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

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

# 3M™ Molecular Detection Assay 2 - *E. coli* O157 (including H7)

**(Certificate number: 3M 01/18 - 05/17)**

for the detection of *Escherichia coli* O157 (including H7)
in raw beef meats, raw dairy products, raw fruits and vegetables

## Qualitative method

| | |
|---|---|
| *Expert Laboratory:* | **ADRIA Développement**<br>ZA Creac'h Gwen<br>29196 Quimper Cedex (France) |
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This report consists of 83 pages, including 7 appendices.
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Competencies of the laboratory are certified by COFRAC accreditation for the analyses marked with the symbol◆.

Version 0
May 6, 2021

Quality Assurance documents related to this study can be consulted upon request from **3M**.

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

| | |
|---|---|
| **Validation protocols** | ▪ ISO 16140-1 (2016): Microbiology of the food chain - Method validation — *Part 1: Vocabulary*<br>▪ ISO 16140-2(2016): Microbiology of the food chain - Method validation — *Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method*<br>▪ AFNOR technical rules (PR Revision 7) |
| **Reference method**♦ | ▪ EN ISO 16654 (July 2001): Microbiology of food and animal feeding stuffs - Horizontal method for the detection of *Escherichia coli* O157<br>▪ ISO 16654/A1 (March 2017): Microbiology of food and animal feeding stuffs - Horizontal method for the detection of *Escherichia coli* O157 - Amendment 1: annex B: result of inter-laboratory studies |
| **Alternative method** | **3M™ Molecular Detection Assay 2 - *E. coli* O157 (including H7)** |
| **Scope** | ☒ **Raw beef meats**<br>☒ **Raw dairy products**<br>☒ **Raw fruits and vegetables** |
| **Certification organism** | AFNOR Certification (http://nf-validation.afnor.org/) |

♦ Analyses performed according to the COFRAC accreditation

# 1 INTRODUCTION

The 3M™ Molecular Detection Assay 2 - *E. coli* O157 (including H7) was validated in May 2017 (Certificate number: 3M 01/18 - 05/17), according to the NF EN ISO 16140-2 (June 2016) and the AFNOR technical rules.

The following criteria were evaluated during the method comparison study:

- Sensitivity study,
- Relative level of detection,
- Inclusivity and exclusivity,
- Practicability.

Based on the fact that the changes to the kit concern the lysis solution, and a reduction of the detection run time from 75 minutes to 60 minutes, the inter-laboratory study was not run again, the results of the inter-laboratory study of the first version of the kit was interpreted following to the EN ISO 16140-2:2016.

The method was renewed in April 2021.

# 2 METHOD PROTOCOLS

## 2.1 Alternative method

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

### *2.1.1 Principle*

**The 3M™ Molecular Detection Assay** uses loop-mediated isothermal amplification to rapidly amplify nucleic acid sequences with high specificity and sensitivity, combined with bioluminescence to detect the amplification.

The software version which was used for the study was the 2.2.0.
The difference between this version of the kit (Issue date: 2016.02) and the previous one of the 3M™ Molecular Detection Assay *E. coli* O157 (including H7) concerns the lysis solution, and a reduction of the run time from 75 minutes to 60 minutes. The detection kit has not been modified and excepting the run time there is no other change in the algorithm.

### *2.1.2 Protocol*

The protocol is the following:

- Enrichment step in pre-warmed Buffered Peptone Water (BPW):
  * 8 – 24 h at 41.5°C for raw beef meat;
  * 18 – 24 h at 41.5°C for raw dairy products, and raw fruits and vegetables;
- Sample lysis on 20 µl enriched sample
- DNA amplification on 20 µl lysate
- **Confirmation**:
  * *Option 1*: Using the ISO 16654 standard starting from the buffered peptone water (BPW) enrichment.
  * *Option 2*: Implementing a confirmation method consisting of the following: streak 50 µl of the BPW enrichment onto CT-SMAC agar plate. Incubate for 24 h ± 3 h at 37°C. Streak characteristic colonies onto nutrient agar and perform latex agglutination test directly onto isolated colonies. If the 3M Molecular Detection Assay *E. coli* O157 (including H7) results are not confirmed, perform an immunomagnetic separation step and then streak 50 µl onto CT-SMAC.
* *Option 3*: Using nucleic acid probes as described in the EN ISO 7218 standard, performed on isolate colonies (purified or not) from CT-SMAC (see option 1 or 2). The nucleic acid probes must be different from those used in the 3M Molecular Detection Assay *E. coli* O157 (including H7).
* *Option 4*: Using any other method certified NF VALIDATION, the principle of which must be different from 3M Molecular Detection Assay *E. coli* O157 (including H7). The complete protocol described for this second validated method must be used. All steps prior to the start of confirmation must be common to both methods.

It is possible to store the enrichment and the lysates for 72 h at 5°C ± 3°C in order to offer sufficient practicability to the users.

### *2.1.3 Restrictions*

There is no restriction.

## 2.2 Reference method◆

The reference method used for the previous study corresponds to the ISO 16654 method (2001): Microbiology of food and animal feeding stuffs - Horizontal method for the detection of *Escherichia coli* O157.

