement		Typical colonies	API ID32E	Fast Crono	Final result	Agreement		
2018	**3145**	**Dust from vacuum**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	4	b
2018	**3146**	**Dust from vacuum**	1	st	/	-	+p	+	+	+	**PD**		-			-	**NA**	4	b
2018	338	Sponge before cleaning	1	-	/	-	-			-	**NA**	-						4	c
2018	339	Sponge before cleaning	1	-	/	-	-			-	**NA**	-	-			-	**NA**	4	c
2018	340	Sponge before cleaning	1	-	/	-	-			-	**NA**	-						4	c
2018	341	Sponge before cleaning	1	-	/	-	-			-	**NA**	-						4	c
2018	342	Sponge before cleaning	1	-	/	-	-			-	**NA**	-						4	c
2018	343	Wipe before cleaning	1	st	/	-	st			-	**NA**	-						4	c
2018	344	Wipe before cleaning	1	-	/	-	-			-	**NA**	-						4	c
2018	**393**	**Wipe after cleaning**	1	st	/	-	st			-	**NA**	-						4	c
2018	**394**	**Wipe after cleaning**	1	st	/	-	st			-	**NA**	-						4	c
2018	**395**	**Wipe before cleaning**	1	+M	+	+	+m	+	+	+	**PA**		+m	+	+	+	**PA**	4	c
2018	**396**	**Wipe before cleaning**	1	+M	+	+	+m	+	+	+	**PA**		+M	+	+	+	**PA**	4	c
2018	**397**	**Wipe before cleaning**	1	-	/	-	-			-	**NA**	-						4	c
2018	**398**	**Wipe before cleaning**	1	-	/	-	-			-	**NA**	-						4	c
2018	**399**	**Wipe before cleaning**	1	+p	+	+	+M	+	+	+	**PA**		+p	+	+	+	**PA**	4	c
2018	**400**	**Wipe before cleaning**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	4	c
2018	1795	Wipe before cleaning	1	st	/	-	st			-	**NA**	-						4	c
2018	1796	Wipe before cleaning	1	+md/-	/	-	-			-	**NA**	-	-			-		4	c
2018	1797	Wipe before cleaning	1	+M	+	+	+M	+	+	+	**PA**		+1/2	+	+	+	**PA**	4	c
2018	1798	Wipe before cleaning	1	-	/	-	-			-	**NA**	-						4	c
2018	**2159**	**Wipe after cleaning**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	4	c
2018	**2160**	**Wipe after cleaning**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	4	c
2018	**2161**	**Wipe after cleaning**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	4	c
2018	**2162**	**Wipe after cleaning**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	4	c
2018	**2163**	**Wipe after cleaning**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	4	c
2018	**2164**	**Wipe before cleaning**	1	+p	+	+	+p	+	+	+	**PA**		+p	+	+	+	**PA**	4	c
2018	**2165**	**Wipe before cleaning**	1	+M	+	+	+M	+	+	+	**PA**		+M	+	+	+	**PA**	4	c

Appendix 5 – Relative level of detection study: raw data

Matrix: Infant cereals without probiotics **Protocol 1**
Strain: *Cronobacter sakazakii* E798 Sample size: 25 g
Aerobic mesophilic flora :<10 CFU/g

N° sample	Level	Contamination level- (cfu/sample)	Reference method: ISO 22964 ♦			Number positive samples/ Total	Alternative method: ESIA One Day			CSB + CCI	Number positive samples/ Total
			CSB CCI	Confirmation	Final result		ESIA	Confirmation	Final result		
8857	0	/	st	/	-	0/5	st	/	-	-	0/5
8858			st	/	-		st	/	-	-	
8859			st	/	-		-	/	-	-	
8860			st	/	-		st	/	-	-	
8861			st	/	-		st	/	-	-	
8862	Low	1.0	+p	+	+	11/20	st	/	-	-	7/20
8863			+p	+	+		st	/	-	-	
8864			+p	+	+		+p	+	+	/	
8865			+M	+	+		st	/	-	-	
8866			st	/	-		st	/	-	-	
8867			st	/	-		st	/	-	-	
8868			st	/	-		+p	+	+	/	
8869			+p	+	+		+p	+	+	/	
8870			st	/	-		st	/	-	-	
8871			st	/	-		st	/	-	-	
8872			+p	+	+		st	/	-	-	
8873			st	/	-		+p	+	+	/	
8874			+p	+	+		+p	+	+	/	
8875			st	/	-		+p	+	+	/	
8876			st	/	-		st	/	-	-	
8877			+p	+	+		st	/	-	-	
8878			+p	+	+		st	/	-	-	
8879			st	/	-		+p	+	+	/	
8880			+p	+	+		st	/	-	-	
8881			+p	+	+		st	/	-	-	
8882	High	3.1	+p	+	+	5/5	+p	+	+	/	4/5
8883			+p	+	+		-	/	-	+	
8884			+p	+	+		+p	+	+	/	
8885			+p	+	+		+p	+	+	/	
8886			+p	+	+		+p	+	+	/	

Matrix: Infant formula with probiotics
Strain: *Cronobacter sakazakii* Ad2413
Aerobic mesophilic flor : 9,8.10^5 CFU/g

Protocol 2
Sample size :25 g

N° sample	Level	Contamination level- (cfu/sample)	Reference method: ISO 22964 ♦			Number positive samples/ Total	Alternative method: ESIA One Day			CSB + CCI	Number positive samples/ Total
			CSB CCI	Confirmation	Final result		ESIA	Confirmation	Final result		
9102	0	/	st	-	-	0/5	st	/	-	-	0/5
9103			st	-	-		st	/	-	-	
9104			st	-	-		st	/	-	-	
9105			-	-	-		st	/	-	-	
9106			st	-	-		st	/	-	-	
9430	Low	1.0	+p	+	+	16/20	+p	+	+	/	16/20
9431			+p	+	+		+p	+	+	/	
9432			+p	+	+		+p	+	+	/	
9433			+p	+	+		+p	+	+	/	
9434			+p	+	+		st	/	-	-	
9435			+p	+	+		+p	+	+	/	
9436			+p	+	+		+p	+	+	/	
9437			+p	+	+		+p	+	+	/	
9438			+p	+	+		+p	+	+	/	
9439			+p	+	+		+p	+	+	/	
9440			+p	+	+		+p	+	+	/	
9441			+p	+	+		+p	+	+	/	
9442			st	-	-		+p	+	+	/	
9443			+p	+	+		st	/	-	-	
9444			st	-	-		st	/	-	-	
9445			+p	+	+		st	/	-	-	
9446			+p	+	+		+p	+	+	/	
9447			st	-	-		+p	+	+	/	
9448			st	-	-		+p	+	+	/	
9449			+p	+	+		+p	+	+	/	
9097	High	5.4	+p	+	+	5/5	+p	+	+	/	4/5
9098			+p	+	+		st	/	-	-	
9099			+p	+	+		+p	+	+	/	
9100			+p	+	+		+p	+	+	/	
9101			+p	+	+		+p	+	+	/	