The reference methods used for the renewal study correspond to the ISO 16654 method (2011): Microbiology of food and animal feeding stuffs - Horizontal method for the detection of *Escherichia coli* O157 and the ISO 16654/A1 (March 2017): Microbiology of food and animal feeding stuffs - Horizontal method for the detection of *Escherichia coli* O157 - Amendment 1: annex B: result of inter-laboratory studies (See **Appendix 2**).

## 2.3 Study design

The study is **an unpaired study design** as the reference and the alternative methods have different enrichment procedures.

# 3 INITIAL VALIDATION STUDY AND 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.*

◆ Analysis performed according to the COFRAC accreditation

### *3.1.1.1 Number and nature of samples*

**187 samples** were analyzed. The distribution per tested category and type is given in Table 1.

**Table 1 – Distribution per tested category and type**

| Category | | Type | | Positive | Negative | Total |
|---|---|---|---|---|---|---|
| 1 | Raw beef meats (Protocol 8h) | a | Raw | 11 | 10 | 21 |
| | | b | Frozen | 9 | 11 | 20 |
| | | c | Seasoned (raw and frozen) | 10 | 11 | 21 |
| | | | Total | 30 | 32 | 62 |
| | Raw beef meats (Protocol 24h) | a | Raw | 11 | 10 | 21 |
| | | b | Frozen | 9 | 11 | 20 |
| | | c | Seasoned (raw and frozen) | 10 | 11 | 21 |
| | | | Total | 30 | 32 | 62 |
| 2 | Raw dairy products | a | Raw milk | 12 | 9 | 21 |
| | | b | Raw milk cheeses | 11 | 9 | 20 |
| | | c | Raw milk-based products | 11 | 12 | 23 |
| | | | Total | 34 | 30 | 64 |
| 3 | Raw fruits and vegetables | a | Leafy greens | 11 | 10 | 21 |
| | | b | Sprouts | 10 | 10 | 20 |
| | | c | Fruit juices and fermented juices | 10 | 10 | 20 |
| | | | Total | 31 | 30 | 61 |
| **All categories (Raw meat - 8 h)** | | | | **95** | **92** | **187** |
| **All categories (Raw meat - 24 h)** | | | | **95** | **92** | **187** |

### *3.1.1.2 Artificial contamination of samples*

Artificial contaminations were done by seeding. The artificial contaminations are presented in **Appendix 3**.

129 samples were artificially contaminated, using 32 different strains. 95 gave a positive result. 71 samples were inoculated at level ≤ 3 CFU and 24 samples were inoculated between 3.2 and 4.6 CFU.

The repartition of the positive samples per inoculation protocol and inoculation level is given in Table 2.

**Table 2 - Repartition of the positive samples per inoculation protocol and inoculation level**

| | Naturally contaminated samples | Artificially contaminated samples | | Total |
|---|---|---|---|---|
| | | x ≤ 3 CFU/sample | 3 < x ≤ 4.6 CFU/sample | |
| Number of samples | 0 | 71 | 24 | 95 |
| % | 0.0% | 74.7% | 25.3% | 100.0% |

25.3% of the samples were inoculated between 3 and 4.6 CFU. According to the AFNOR Technical rules (PR rev 7), only 20 % of the samples should be contaminated between 3 (spiking protocol) or 5 (seeding protocol) and 10 CFU but this percentage was accepted by the AFNOR Technical Committee.

**100 % of the samples were artificially contaminated.**

*3.1.1.3 Protocols applied during the validation study*

- **Incubation time**

The minimum and maximum incubation times were applied for the raw beef meat category, *i.e.* 8 h and 24 h and the minimum time, *i.e.*18 h for the other categories.

- **Confirmations**

During the validation, the following confirmatory tests were applied:

- Direct streaking (50 µl) of BPW onto CT-SMAC;
- IMS step before streaking (50 µl) onto CT-SMAC when no typical colony was observed onto CT-SMAC.

The typical colonies were then tested using latex tests after purification step on non-selective agar plate (O157 and H7) and indole test.

- **Enrichment and lysates storage for 72 h at 5°C ± 3°C**

The enrichment broths and the lysates of positive and discordant samples were stored for 72 h at 5°C ± 3°C and tested again.

### *3.1.1.4 Test results*

Raw data per category are given in **Appendix 4**. The results are given in Table 3.

**Table 3 – Interpretation of sample results between the reference and alternative method (based on the confirmed alternative)**

| Category | | PA | NA* | PD | ND** | PPND | PPNA |
|---|---|---|---|---|---|---|---|
| 1 | Raw beef meats (Protocol 8h) | 19 | 32 | 4 | 7 | 0 | 0 |
| | Raw beef meats (Protocol 24h) | 19 | 32 | 4 | 7 | 0 | 0 |
| 2 | Raw dairy products | 24 | 30 | 8 | 2 | 0 | 0 |
| 3 | Raw fruits and vegetables | 14 | 25 | 11 | 6 | 0 | 5 |
| **All categories (Raw meat - 8 h)** | | **57** | **87** | **23** | **15** | **0** | **5** |
| **All categories (Raw meat - 24 h)** | | **57** | **87** | **23** | **15** | **0** | **5** |

* PPNA not included ** PPND not included

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

The calculations are presented in Table 4.

**Table 4 – Calculation of the relative trueness (RT), the sensitivity (SE) and the false positive ratio (FPR)**

| Category | | Type | | PA | NA* | PD | ND** | PPND | PPNA | $SE_{alt}$ % | $SE_{ref}$ % | RT % | FPR % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Raw beef meats (Protocol 8h) | a | Raw | 8 | 10 | 1 | 2 | 0 | 0 | 81.8 | 90.9 | 85.7 | 0.0 |
| | | b | Frozen | 7 | 11 | 1 | 1 | 0 | 0 | 88.9 | 88.9 | 90.0 | 0.0 |
| | | c | Seasoned (raw and frozen) | 4 | 11 | 2 | 4 | 0 | 0 | 60.0 | 80.0 | 71.4 | 0.0 |
| | | | Total | 19 | 32 | 4 | 7 | 0 | 0 | 76.7 | 86.7 | 82.3 | 0.0 |
| | Raw beef meats (Protocol 24h) | a | Raw | 8 | 10 | 1 | 2 | 0 | 0 | 81.8 | 90.9 | 85.7 | 0 |
| | | b | Frozen | 7 | 11 | 1 | 1 | 0 | 0 | 88.9 | 88.9 | 90.0 | 0.0 |
| | | c | Seasoned (raw and frozen) | 4 | 11 | 2 | 4 | 0 | 0 | 60.0 | 80.0 | 71.4 | 0.0 |
| | | | Total | 19 | 32 | 4 | 7 | 0 | 0 | 76.7 | 86.7 | 82.3 | 0.0 |
| 2 | Raw dairy products | a | Raw milk | 11 | 9 | 0 | 1 | 0 | 0 | 91.7 | 100.0 | 95.2 | 0.0 |
| | | b | Raw milk cheeses | 5 | 9 | 5 | 1 | 0 | 0 | 90.9 | 54.5 | 70.0 | 0.0 |
| | | c | Raw milk-based products | 8 | 12 | 3 | 0 | 0 | 0 | 100.0 | 72.7 | 87.0 | 0.0 |
| | | | Total | 24 | 30 | 8 | 2 | 0 | 0 | 94.1 | 76.5 | 84.4 | 0.0 |
| 3 | Raw fruits and vegetables | a | Leafy greens | 4 | 10 | 4 | 3 | 0 | 0 | 72.7 | 63.6 | 66.7 | 0.0 |
| | | b | Sprouts | 4 | 9 | 4 | 2 | 0 | 1 | 80.0 | 60.0 | 70.0 | 11.1 |
| | | c | Fruit juices and fermented juices | 6 | 6 | 3 | 1 | 0 | 4 | 90.0 | 70.0 | 80.0 | 66.7 |
| | | | Total | 14 | 25 | 11 | 6 | 0 | 5 | 80.6 | 64.5 | 72.1 | 16.7 |
| **All categories (Raw meat - 8 h)** | | | | **57** | **87** | **23** | **15** | **0** | **5** | **84.2** | **75.8** | **79.7** | **5.4** |
| **All categories (Raw meat - 24 h)** | | | | **57** | **87** | **23** | **15** | **0** | **5** | **84.2** | **75.8** | **79.7** | **5.4** |

* PPNA not included ** PPND not included

A summary of the results is given in Table 5.

**Table 5 - Summary of results**

| | | **All categories** (8 h and 24 h incubation time for raw beef meat) |
|---|---|---|
| **Sensitivity for the alternative method** | $SE_{alt} = \frac{(PA + PD)}{(PA + ND + PD)} \times 100\%$ | 84.2 % |
| **Sensitivity for the reference method** | $SE_{ref} = \frac{(PA + ND +)}{(PA + ND + PD)} \times 100\%$ | 75.8 % |
| **Relative trueness** | $RT = \frac{(PA + NA)}{N} \times 100\%$ | 79.7 % |
| **False positive ratio for the alternative method*** **FP = PPNA + PPND** | $FPR = \frac{(FP)}{NA} \times 100\%$ | 5.4 % |

*With* *ND = ND + PPND*
*NA = NA + PPNA*

The false positive ratio (5.4 %) is due to the positive presumptive MDA tests obtained in the raw fruits and vegetables category.

### *3.1.1.6 Analysis of discordant results*

The negative deviations are given in Table 6 and the positive deviations in Table 7.