Matrix: Maltodextrin **Protocol 4**
Strain: *Cronobacter turicensis* Ad1445 Sample size: 375 g
Aerobic mesophilic flora: <200 CFU/g

N° sample	Level	Contamination level- (cfu/sample)	Reference method: ISO 22964 ♦			Number positive samples/ Total	Alternative method: ESIA One Day			CSB + CCI	Number positive samples/ Total
			CSB CCI	Confirmation	Final result		ESIA	Confirmation	Final result		
3349	0	/	st	/	-	0/5	st	/	-	-	0/5
3350			st	/	-		st	/	-	-	
3351			st	/	-		st	/	-	-	
3352			st	/	-		st	/	-	-	
3353			st	/	-		st	/	-	-	
3354	Low	1.1	st	/	-	18/20	st	/	-	-	15/20
3355			+p	+	+		+p	+	+	/	
3356			+p	+	+		+p	+	+	/	
3357			st	/	-		+p	+	+	/	
3358			+p	+	+		st	+	+	/	
3359			+p	+	+		+p	+	+	/	
3360			+p	+	+		st	/	-	-	
3361			+p	+	+		+p	+	+	/	
3362			+p	+	+		+p	+	+	/	
3363			+p	+	+		+p	+	+	/	
3364			+p	+	+		+p	+	+	/	
3365			+p	+	+		st	/	-	-	
3366			+p	+	+		+p	+	+	/	
3367			+p	+	+		+p	+	+	/	
3368			+p	+	+		+p	+	+	/	
3369			+p	+	+		+p	+	+	/	
3370			+p	+	+		+p	+	+	/	
3371			+p	+	+		st	/	-	-	
3372			+p	+	+		st	/	-	-	
3373			+p	+	+		+p	+	+	/	
3374	High	2.1	+p	+	+	5/5	+p	+	+	/	3/5
3375			+p	+	+		+p	+	+	/	
3376			+p	+	+		st	/	-	-	
3377			+p	+	+		+p	+	+	/	
3378			+p	+	+		st	/	-	+	

Matrix: Infant formula with probiotics
Strain: *Cronobacter sakazakii* Ad2412
Aerobic mesophilic flora: $1.9x10^6$ CFU/g

Protocol 3
Sample size: 375 g

N° sample	Level	Contamination level- (cfu/sample)	**Reference method: ISO 22964 ♦**			Number positive samples/ Total	**Alternative method: ESIA One Day**			CSB + CCI	Number positive samples/ Total
			CSB CCI	Confirmation	Final result		ESIA	Confirmation	Final result		
3439	0	/	st	/	-	0/5	st	/	-	-	0/5
3440			st	/	-		st	/	-	-	
3441			st	/	-		st	/	-	-	
3442			st	/	-		st	/	-	-	
3443			st	/	-		st	/	-	-	
3444	Low	1.5	+p	+	+	16/20	+p	+	+	/	18/20
3445			+p	+	+		+p	+	+	/	
3446			+p	+	+		+p	+	+	/	
3447			+p	+	+		+p	+	+	/	
3448			+p	+	+		+p	+	+	/	
3449			+p	+	+		+p	+	+	/	
3450			+p	+	+		st	/	-	-	
3451			+p	+	+		st	/	-	-	
3452			st	/	-		+p	+	+	/	
3453			+p	+	+		+p	+	+	/	
3454			+p	+	+		+p	+	+	/	
3455			+p	+	+		+p	+	+	/	
3456			st	/	-		+p	+	+	/	
3457			st	/	-		+p	+	+	/	
3458			+p	+	+		+p	+	+	/	
3459			st	/	-		+p	+	+	/	
3460			+p	+	+		+p	+	+	/	
3461			+p	+	+		+p	+	+	/	
3462			+p	+	+		+p	+	+	/	
3463			+p	+	+		+p	+	+	/	
3464	High	3.0	+p	+	+	5/5	+p	+	+	/	5/5
3465			+p	+	+		+p	+	+	/	
3466			+p	+	+		+p	+	+	/	
3467			+p	+	+		+p	+	+	/	
3468			+p	+	+		+p	+	+	/	

Matrix: Process water (rinse)
Strain: *Cronobacter muytjensii* E888
Aerobic mesophilic flora: 1.3x10² CFU/g

Protocol 1
Sample size: 25 mL

N° sample	Level	Contamination level- (cfu/sample)	Reference method: ISO 22964 ♦			Number positive samples/ Total	Alternative method: ESIA One Day			CSB + CCI	Number positive samples/ Total
			CSB CCI	Confirmation	Final result		ESIA	Confirmation	Final result		
3298	0	/	st	/	-	0/5	st	/	-	-	0/5
3299			st	/	-		st	/	-	-	
3300			st	/	-		st	/	-	-	
3301			st	/	-		st	/	-	-	
3302			st	/	-		st	/	-	-	
3303	Low	0.3	st	/	-	6/20	st	/	-	-	5/20
3304			st	/	-		st	/	-	-	
3305			st	/	-		st	/	-	-	
3306			st	/	-		st	/	-	-	
3307			+p	+	+		st	/	-	-	
3308			st	/	-		st	/	-	-	
3309			st	/	-		st	/	-	-	
3310			st	/	-		st	/	-	-	
3311			st	/	-		st	/	-	-	
3312			st	/	-		+p	+	+	/	
3313			st	/	-		+p	+	+	/	
3314			+p	+	+		+p	+	+	/	
3315			+p	+	+		+p	+	+	/	
3316			+p	+	+		st	/	-	-	
3317			st	/	-		st	/	-	-	
3318			+p	+	+		+p	+	+	/	
3319			st	/	-		st	/	-	-	
3320			st	/	-		st	/	-	-	
3321			+p	+	+		st	/	-	-	
3322			st	/	-		st	/	-	-	
3323	High	1.0	st	/	-	4/5	st	/	-	-	3/5
3324			+p	+	+		st	/	-	-	
3325			+p	+	+		+p	+	+	/	
3326			+p	+	+		+p	+	+	/	
3327			+p	+	+		+p	+	+	/	