**Table 6 - Negative deviations**

| Sample N° | Product | Inoculated strain | Inoculation level (CFU/samples) | MDA test result | Confir-mation | Final result | Agree-ment | Cate-gory | Type |
|---|---|---|---|---|---|---|---|---|---|
| **7630** | **Frozen seasoned beef meat** | *E. coli* O157:H7 Ad976 | 3.0 | - | - | - | **ND** | 1 | c |
| **7639** | **Frozen ground beef meat** | *E. coli* O157:H7 Ad1174 | 3.0 | - | - | - | **ND** | 1 | b |
| **7910** | **Raw beef meat** | *E. coli* O157:H7 Ad486 | 2.2 | - | - | - | **ND** | 1 | a |
| **8132** | **Raw beef meat** | *E. coli* O157:H7 Ad585 | 1.8 | - | - | - | **ND** | 1 | a |
| **8143** | **Seasoned raw ground beef** | *E. coli* O157:H7 Ad587 | 1.0 | - | - | - | **ND** | 1 | c |
| **8144** | **Seasoned Carpaccio** | *E. coli* O157:H7 Ad586 | 2.0 | - | - | - | **ND** | 1 | c |
| **119** | **Beef Carpaccio** | *E. coli* O157:H7 Ad560 | 1.4 | - | - | - | **ND** | 1 | c |
| **7762** | **Raw milk** | *E. coli* O157:H7 Ad572 | 3.0 | - | - | - | **ND** | 2 | a |
| **252** | **Raw milk cheese** | *E. coli* O157:H7 Ad1745 | 1.8 | - | - | - | **ND** | 2 | b |
| **7767** | **Green salad** | *E. coli* O157:H7 Ad575 | 2.6 | - | - | - | **ND** | 3 | a |
| **7770** | **Sprouts** | *E. coli* O157:H7 Ad557 | 2.2 | - | - | - | **ND** | 3 | b |
| **8036** | **Salad** | *E. coli* O157:H7 Ad556 | 3.6 | - | - | - | **ND** | 3 | a |
| **263** | **Salad** | *E. coli* O157:H7 Ad580 | 2.6 | - | - | - | **ND** | 3 | a |
| **646** | **Fruit juice** | *E. coli* O157:H7 Ad577 | 0.8 | - | - | - | **ND** | 3 | c |
| **843** | Sprouts | *E. coli* O157:H7 Ad577 | 2.0 | - | - | - | **ND** | 3 | b |

The presence of *E. coli* O157:H7 was not confirmed in the enrichment broth of the samples in negative deviations. These results were probably due to the unpaired study design.

**Table 7 - Positive deviations**

| Sample N° | Product | Inoculated strain | Inoculation level (CFU/samples) | MDA test result | Confir-mation | Final result | Agree-ment | Cate-gory | Type |
|---|---|---|---|---|---|---|---|---|---|
| **7632** | **Frozen ground beef meat** | *E. coli* O157:H7 Ad683 | 1.6 | + | + | + | **PD** | 1 | b |
| **7905** | **Seasoned beef** | *E. coli* O157:H7 Ad486 | 2.2 | + | + | + | **PD** | 1 | c |
| **8134** | **Raw ground beef** | *E. coli* O157:H7 Ad585 | 1.8 | + | + | + | **PD** | 1 | a |
| **8142** | **Seasoned raw ground beef** | *E. coli* O157:H7 Ad586 | 2.0 | + | + | + | **PD** | 1 | c |
| **7755** | **Raw milk cheese** | *E. coli* O157:H7 Ad686 | 2.8 | + | + | + | **PD** | 2 | b |
| **8024** | **Raw butter** | *E. coli* O157:H7 Ad567 | 3.8 | + | + | + | **PD** | 2 | c |
| **35** | **Raw milk cheese** | *E. coli* O157:H7 Ad570 | 2.8 | + | + | + | **PD** | 2 | b |
| **38** | **Raw milk cheese** | *E. coli* O157:H7 Ad569 | 2.2 | + | + | + | **PD** | 2 | b |
| **254** | **Raw milk cheese** | *E. coli* O157:H7 Ad1745 | 1.8 | + | + | + | **PD** | 2 | b |
| **256** | **Raw milk cheese** | *E. coli* O157:H7 Ad581 | 1.4 | + | + | + | **PD** | 2 | b |
| **651** | **Fermented milk** | *E. coli* O157:H7 Ad576 | 2.6 | + | + | + | **PD** | 2 | c |
| **1403** | Fermented milk | *E. coli* O157:H7 Ad582 | 3.8 | + | + | + | **PD** | 2 | c |
| **7763** | **Lettuce** | *E. coli* O157:H7 Ad575 | 2.6 | + | + | + | **PD** | 3 | a |
| **7771** | **Sprouts** | *E. coli* O157:H7 Ad557 | 2.2 | + | + | + | **PD** | 3 | b |
| **8032** | **Salad** | *E. coli* O157:H7 Ad556 | 3.6 | + | + | + | **PD** | 3 | a |
| **8035** | **Salad** | *E. coli* O157:H7 Ad558 | 3.6 | + | + | + | **PD** | 3 | a |
| **8042** | **Grape juice** | *E. coli* O157:H7 Ad2308 | 4.0 | + | + | + | **PD** | 3 | c |
| **8049** | **Apple juice** | *E. coli* O157:H7 Ad571 | 3.4 | + | + | + | **PD** | 3 | c |
| **41** | **Sprouts** | *E. coli* O157:H7 Ad574 | 1.6 | + | + | + | **PD** | 3 | b |
| **46** | **Sprouts** | *E. coli* O157:H7 Ad573 | 4.6 | + | + | + | **PD** | 3 | b |
| **262** | **Salad** | *E. coli* O157:H7 Ad580 | 2.6 | + | + | + | **PD** | 3 | a |
| **648** | **Fruit juice** | *E. coli* O157:H7 Ad578 | 0.8 | + | + | + | **PD** | 3 | c |
| **842** | Sprouts | *E. coli* O157:H7 Ad576 | 2.0 | + | + | + | **PD** | 3 | b |