Appendix 6 – Inclusivity and exclusivity study: raw data

INCLUSIVITY (protocol 2)								
n°	Genus	Species	Reference	Origin	Inoculation Level CFU/225ml	Confirmation		
						Direct streaking	Confirmation	
							API ID 32E	Fast Crono
1	*Cronobacter*	*dublinensis*	DSM18705	Dairy Product	12	+	+	+
2	*Cronobacter*	*malonaticus*	DSM18702	Dairy Product	11	+	+	+
3	*Cronobacter*	*malonaticus*	Ad1708	Dairy Product	59	+	+	+
4	*Cronobacter*	*muytjensii*	CIP103581	/	18	st	/	/
					8 + milk	+ (4)	+	+
5	*Cronobacter*	*turicensis*	Ad1445	Infant formula	23	st	/	/
					16 + milk	+	+	+
6	*Cronobacter*	*turicensis*	E681	Ready to reheat food	44	+	+	+
7	*Cronobacter*	*sakazakii*	Ad941	Infant formula	39	+	+	+
8	*Cronobacter*	*sakazakii*	Ad942	Infant formula	51	+	+	+
9	*Cronobacter*	*sakazakii*	Ad943	Infant formula	30	st	/	/
					30 + milk	+ (10)	+	+
10	*Cronobacter*	*sakazakii*	Ad944	Infant formula	40	st	/	/
					19 + milk	+	+	+
11	*Cronobacter*	*sakazakii*	Ad945	Infant formula	37	+	+	+
12	*Cronobacter*	*sakazakii*	Ad946	Infant formula	54	+	+	+
13	*Cronobacter*	*sakazakii*	Ad947	Infant formula	30	+	+	+
14	*Cronobacter*	*sakazakii*	Ad948	Infant formula	24	+	+	+
15	*Cronobacter*	*sakazakii*	Ad949	Infant formula	41	+	+	+
16	*Cronobacter*	*sakazakii*	Ad950	Infant formula	27	+	+	+
17	*Cronobacter*	*sakazakii*	Ad951	Infant formula	20	+	+	+
18	*Cronobacter*	*sakazakii*	Ad952	Infant formula	30	+	+	+
19	*Cronobacter*	*sakazakii*	Ad953	Infant formula	43	+	+	+
20	*Cronobacter*	*sakazakii*	Ad963	Infant formula	23	+	+	+
21	*Cronobacter*	*sakazakii*	Ad704	Infant formula	21	+	+	+
22	*Cronobacter*	*sakazakii*	Ad831	Infant formula	41	st	/	/
					18 + milk	+	+	+
23	*Cronobacter*	*sakazakii*	Ad829	Infant formula	37	+	+	+
24	*Cronobacter*	*sakazakii*	Ad916	Infant formula	40	+	+	+
25	*Cronobacter*	*sakazakii*	Ad893	Infant formula	22	+	+	+
26	*Cronobacter*	*sakazakii*	Ad894	Infant formula	12	+	+	+
27	*Cronobacter*	*sakazakii*	Ad895	Infant formula	14	+	+	+
28	*Cronobacter*	*sakazakii*	Ad896	Infant formula	9	st	/	/
					25 + milk	+	+	+
29	*Cronobacter*	*sakazakii*	Ad897	Infant formula	10	+	+	+
30	*Cronobacter*	*sakazakii*	Ad898	Infant formula	9	+	+	+
31	*Cronobacter*	*dublinensis lactaridi*	DSMZ18707 T	Dairy Product	18	+	+	+
32	*Cronobacter*	*dublinensis lausannensis*	DSMZ 18706 T	Dairy Product	32	+	+	+
33	*Cronobacter*	*sakazakii*	Ad1418	Infant formula	14	+	+	+
34	*Cronobacter*	*sakazakii*	Ad1419	Infant formula	13	+	+	+

INCLUSIVITY (protocol 2)								
n°	Genus	Species	Reference	Origin	Inoculation Level CFU/225ml	Confirmation		
						Direct streaking	Confirmation	
							API ID 32E	Fast Crono
35	*Cronobacter*	*sakazakii*	Ad1420	Infant formula	18	+	+	+
36	*Cronobacter*	*sakazakii*	Ad1421	Infant formula	13	+	+	+
37	*Cronobacter*	*sakazakii*	Ad1424	Infant formula	11	st	/	/
					16 + milk	+	+	+
38	*Cronobacter*	*sakazakii*	Ad1425	Infant formula	28	+	+	+
39	*Cronobacter*	*sakazakii*	Ad1433	Infant formula	9	+	+	+
40	*Cronobacter*	*sakazakii*	Ad1434	Infant formula	25	+	+	+
41	*Cronobacter*	*sakazakii*	Ad1435	Infant formula	5	+	+	+
42	*Cronobacter*	*sakazakii*	Ad939	Infant formula	10	st	/	/
					18 + milk	+ (5)	+	+
43	*Cronobacter*	*malonaticus*	E684	Food	26	st	/	/
					26 + milk	st	/	/
					134	+	+	+
44	*Cronobacter*	*malonaticus*	E752	Baby food	7	+	+	+
45	*Cronobacter*	*muytjensii*	E888	Milk powder	7	st	/	/
					27 + milk	+ (7)	+	+
46	*Cronobacter*	*muytjensii*	E769	Milk powder	5	st	/	/
					4 + milk	+ (2)	+	+
					38	st	/	/
					38 + milk	+ (8)	+	+
47	*Cronobacter*	*dublinensis* subsp *dublinensis*	LMG 23823T	Environment	7	+	+	+
48	*Cronobacter*	*dublinensis* subsp *lausanensis*	E798	/	5	+	+	+
49	*Cronobacter*	*universalis*	NCTC 9529T	water	12	st	/	/
					26 + milk	+	+	+
					71	st	/	/
					71 + milk	+	+	+
50	*Cronobacter*	*condimenti*	LMG 26250T	Spiced meat	32	st	/	/
					32 + milk	st	/	/
					124	+	+	+

EXCLUSIVITY (Initial validation study realized by ISHA)						
N°	Code	Strain	Origin	Alternative method: ESIA One Day		
				ESIA	Confirmation	Final result
1.	ENTB.1.1	*Enterobacter aerogenes*	Dairy industry	- ∅	+ M 4	A
2.	ENTB.1.2	*Enterobacter aerogenes*	CIP 60.86T	- L 0	/	A
3.	ENTB.2.1	*Enterobacter cloacae*	Waste water	- L 0	/	A
4.	ENTC.2.1	*Enterococcus faecium*	Dairy industry	- ∅	/	A
5.	ESC.1.3	*Escherichia coli*	Dairy industry	- ∅	/	A
6.	ESC.1.5	*Escherichia coli*	Cheese	- ∅	/	A
7.	HAF.1.1	*Hafnia alvei*	Tabouleh	- ∅	/	A
8.	HAN.1.1	*Hansenula anomala*	Dairy industry	- ∅	/	A
9.	LACB.1.1	*Lactobacillus casei*	Dairy product	- L 0	/	A
10.	STA.2.1	*Staphylococcus epidermis*	Dairy product	- ∅	/	A
11.	PSE.1.2	*Pseudomonas aeruginosa*	Omelette with cheese	- ∅	/	A
12.	PSE.2.2	*Pseudomonas fluorescens*	CIP 102127	- ∅	/	A
13.	SAL.1.98	*Salmonella enterica* Newport	Raw milk cheese	- ∅	/	A
14.	SAL.1.163	*Salmonella enterica* Infantis	Milk (food)	- ∅	/	A
15.	SER.1.1	*Serratia ficaria*	CIP 79.23	- ∅	/	A
16.	SER.2.1	*Serratia fonticola*	CIP 103580	- L 0	/	A
17.	SHI.1.1	*Shigella flexneri*	CIP 82.48T	- ∅	/	A
18.	ESC.2.1	*Escherichia hermanii*	CIP 103176	- ∅	/	A
19.	CIT.1.1	*Citrobacter freundii*	CIP 53.62	- ∅	/	A
20.	KLE.2.1	*Klebsiella pneumonia*	Pastry	- ∅	/	A
21.	KLE.1.1	*Klebsiella oxytoca*	Deli salad	- ∅	/	A
22.	CIT.2.1	*Citrobacter koseri*	CIP 72.11	- ∅	/	A
23.	ENTB.4.1	*Enterobacter hormaechei*	CIP 104956	- ∅	/	A
24.	ENTB.5.1	*Enterobacter amnigenus*	CIP 104982	- ∅	/	A

EXCLUSIVITY (Initial validation study realized by ISHA)						
N°	Code	Strain	Origin	Alternative method: ESIA One Day		
				ESIA	Confirmation	Final result
25.	ENTB.9.1	*Enterobacter asburiae*	CIP 66.35	- ∅	/	A
26.	ENTB.7.1	*Enterobacter nimpressuralis*	CIP 105047	- ∅	/	A
27.	EBTB.8.1	*Enterobacter pyrinus*	CIP 104019	- L 0	/	A
28.	SAL1.121	*Salmonella enterica* Salamae	Raw milk	- ∅	/	A
29.	SHI.2.1	*Shigella sonnei*	ATCC 9290	- ∅	/	A
30.	SAL.1.6	*Salmonella enterica arizonae*	Dry sausage	- ∅	/	A
31.	CIT.3.1	*Citrobacter braakii*	CIP 110053	- ∅	/	A
32.	PAN.1.2	*Pantoea agglomerans*	CIP 57.51T	- ∅	/	A
33.	SAL.143	*Salmonella* Dublin	Milk	- ∅	/	A

EXCLUSIVITY (Renewal validation study realized by Adria)						
N°	**Genus**	**Species**	**Reference**	**Origin**	**Inoculation Level CFU/mL**	**ESIA**
1	*Citrobacter*	*braakii*	Ad833	Beef	$4.3x10^5$	st
2	*Citrobacter*	*diversus*	Ad100	Pork liver	$1.5x10^6$	st
3	*Citrobacter*	*fameri*	Ad116	Environmental sample	$3.5x10^5$	st
4	*Citrobacter*	*freundi*	39	Environmental sample	$3.7x10^5$	st
5	*Citrobacter*	*koseri*	CIP105177	/	$5.0x10^5$	st
6	*Enterobacter*	*aerogenes*	Ad889	Meat flour	$7.5x10^5$	st
7	*Enterobacter*	*agglomerans*	A00L065	Dairy product	$5.1x10^5$	st
8	*Enterobacter*	*agglomerans*	136	Dairy product	$1.8x10^4$	st
9	*Enterobacter*	*amnigenus*	52	Vegetables	$2.3x10^5$	st
10	*Enterobacter*	*amnigenus*	129	Raw milk	$1.7x10^5$	st
11	*Enterobacter*	*amnigenus*	A00C068	Poultry	$4.9x10^5$	st
12	*Enterobacter*	*cloacae*	51	Vegetables	$8.9x10^5$	st
13	*Enterobacter*	*cloacae*	10	Dairy product	$3.0x10^5$	st
14	*Enterobacter*	*fergusonii*	2876	Environmental sample	$1.5x10^6$	st
15	*Enterobacter*	*gergoviae*	CIP76.1	/	$5.9x10^5$	st
16	*Enterobacter*	*helveticus*	DSM 18396 T	fruit powder	$2.0x10^5$	st
17	*Enterobacter*	*hormaechei*	Ad990	Butter	$5.6x10^5$	st
18	*Enterobacter*	*intermedius*	60	Vegetables	$1.6x10^5$	st
19	*Enterobacter*	*kobei*	Ad706	Milk powder	$3.0x10^5$	st
20	*Escherichia*	*coli*	16	Dairy product	$2.4x10^5$	st
21	*Escherichia*	*hermanii*	Ad462	Dairy product	$2.4x10^5$	st
22	*Hafnia*	*alvei*	Ad2274	Dairy product	$6.5x10^5$	st
23	*Klebsiella*	*pneumoniae*	122	Dairy product	$2.9x10^5$	st
24	*Leclercia*	*adecarboxylata*	Ad707	Milk powder	$6.8x10^5$	st
25	*Salmonella*	*arizonae* (51:z4,z23)	CIP 5523	/	$2.9x10^5$	st
26	*Salmonella*	*diarizonae* SIIIb 65 :c :z	Ad 1298	Dairy environmental sample	$3.3x10^5$	st
27	*Salmonella*	*Typhimurium*	Ad1333	Dairy product	$4.9x10^5$	st
28	*Serratia*	*ficaria*	113	Vegetables	$7.9x10^5$	st
29	*Serratia*	*fonticola*	Ad1696	Raw milk	$1.2x10^4$	st
30	*Yersinia*	*intermedia*	Ad133	Dairy product	$8.1x10^5$	st
31	*Escherichia*	*vulneris*	Ad 2853	Dairy industry environment	$2.0x10^5$	st

Appendix 7 –Results obtained by the collaborative laboratories and the expert laboratory

Laboratory **A**
Lactic flora: $8.5x10^4$ CFU/g

N°Sample	Reference method: ISO 22964				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	Reading	Oxidase	Biochimical gallery		Reading	FastCrono			
A1	-	/	/	-	-	/	-	-	**NA**
A4	-	/	/	-	-	/	-	-	**NA**
A6	-	/	/	-	-	/	-	-	**NA**
A11	-	/	/	-	-	/	-	-	**NA**
A14	-	/	/	-	-	/	-	-	**NA**
A18	-	/	/	-	-	/	-	-	**NA**
A20	-	/	/	-	-	/	-	-	**NA**
A24	-	/	/	-	-	/	-	-	**NA**
A3	+	-	+	+	-	/	-	-	**ND**
A5	-	/	/	-	-	/	-	-	**NA**
A10	+	-	+	+	+	+	+	+	**PA**
A15	+	-	+	+	+	+	+	+	**PA**
A16	+	-	+	+	-	/	-	-	**ND**
A19	+	-	+	+	+	+	+	+	**PA**
A22	+	-	+	+	+	+	+	+	**PA**
A23	+	-	+	+	+	+	+	+	**PA**
A2	+	-	+	+	+	+	+	+	**PA**
A7	+	-	+	+	+	+	+	+	**PA**
A8	+	-	+	+	+	+	+	+	**PA**
A9	+	-	+	+	+	+	+	+	**PA**
A12	+	-	+	+	+	+	+	+	**PA**
A13	+	-	+	+	+	+	+	+	**PA**
A17	+	-	+	+	+	+	+	+	**PA**
A21	+	-	+	+	+	+	+	+	**PA**