The analyses of discordant results according to the EN ISO 16140-2:2016 is the following (See Table 8):

**Table 8 - Analyses of discordant results**

| Category | | Type | | PD | ND | PPND | (ND+PPND)-PD | AL |
|---|---|---|---|---|---|---|---|---|
| 1 | Raw beef meats (Protocol 8h) | a | Raw | 1 | 2 | 0 | 1 | |
| | | b | Frozen | 1 | 1 | 0 | 0 | |
| | | c | Seasoned (raw and frozen) | 2 | 4 | 0 | 2 | |
| | | Total | | 4 | 7 | 0 | 3 | 3 |
| | Raw beef meats (Protocol 24h) | a | Raw | 1 | 2 | 0 | 1 | |
| | | b | Frozen | 1 | 1 | 0 | 0 | |
| | | c | Seasoned (raw and frozen) | 2 | 4 | 0 | 2 | |
| | | Total | | 4 | 7 | 0 | 3 | 3 |
| 2 | Raw dairy products | a | Raw milk | 0 | 1 | 0 | 1 | |
| | | b | Raw milk cheeses | 5 | 1 | 0 | -4 | |
| | | c | Raw milk-based products | 3 | 0 | 0 | -3 | |
| | | Total | | 8 | 2 | 0 | -6 | 3 |
| 3 | Raw fruits and vegetables | a | Leafy greens | 4 | 3 | 0 | -1 | |
| | | b | Sprouts | 4 | 2 | 0 | -2 | |
| | | c | Fruit juices and fermented juices | 3 | 1 | 0 | -2 | |
| | | Total | | 11 | 6 | 0 | -5 | 3 |
| **All categories (Raw meat - 8 h)** | | | | **23** | **15** | **0** | **-8** | **5** |
| **All categories (Raw meat - 24 h)** | | | | **23** | **15** | **0** | **-8** | **5** |

**The observed values for ((ND + PPND) - PD) meet the acceptability limit for each category and for all the combined categories.**

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

The following changes were observed (See Table 9).

**Table 9**

| Sample N° | Product | Before BPW storage | Lysate storage | BPW storage |
|---|---|---|---|---|
| **7748** | **Raw milk** | NA | PD | NA |
| **7769** | **Sprouts** | **PA** | PA | ND |

The analyses of discordant results become (See Tables 10 and 11).

**Table 10 - Analyses of discordant results**
**<u>after BPW storage</u> for 72 h at 5°C ± 3°C**

| Category | | Type | | PD | ND | PPND | (ND+PPND)-PD | AL |
|---|---|---|---|---|---|---|---|---|
| 1 | Raw beef meats (Protocol 8h) | a | Raw | 1 | 2 | 0 | | |
| | | b | Frozen | 1 | 1 | 0 | | |
| | | c | Seasoned (raw and frozen) | 2 | 4 | 0 | | |
| | | | Total | 4 | 7 | 0 | 3 | 3 |
| | Raw beef meats (Protocol 24h) | a | Raw | 1 | 2 | 0 | | |
| | | b | Frozen | 1 | 1 | 0 | | |
| | | c | Seasoned (raw and frozen) | 2 | 4 | 0 | | |
| | | | Total | 4 | 7 | 0 | 3 | 3 |
| 2 | Raw dairy products | a | Raw milk | 0 | 1 | 0 | | |
| | | b | Raw milk cheeses | 5 | 1 | 0 | | |
| | | c | Raw milk-based products | 3 | 0 | 0 | | |
| | | | Total | 8 | 2 | 0 | -6 | 3 |
| 3 | Raw fruits and vegetables | a | Leafy greens | 4 | 3 | 0 | | |
| | | b | Sprouts | 4 | 3 | 0 | | |
| | | c | Fruit juices and fermented juices | 3 | 1 | 0 | | |
| | | | Total | 11 | 7 | 0 | -4 | 3 |
| **All products (Raw meat - 8 h)** | | | | **23** | **16** | **0** | **-7** | **5** |
| **All products (Raw meat - 24 h)** | | | | **23** | **16** | **0** | **-7** | **5** |

**Table 11 - Analysis of discordant results**
**<u>after lysates storage</u> for 72 h at 5 ± 3°C**

| Category | | Type | | PD | ND | PPND | (ND+PPND)-PD | AL |
|---|---|---|---|---|---|---|---|---|
| 1 | Raw beef meats (Protocol 8h) | a | Raw | 1 | 2 | 0 | | |
| | | b | Frozen | 1 | 1 | 0 | | |
| | | c | Seasoned (raw and frozen) | 2 | 4 | 0 | | |
| | | | Total | 4 | 7 | 0 | 3 | 3 |
| | Raw beef meats (Protocol 24h) | a | Raw | 1 | 2 | 0 | | |
| | | b | Frozen | 1 | 1 | 0 | | |
| | | c | Seasoned (raw and frozen) | 2 | 4 | 0 | | |
| | | | Total | 4 | 7 | 0 | 3 | 3 |
| 2 | Raw dairy products | a | Raw milk | 1 | 1 | 0 | | |
| | | b | Raw milk cheeses | 5 | 1 | 0 | | |
| | | c | Raw milk-based products | 3 | 0 | 0 | | |
| | | | Total | 9 | 2 | 0 | -7 | 3 |
| 3 | Raw fruits and vegetables | a | Leafy greens | 4 | 3 | 0 | | |
| | | b | Sprouts | 4 | 2 | 0 | | |
| | | c | Fruit juices and fermented juices | 3 | 1 | 0 | | |
| | | | Total | 11 | 6 | 0 | -5 | 3 |
| **All products (Raw meat - 8 h)** | | | | **24** | **15** | **0** | **-9** | **5** |
| **All products (Raw meat - 24 h)** | | | | **24** | **15** | **0** | **-9** | **5** |

**The observed values for ((ND + PPND) - PD) meet the acceptability limit for each category and for the combined categories for both enrichment and lysates storage.**

#### *3.1.1.8 Confirmation*

For raw ground beef, all the positive MDA results were confirmed by direct streaking onto CT-SMAC.

For dairy products, for one sample (n° 246), an IMS step was required to confirm the presence of *E. coli* strain in the enrichment broth and for one sample (n° 245), a regrowth step in BHI for 24 h at 37°C (IMS, BHI, IMS) was necessary to the recovery of the strain.

For fruits and vegetables, 13 samples were not confirmed using direct streaking:

- For one sample (No 262), the *E. coli* O157:H7 strain was recovered when an IMS step was applied prior streaking onto CT-SMAC;

- For seven samples (No 8042, 40, 41, 43, 411, 46 and 842), the presence of *E. coli* O157:H7 was confirmed by proceeding to an IMS on BPW, incubation of immunobeads in BHI for 24 h at 37°C, IMS and streaking onto CT-SMAC;

- For five samples (No 8040, 8043, 8044, 8045 and 45), it was impossible to recover the strain in the enrichment broth. These samples are mainly in type c (fruit juices and fermented juices). The percentage of false positive ratio (FPR) for the category “Raw fruits and vegetables” is 16.7 %.

Additionally, one sample (n° 7748: raw cow milk) which gave a negative MDA test was confirmed by direct streaking onto CT-SMAC.

### *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*

Three (matrix/strain) pairs were analyzed by the reference method and by the alternative method (See Table 12):

**Table 12 - Defined (matrix/strain) pairs for the RLOD determination**

| Category | | Matrix | Inoculated strain | Origin | Storage conditions before analysis |
|---|---|---|---|---|---|
| 1 | **Raw beef meats** | Ground beef | *Escherichia coli* O157:H7 Ad486 | Ground beef | 48 h at 5°C ± 3°C |
| 2 | **Raw dairy products** | Raw milk | *Escherichia coli* O157:H7 Ad686 | Bovine slaughterhouse environment | |
| 3 | **Raw fruits and vegetables** | Raw spinach | *Escherichia coli O157:H7* Ad 556 | Water treatment plant | |

### *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 (clause 5-1-4-2 Calculation and interpretation of RLOD) version 06.07.2015. The RLOD are given Table 13.

**Table 13 – Presentation of RLOD before and after confirmation of the alternative method results**

| Cate-gory | Matrix/strain pair | RLOD | RLODL | RLODU | b=ln (RLOD) | sd(b) | z-Test statistic | p-value |
|---|---|---|---|---|---|---|---|---|
| 1 | Raw Ground beef/*E. coli* O157:H7 Ad486 (8 h and 24 h incubation times) | 1,322 | 0,549 | 3,186 | 0,279 | 0,440 | 0,635 | 0,526 |
| 2 | Raw milk/*E. coli* O157:H7 Ad686 | 0,563 | 0,179 | 1,774 | -0,574 | 0,574 | 1,001 | 1,683 |
| 3 | Raw spinach/*E. coli* O157:H7 Ad556 | 1,186 | 0,417 | 3,371 | 0,170 | 0,522 | 0,326 | 0,744 |
| **Combined results** | | **1,000** | **0,565** | **1,770** | **0,000** | **0,286** | **0,000** | **1,000** |

**The RLOD meet the AL fixed at 2.5 for an unpaired study design for the three tested matrix/strain pairs.**

The $LOD_{50\ \%}$ calculations according to Wilrich & Wilrich POD-LOD calculation program - version 10, 2021.03.02 test are given in Table 14.