Laboratory **B**
Lactic flora: $4.1x10^5$ CFU/g

N°Sample	Reference method: ISO 22964				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	Reading	Oxidase	Biochimical gallery		Reading	FastCrono			
B1	-	/	/	-	-	/	-	-	**NA**
B4	-	/	/	-	-	/	-	-	**NA**
B6	-	/	/	-	-	/	-	-	**NA**
B11	-	/	/	-	-	/	-	-	**NA**
B14	-	/	/	-	-	/	-	-	**NA**
B18	-	/	/	-	-	/	-	-	**NA**
B20	-	/	/	-	-	/	-	-	**NA**
B24	-	/	/	-	-	/	-	-	**NA**
B3	+	-	+	+	+	+	+	+	**PA**
B5	-	/	/	-	-	/	-	-	**NA**
B10	+	-	+	+	+	+	+	+	**PA**
B15	+	-	+	+	-	/	-	-	**ND**
B16	+	-	+	+	-	/	-	-	**ND**
B19	+	-	+	+	+	+	+	+	**PA**
B22	+	-	+	+	-	/	-	-	**ND**
B23	+	-	+	+	-	/	-	-	**ND**
B2	+	-	+	+	+	+	+	+	**PA**
B7	+	-	+	+	+	+	+	+	**PA**
B8	+	-	+	+	+	+	+	+	**PA**
B9	+	-	+	+	+	+	+	+	**PA**
B12	+	-	+	+	+	+	+	+	**PA**
B13	+	-	+	+	+	+	+	+	**PA**
B17	+	-	+	+	+	+	+	+	**PA**
B21	+	-	+	+	+	+	+	+	**PA**

Laboratory **C**
Lactic flora: $5.6x10^4$ CFU/g

N°Sample	Reference method: ISO 22964				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	Reading	Oxidase	Biochimical gallery		Reading	FastCrono			
C1	-	/	/	-	-	/	-	-	**NA**
C4	-	/	/	-	-	/	-	-	**NA**
C6	-	/	/	-	-	/	-	-	**NA**
C11	-	/	/	-	-	/	-	-	**NA**
C14	-	/	/	-	-	/	-	-	**NA**
C18	-	/	/	-	-	/	-	-	**NA**
C20	-	/	/	-	-	/	-	-	**NA**
C24	-	/	/	-	-	/	-	-	**NA**
C3	+	-	+	+	+	+	+	+	**PA**
C5	-	/	/	-	-	/	-	-	**NA**
C10	-	/	/	-	-	/	-	-	**NA**
C15	+	-	+	+	+	+	+	+	**PA**
C16	+	-	+	+	+	+	+	+	**PA**
C19	+	-	+	+	-	/	-	-	**ND**
C22	+	-	+	+	+	+	+	+	**PA**
C23	+	-	+	+	+	+	+	+	**PA**
C2	+	-	+	+	+	+	+	+	**PA**
C7	+	-	+	+	+	+	+	+	**PA**
C8	+	-	+	+	+	+	+	+	**PA**
C9	+	-	+	+	+	+	+	+	**PA**
C12	+	-	+	+	+	+	+	+	**PA**
C13	+	-	+	+	+	+	+	+	**PA**
C17	+	-	+	+	+	+	+	+	**PA**
C21	+	-	+	+	+	+	+	+	**PA**

Laboratory **D**
Lactic flora: $4.6x10^5$ CFU/g

N°Sample	Reference method: ISO 22964				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	Reading	Oxidase	Biochimical gallery		Reading	FastCrono			
D1	-	/	/	-	-	/	-	-	**NA**
D4	-	/	/	-	-	/	-	-	**NA**
D6	-	/	/	-	-	/	-	-	**NA**
D11	-	/	/	-	-	/	-	-	**NA**
D14	-	/	/	-	-	/	-	-	**NA**
D18	-	/	/	-	-	/	-	-	**NA**
D20	-	/	/	-	-	/	-	-	**NA**
D24	-	/	/	-	-	/	-	-	**NA**
D3	+	-	+	+	+	+	+	+	**PA**
D5	+	-	+	+	+	+	+	+	**PA**
D10	+	-	+	+	-	/	-	-	**ND**
D15	+	-	+	+	+	+	+	+	**PA**
D16	+	-	+	+	+	+	+	+	**PA**
D19	+	-	+	+	+	+	+	+	**PA**
D22	-	/	/	-	-	/	-	-	**NA**
D23	+	-	+	+	+	+	+	+	**PA**
D2	+	-	+	+	+	+	+	+	**PA**
D7	+	-	+	+	+	+	+	+	**PA**
D8	+	-	+	+	+	+	+	+	**PA**
D9	+	-	+	+	+	+	+	+	**PA**
D12	+	-	+	+	+	+	+	+	**PA**
D13	+	-	+	+	+	+	+	+	**PA**
D17	+	-	+	+	+	+	+	+	**PA**
D21	+	-	+	+	+	+	+	+	**PA**

Laboratory **E**
Lactic flora: $8.1x10^5$ CFU/g

N°Sample	Reference method: ISO 22964				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	Reading	Oxidase	Biochimical gallery		Reading	FastCrono			
E1	-	/	/	-	-	/	-	-	**NA**
E4	-	/	/	-	-	/	-	-	**NA**
E6	-	/	/	-	-	/	-	-	**NA**
E11	-	/	/	-	-	/	-	-	**NA**
E14	-	/	/	-	-	/	-	-	**NA**
E18	-	/	/	-	-	/	-	-	**NA**
E20	-	/	/	-	-	/	-	-	**NA**
E24	-	/	/	-	-	/	-	-	**NA**
E3	-	/	/	-	-	/	-	-	**NA**
E5	+	-	+	+	-	/	-	-	**ND**
E10	+	-	+	+	+	+	+	+	**PA**
E15	+	-	+	+	+	+	+	+	**PA**
E16	+	-	+	+	+	+	+	+	**PA**
E19	+	-	+	+	-	/	-	-	**ND**
E22	+	-	+	+	+	+	+	+	**PA**
E23	+	-	+	+	+	+	+	+	**PA**
E2	+	-	+	+	+	+	+	+	**PA**
E7	+	-	+	+	+	+	+	+	**PA**
E8	+	-	+	+	+	+	+	+	**PA**
E9	+	-	+	+	+	+	+	+	**PA**
E12	+	-	+	+	+	+	+	+	**PA**
E13	+	-	+	+	+	+	+	+	**PA**
E17	+	-	+	+	+	+	+	+	**PA**
E21	+	-	+	+	+	+	+	+	**PA**

Laboratory **F**
Lactic flora: $6.9x10^5$ CFU/g

N°Sample	Reference method: ISO 22964				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	Reading	Oxidase	Biochimical gallery		Reading	FastCrono			
F1	-	/	/	-	-	/	-	-	**NA**
F4	-	/	/	-	-	/	-	-	**NA**
F6	-	/	/	-	-	/	-	-	**NA**
F11	-	/	/	-	-	/	-	-	**NA**
F14	-	/	/	-	-	/	-	-	**NA**
F18	-	/	/	-	-	/	-	-	**NA**
F20	-	/	/	-	-	/	-	-	**NA**
F24	-	/	/	-	-	/	-	-	**NA**
F3	+	-	+	+	+	+	+	+	**PA**
F5	+	-	+	+	+	+	+	+	**PA**
F10	+	-	+	+	-	/	-	-	**ND**
F15	+	-	+	+	-	/	-	-	**ND**
F16	+	-	+	+	+	+	+	+	**PA**
F19	-	/	/	-	+	+	+	+	**PD**
F22	+	-	+	+	+	+	+	+	**PA**
F23	+	-	+	+	+	+	+	+	**PA**
F2	+	-	+	+	+	+	+	+	**PA**
F7	+	-	+	+	+	+	+	+	**PA**
F8	+	-	+	+	+	+	+	+	**PA**
F9	+	-	+	+	+	+	+	+	**PA**
F12	+	-	+	+	+	+	+	+	**PA**
F13	+	-	+	+	+	+	+	+	**PA**
F17	+	-	+	+	+	+	+	+	**PA**
F21	+	-	+	+	+	+	+	+	**PA**

Laboratory **G1**
Lactic flora: $1.5x10^5$ CFU/g

N°Sample	Reference method: ISO 22964				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	Reading	Oxidase	Biochimical gallery		Reading	FastCrono			
G1	-	/	/	-	-	/	-	-	**NA**
G4	-	/	/	-	-	/	-	-	**NA**
G6	-	/	/	-	-	/	-	-	**NA**
G11	-	/	/	-	-	/	-	-	**NA**
G14	-	/	/	-	-	/	-	-	**NA**
G18	-	/	/	-	-	/	-	-	**NA**
G20	-	/	/	-	-	/	-	-	**NA**
G24	-	/	/	-	-	/	-	-	**NA**
G3	+	-	+	+	+	+	+	+	**PA**
G5	+	-	+	+	+	+	+	+	**PA**
G10	+	-	+	+	+	+	+	+	**PA**
G15	-	/	/	-	+	+	+	+	**PD**
G16	+	-	+	+	-	/	-	-	**ND**
G19	+	-	+	+	+	+	+	+	**PA**
G22	+	-	+	+	+	+	+	+	**PA**
G23	+	-	+	+	-	/	-	-	**ND**
G2	+	-	+	+	+	+	+	+	**PA**
G7	+	-	+	+	+	+	+	+	**PA**
G8	+	-	+	+	+	+	+	+	**PA**
G9	+	-	+	+	+	+	+	+	**PA**
G12	+	-	+	+	+	+	+	+	**PA**
G13	+	-	+	+	+	+	+	+	**PA**
G17	+	-	+	+	+	+	+	+	**PA**
G21	+	-	+	+	+	+	+	+	**PA**

Laboratory **G2**
Lactic flora: $2.7x10^5$ CFU/g

N°Sample	Reference method: ISO 22964				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	Reading	Oxidase	Biochimical gallery		Reading	FastCrono			
G26	-	/	/	-	-	/	-	-	**NA**
G28	-	/	/	-	-	/	-	-	**NA**
G31	-	/	/	-	-	/	-	-	**NA**
G34	-	/	/	-	-	/	-	-	**NA**
G37	-	/	/	-	-	/	-	-	**NA**
G40	-	/	/	-	-	/	-	-	**NA**
G43	-	/	/	-	-	/	-	-	**NA**
G44	-	/	/	-	-	/	-	-	**NA**
G27	+	/	+	+	+	+	+	+	**PA**
G30	-	/	/	-	+	+	+	+	**PD**
G35	-	/	/	-	+	+	+	+	**PD**
G38	-	/	/	-	-	/	-	-	**NA**
G41	+	/	+	+	+	+	+	+	**PA**
G42	+	/	+	+	+	+	+	+	**PA**
G46	+	/	+	+	-	/	-	-	**ND**
G48	+	/	+	+	+	+	+	+	**PA**
G25	+	/	+	+	+	+	+	+	**PA**
G29	+	/	+	+	+	+	+	+	**PA**
G32	+	/	+	+	+	+	+	+	**PA**
G33	+	/	+	+	+	+	+	+	**PA**
G36	+	/	+	+	+	+	+	+	**PA**
G39	+	/	+	+	+	+	+	+	**PA**
G45	+	/	+	+	+	+	+	+	**PA**
G47	+	/	+	+	+	+	+	+	**PA**

Laboratory **H**
Lactic flora: 5.7x10^5 CFU/g

N°Sample	Reference method: ISO 22964				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	Reading	Oxidase	Biochimical gallery		Reading	FastCrono			
H1	-	/	/	-	-	/	-	-	**NA**
H4	-	/	/	-	-	/	-	-	**NA**
H6	-	/	/	-	-	/	-	-	**NA**
H11	-	/	/	-	-	/	-	-	**NA**
H14	-	/	/	-	-	/	-	-	**NA**
H18	-	/	/	-	-	/	-	-	**NA**
H20	- *	/	/	-	-	/	-	-	**NA**
H24	-	/	/	-	-	/	-	-	**NA**
H3	-	/	/	-	+	+	+	+	**PD**
H5	-	/	/	-	+	+	+	+	**PD**
H10	+	-	+	+	-	/	-	-	**ND**
H15	+	-	+	+	+	+	+	+	**PA**
H16	+	-	+	+	+	+	+	+	**PA**
H19	+	-	+	+	+	+	+	+	**PA**
H22	+	-	+	+	+	+	+	+	**PA**
H23	+	-	+	+	+	+	+	+	**PA**
H2	+	-	+	+	+	+	+	+	**PA**
H7	+	-	+	+	+	+	+	+	**PA**
H8	+	-	+	+	+	+	+	+	**PA**
H9	+	-	+	+	+	+	+	+	**PA**
H12	+	-	+	+	+	+	+	+	**PA**
H13	+	-	+	+	+	+	+	+	**PA**
H17	+	-	+	+	+	+	+	+	**PA**
H21	+	-	+	+	+	+	+	+	**PA**