**Table 14 - $LOD_{50}$ results**

| Category | Matrix / strain pair | Level of detection at 50% (CFU / sample size) according to Wilrich & Wilrich[1] | |
|---|---|---|---|
| | | Reference method | Alternative method |
| 1 | Raw Ground beef/*E. coli* O157:H7 Ad486 (8 h and 24 h incubation times) | 0,454 [0,250;0,823] | 0,597 (0,317;1,124] |
| 2 | Raw milk/*E. coli* O157:H7 Ad686 | 1,253 [0,616; 2,551] | 0,794 [0,407; 1,551] |
| 3 | Raw spinach/*E. coli* O157:H7 Ad556 | 1,332 [0,676;2,627] | 1,551 [0,773;3,112] |
| **Combined results** | | **0,918 [0,626; 1,346]** | **0,924 [0,630; 1,355]** |

**The $LOD_{50}$ varies from 0.5 to 1.3 log CFU/test portion for the reference method and from 0.6 to 1.6 log 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**

As the most challenging protocol shall be used, it was proposed to run the inclusivity testing with the **short protocol** dedicated to raw beef (8 h incubation time).

*E. coli* O157 cultures were performed in BHI medium at 37°C. Dilutions were done in order to inoculate 10 cells/225 ml of pre-warmed BPW broth. The broths were incubated for 8 h at 41.5°C ± 1°C before performing the alternative method protocol. The confirmatory tests were applied on the enrichment broths.

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

❒ **Exclusivity**

Negative strains cultures were performed in BHI at 37°C. Dilutions were realized in order to inoculate $10^5$ cells/ml BPW. The BPW was then incubated for 24 h at 37°C ± 1°C. The alternative method was then performed.

*3.1.3.2 Results*

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

❒ **Inclusivity**

The 50 target strains gave positive MDA results as well as positive confirmatory tests.

❒ **Exclusivity**

No cross reaction was observed among the 30 strains tested.

**The 3M™ Molecular Detection Assay 2 - *E. coli* O157 (including H7) is specific and selective.**

### *3.1.4 Practicability*

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

| | | | | |
|---|---|---|---|---|
| **Storage conditions and shelf-life** | The storage temperature is: 2 – 8°C.<br>The shelf-life is given on the package. All the reagents must be stored at the temperature mentioned on the package. | | | |
| **Time to result** | Steps | **Reference Method** | **Alternative method** | |
| | | | **Protocol 8 h** | **Protocol 18 h** |
| | **Negative samples** | | | |
| | Sampling / pre-enrichment | Day 0 | / | Day 0 |
| | IMS 6 h | Day 0 | / | / |
| | IMS 24 h | Day 1 | / | / |
| | MDA test | / | Day 0 | Day 1 |
| | Selective agar plate reading | Day 2 | / | / |
| | Final negative result | Day 2 | Day 0 | Day 1 |
| | **Presumptive positive or positive results** | | | |
| | Streaking onto CT SMAC | / | Day 0 | Day 1 |
| | Streaking onto nutrient agar | Day 1 – Day 2 | Day 1 | Day 2 |
| | Indole test | Day 2 – Day 3 | / | / |
| | Latex test | Day 2 – Day 3 | Day 1 | Day 2 |
| **Common step with the reference method** | No common step | | | |

Negative results are available within the day of initializing the analysis with the 3M™ Molecular Detection Assay 2 - *E. coli* O157 (including H7). Depending on the confirmation protocol, the positive results are available between 1 and 2 days.

The workflow of the 3M™ Molecular Detection Assay 2 - *E. coli* O157 (including H7) method allows shortening the handling time in comparison to 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*

Samples were sent to 17 laboratories.

- *Matrix and strain used*

The study was run with ground beef samples contaminated with *Escherichia coli* O157:H7.

- *Samples*

The samples were inoculated and sent on Monday 21st January 2013, as described below:

- 24 codified samples (25 g) (red labeled) for *Escherichia coli* O157 research by the 3M™ Molecular *Escherichia coli* O157 (including H7) Test Kit,
- 24 codified samples (25 g) (blue labeled) for analyses by the ISO 16654 (2001) reference method,
- 1 ground beef sample (labeled “Sample for Total Count enumeration”) for aerobic mesophilic flora enumeration by ISO 4833 method,
- **1 water flask labeled “Temperature Control” with a temperature probe, which shall be incubated simultaneously with the samples during analysis (storage and alternative enrichment incubation).**

The analyses were started on Wednesday 23rd January 2013.

- *Inoculation*

The targeted inoculation levels were:

- 0 CFU/25 ml,
- 1 – 10 CFU/25 ml,
- 5 – 50 CFU/25 ml.

8 samples were prepared per inoculation level, per method and per laboratory. Each laboratory received 24 samples to analyze by the reference method and 24 samples to analyze by the alternative method.

- *Labeling and shipping*

Blind samples were placed in isothermal boxes, which contained cooling blocks, and express-shipped to the different laboratories.

A temperature control flask containing a sensor was added to the package in order to register the temperature profile during the transport, the package delivery and storage until analyses.