* Due to leakage, only 7.5 mL were analized

Laboratory **I**
Lactic flora: $4.9x10^5$ CFU/g

N°Sample	Reference method: ISO 22964				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	Reading	Oxidase	Biochimical gallery		Reading	FastCrono			
I1	-	/	/	-	-	/	-	-	**NA**
I4	-	/	/	-	-	/	-	-	**NA**
I6	-	/	/	-	-	/	-	-	**NA**
I11	-	/	/	-	-	/	-	-	**NA**
I14	-	/	/	-	-	/	-	-	**NA**
I18	-	/	/	-	-	/	-	-	**NA**
I20	-	/	/	-	-	/	-	-	**NA**
I24	-	/	/	-	-	/	-	-	**NA**
I3	+	-	+	+	+	+	+	+	**PA**
I5	+	-	+	+	+	+	+	+	**PA**
I10	+	-	+	+	+	+	+	+	**PA**
I15	+	-	+	+	+	+	+	+	**PA**
I16	-	/	/	-	-	/	-	-	**NA**
I19	+	-	+	+	+	+	+	+	**PA**
I22	+	-	+	+	+	+	+	+	**PA**
I23	+	-	+	+	+	+	+	+	**PA**
I2	+	-	+	+	+	+	+	+	**PA**
I7	+	-	+	+	+	+	+	+	**PA**
I8	+	-	+	+	+	+	+	+	**PA**
I9	+	-	+	+	+	+	+	+	**PA**
I12	+	-	+	+	+	+	+	+	**PA**
I13	+	-	+	+	+	+	+	+	**PA**
I17	+	-	+	+	+	+	+	+	**PA**
I21	+	-	+	+	+	+	+	+	**PA**

Laboratory **J**
Lactic flora: $2.7x10^5$ CFU/g

N°Sample	Reference method: ISO 22964				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	reading	Oxidase	Biochimical gallery		Reading	FastCrono			
J1	-	/	/	-	-	/	-	-	**NA**
J4	-	/	/	-	-	/	-	-	**NA**
J6	-	/	/	-	-	/	-	-	**NA**
J11	-	/	/	-	-	/	-	-	**NA**
J14	-	/	/	-	-	/	-	-	**NA**
J18	-	/	/	-	-	/	-	-	**NA**
J20	-	/	/	-	-	/	-	-	**NA**
J24	-	/	/	-	-	/	-	-	**NA**
J3	+	-	+	+	+	+	+	+	**PA**
J5	+	-	+	+	+	+	+	+	**PA**
J10	+	-	+	+	+	+	+	+	**PA**
J15	+	-	+	+	+	+	+	+	**PA**
J16	+	-	+	+	+	+	+	+	**PA**
J19	+	-	+	+	+	+	+	+	**PA**
J22	+	-	+	+	+	+	+	+	**PA**
J23	+	-	+	+	+	+	+	+	**PA**
J2	+	-	+	+	+	+	+	+	**PA**
J7	+	-	+	+	+	+	+	+	**PA**
J8	+	-	+	+	+	+	+	+	**PA**
J9	+	-	+	+	+	+	+	+	**PA**
J12	+	-	+	+	+	+	+	+	**PA**
J13	+	-	+	+	+	+	+	+	**PA**
J17	+	-	+	+	+	+	+	+	**PA**
J21	+	-	+	+	+	+	+	+	**PA**

Laboratory **K**
Lactic flora: $5.1x10^5$ CFU/g

N°Sample	Reference method: ISO 22964				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	reading	Oxidase	Biochimical gallery		Reading	FastCrono			
K1	-	/	/	-	-	/	-	-	**NA**
K4	-	/	/	-	-	/	-	-	**NA**
K6	-	/	/	-	-	/	-	-	**NA**
K11	-	/	/	-	-	/	-	-	**NA**
K14	-	/	/	-	-	/	-	-	**NA**
K18	-	/	/	-	-	/	-	-	**NA**
K20	-	/	/	-	-	/	-	-	**NA**
K24	-	/	/	-	-	/	-	-	**NA**
K3	+	-	+	+	+	+	+	+	**PA**
K5	+	-	+	+	+	+	+	+	**PA**
K10	+	-	+	+	+	+	+	+	**PA**
K15	+	-	+	+	-	/	-	-	**ND**
K16	+	-	+	+	+	+	+	+	**PA**
K19	+	-	+	+	+	+	+	+	**PA**
K22	-	/	/	-	+	+	+	+	**PD**
K23	+	-	+	+	+	+	+	+	**PA**
K2	+	-	+	+	+	+	+	+	**PA**
K7	+	-	+	+	+	+	+	+	**PA**
K8	+	-	+	+	+	+	+	+	**PA**
K9	+	-	+	+	+	+	+	+	**PA**
K12	+	-	+	+	+	+	+	+	**PA**
K13	+	-	+	+	+	+	+	+	**PA**
K17	+	-	+	+	+	+	+	+	**PA**
K21	+	-	+	+	+	+	+	+	**PA**

Laboratory **L**
Lactic flora: 6.1x10^5 CFU/g

N°Sample	Reference method: ISO 22964				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	reading	Oxidase	Biochimical gallery		Reading	FastCrono			
L1	-	/	/	-	-	/	-	-	**NA**
L4	-	/	/	-	-	/	-	-	**NA**
L6	-	/	/	-	-	/	-	-	**NA**
L11	-	/	/	-	-	/	-	-	**NA**
L14	-	/	/	-	-	/	-	-	**NA**
L18	-	/	/	-	-	/	-	-	**NA**
L20	-	/	/	-	-	/	-	-	**NA**
L24	-	/	/	-	-	/	-	-	**NA**
L3	+	-	+	+	+	+	+	+	**PA**
L5	-	/	/	-	-	/	-	-	**NA**
L10	+	-	+	+	+	+	+	+	**PA**
L15	+	-	+	+	+	+	+	+	**PA**
L16	-	/	/	-	+	+	+	+	**PD**
L19	+	-	+	+	-	/	-	-	**ND**
L22	+	-	+	+	+	+	+	+	**PA**
L23	+	-	+	+	+	+	+	+	**PA**
L2	+	-	+	+	+	+	+	+	**PA**
L7	+	-	+	+	+	+	+	+	**PA**
L8	+	-	+	+	+	+	+	+	**PA**
L9	+	-	+	+	+	+	+	+	**PA**
L12	+	-	+	+	+	+	+	+	**PA**
L13	+	-	+	+	+	+	+	+	**PA**
L17	+	-	+	+	+	+	+	+	**PA**
L21	+	-	+	+	+	+	+	+	**PA**

Laboratory **M**
Lactic flora: $4.5x10^5$ CFU/g

N°Sample	Reference method: ISO 22964				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	Reading	Oxidase	Biochimical gallery		Reading	FastCrono			
M1	-	/	/	-	-	/	-	-	**NA**
M4	-	/	/	-	-	/	-	-	**NA**
M6	-	/	/	-	-	/	-	-	**NA**
M11	-	/	/	-	-	/	-	-	**NA**
M14	-	/	/	-	-	/	-	-	**NA**
M18	-	/	/	-	-	/	-	-	**NA**
M20	-	/	/	-	-	/	-	-	**NA**
M24	-	/	/	-	-	/	-	-	**NA**
M3	-	/	/	-	+	+	+	+	**PD**
M5	+	-	+	+	+	+	+	+	**PA**
M10	+	-	+	+	+	+	+	+	**PA**
M15	+	-	+	+	-	/	-	-	**ND**
M16	-	/	/	-	+	+	+	+	**PD**
M19	+	-	+	+	+	+	+	+	**PA**
M22	+	-	+	+	+	+	+	+	**PA**
M23	+	-	+	+	+	+	+	+	**PA**
M2	+	-	+	+	+	+	+	+	**PA**
M7	+	-	+	+	+	+	+	+	**PA**
M8	+	-	+	+	+	+	+	+	**PA**
M9	+	-	+	+	+	+	+	+	**PA**
M12	+	-	+	+	+	+	+	+	**PA**
M13	+	-	+	+	+	+	+	+	**PA**
M17	+	-	+	+	+	+	+	+	**PA**
M21	+	-	+	+	+	+	+	+	**PA**

Laboratory **N**
Lactic flora: $4.0x10^4$ CFU/g

N°Sample	Reference method: ISO 22964				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	Reading	Oxidase	Biochimical gallery		Reading	Biochemical			
N1	-	/	/	-	-	/	-	-	**NA**
N4	-	/	/	-	+	+	+	+	**PD**
N6	-	/	/	-	+	+	+	+	**PD**
N11	-	/	/	-	-	/	-	-	**NA**
N14	-	/	/	-	-	/	-	-	**NA**
N18	-	/	/	-	-	/	-	-	**NA**
N20	-	/	/	-	+	+	+	+	**PD**
N24	-	/	/	-	-	/	-	-	**NA**
N3	+	/	+	+	+	+	+	+	**PA**
N5	+	/	+	+	+	+	+	+	**PA**
N10	+	/	+	+	+	+	+	+	**PA**
N15	+	/	+	+	+	+	+	+	**PA**
N16	+	/	+	+	+	+	+	+	**PA**
N19	+	/	+	+	+	+	+	+	**PA**
N22	-	/	/	-	+	+	+	+	**PD**
N23	+	/	+	+	+	+	+	+	**PA**
N2	+	/	+	+	+	+	+	+	**PA**
N7	+	/	+	+	+	+	+	+	**PA**
N8	+	/	+	+	+	+	+	+	**PA**
N9	+	/	+	+	+	+	+	+	**PA**
N12	+	/	+	+	+	+	+	+	**PA**
N13	+	/	+	+	+	+	+	+	**PA**
N17	+	/	+	+	+	+	+	+	**PA**
N21	+	/	+	+	+	+	+	+	**PA**

Laboratory **O**
Lactic flora: $4.8x10^5$ CFU/g

N°Sample	Reference method: ISO 22964				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	Reading	Oxidase	Biochimical gallery		Reading	FastCrono			
O1	-	/	/	-	-	/	-	-	**NA**
O4	-	/	/	-	-	/	-	-	**NA**
O6	-	/	/	-	-	/	-	-	**NA**
O11	-	/	/	-	-	/	-	-	**NA**
O14	-	/	/	-	-	/	-	-	**NA**
O18	-	/	/	-	-	/	-	-	**NA**
O20	-	/	/	-	-	/	-	-	**NA**
O24	-	/	/	-	-	/	-	-	**NA**
O3	+	-	+	+	+	+	+	+	**PA**
O5	+	-	+	+	+	+	+	+	**PA**
O10	+	-	+	+	+	+	+	+	**PA**
O15	+	-	+	+	+	+	+	+	**PA**
O16	+	-	+	+	-	/	-	-	**ND**
O19	+	-	+	+	+	+	+	+	**PA**
O22	+	-	+	+	+	+	+	+	**PA**
O23	+	-	+	+	+	+	+	+	**PA**
O2	+	-	+	+	+	+	+	+	**PA**
O7	+	-	+	+	+	+	+	+	**PA**
O8	+	-	+	+	+	+	+	+	**PA**
O9	+	-	+	+	+	+	+	+	**PA**
O12	+	-	+	+	+	+	+	+	**PA**
O13	+	-	+	+	+	+	+	+	**PA**
O17	+	-	+	+	+	+	+	+	**PA**
O21	+	-	+	+	+	+	+	+	**PA**

Laboratory **P (ADRIA)**
Lactic flora: 6.2x10^5 CFU/g

N°Sample	Reference method: ISO 22964♦				ESIA™ One Day method				
	CCI			Final result	ESIA		Final confirmation results	Final result	Agreement
	reading	Oxidase	Biochimical gallery		Reading	FastCrono			
P1	-	/	/	-	-	/	-	-	**NA**
P4	-	/	/	-	-	/	-	-	**NA**
P6	-	/	/	-	-	/	-	-	**NA**
P11	-	/	/	-	-	/	-	-	**NA**
P14	-	/	/	-	-	/	-	-	**NA**
P18	-	/	/	-	-	/	-	-	**NA**
P20	-	/	/	-	-	/	-	-	**NA**
P24	-	/	/	-	-	/	-	-	**NA**
P3	+	-	+	+	-	/	-	-	**ND**
P5	+	-	+	+	+	+	+	+	**PA**
P10	+	-	+	+	+	+	+	+	**PA**
P15	+	-	+	+	+	+	+	+	**PA**
P16	+	-	+	+	+	+	+	+	**PA**
P19	+	-	+	+	+	+	+	+	**PA**
P22	+	-	+	+	+	+	+	+	**PA**
P23	+	-	+	+	+ (2 col)	+	+	+	**PA**
P2	+	-	+	+	+	+	+	+	**PA**
P7	+	-	+	+	+	+	+	+	**PA**
P8	+	-	+	+	+	+	+	+	**PA**
P9	+	-	+	+	+	+	+	+	**PA**
P12	+	-	+	+	+	+	+	+	**PA**
P13	+	-	+	+	+	+	+	+	**PA**
P17	+	-	+	+	+	+	+	+	**PA**
P21	+	-	+	+	+	+	+	+	**PA**