Samples were shipped in 24 h to 72 h to the involved laboratories. The temperature conditions had to stay lower or equal to 8.4°C during transport, and between 0°C – 8.4°C in the labs.

- *Analyses*

Collaborators and ADRIA Développement carried out the analyses with the alternative and reference methods at Day 2.

### *3.2.2 Experimental parameters controls*

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

In order to detect *Escherichia coli* O157, the ISO 16654 method was performed on five ground beef test portions (25 g) before the inoculation. All the results were negative.

Sample stability was checked by inoculating the matrix at 25 CFU/25 g and 3 CFU/g. Enumerations were performed for the high contamination level and

detection analyses were performed for the low contamination level. *Triplicates* were analyzed, and the results were the following (See Table 15).

**Table 15 - Sample stability**

| Day | Reference method (detection) | | | CFU/g (XLD) | | | Aerobic mesophilic flora (CFU/g) |
|---|---|---|---|---|---|---|---|
| | Sample 1 | Sample 2 | Sample 3 | Sample 1 | Sample 2 | Sample 3 | |
| Day 0 | + | + | + | 102 | 100 | 126 | $2.0\ 10^3$ |
| Day 1 | - | + | + | 92 | 106 | 186 | $2.4\ 10^3$ |
| Day 2 | - | - | + | 100 | 112 | 126 | $1.5\ 10^3$ |

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

### *3.2.2.2 Contamination levels*

The contamination levels and the sample codification were the following (see Table 16).

**Table 16 - Contamination levels**

| Level | Samples | Theoretical target level (b/25 g) | True level (b/25 g sample) | Low limit / 25 g sample | High limit / 25 g sample |
|---|---|---|---|---|---|
| Level 0 | 4 – 6 – 9 – 12 – 13 – 17 – 22 – 23 | / | / | / | / |
| Low level | 1 – 3 – 8 – 10 – 16 – 20 – 21 – 24 | 3 | 3 | 2.4 | 3.4 |
| High level | 2 – 5 – 7 – 11 – 14 – 15 – 18 – 19 | 25 | 20.4 | 17.7 | 23.5 |

### *3.2.2.3 Logistic conditions*

Temperature conditions are given in Table 17.

**Table 17 - Sample temperatures at receipt**

| Laboratories | Temperature measured by the sensor (°C) | Temperature measured at receipt (°C) | Receipt date and time | |
|---|---|---|---|---|
| A | *Register problem encountered with the probe* | 5.0 | 22 January 2013 | 10h00 |
| B | 0.5 | 3.0 | 22 January 2013 | 14h00 |
| C | 0. | 2.1 | 22 January 2013 | 11h00 |
| D | 1.0 | 2.3 | 22 January 2013 | 09h13 |
| E | 1.0 | 3.0 | 23 January 2013 | 10h30 |
| F | 0.0 | 2.1 | 22 January 2013 | 07h30 |
| G | 0.5 | 3.9 | 22 January 2013 | 09h40 |
| H | 1.0 | 1.5 | 22 January 2013 | 11h00 |
| I | 0.0 | 4.0 | 22 January 2013 | 11h00 |
| J | 0.5 | 2.7 | 22 January 2013 | 09h30 |
| K | 1.0 | 3.8 | 22 January 2013 | 11h00 |
| L | *Did not participate to the ring trial* | | | |
| M | *Received the samples but did not participate to the ring trial* | | | |
| N | 0.5 | 1.0 | 22 January 2013 | 11h20 |
| O | 1.5 | 3.8 | 22 January 2013 | 12h30 |
| P | 1.0 | 1.6 | 22 January 2013 | 12h00 |
| Q | 2.0 | 7.7 | 22 January 2013 | 09h15 |

No problem was encountered during the transport or at receipt for 14 labs.

One Lab (E) received its package at Day 2, but in cold conditions (register during shipment, storage and analysis).

Lab L decided to not take part to the ring trial.

Lab M received the samples but did not proceed to the analysis.

**Finally, 15 Labs participated to the ring trial.**

### 3.2.3 Results analysis

The 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 18.

**Table 18 – Results obtained by the expert Lab.**

| Level | Reference method | Alternative method |
|---|---|---|
| L0 | 0/8 | 0/8 |
| L1 | 4/8 | 8/8 |
| L2 | 8/8 | 8/8 |

Fractional positive results were observed for the low inoculation level with the reference method; all the inoculated samples gave positive results with the alternative method.

#### 3.2.3.2 Results observed by the collaborative laboratories

- ***Aerobic mesophilic flora enumeration***

Depending on the Lab results, the enumeration levels varied from 1.9 $10^2$ to 2.5 $10^3$ CFU/g.

- ***Escherichia coli O157:H7 detection***

15 collaborators participated to the study. The results obtained for the reference method are provided in Table 19 (reference method) and Table 20 (alternative method).

**Table 19 - Positive results by the reference method (ALL the collaborators)**

| Laboratory | Contamination level | | |
|---|---|---|---|
| | L0 | L1 | L2 |
| A | 0 | 6 | 8 |
| B | 0 | 8 | 8 |
| C | 0 | 8 | 8 |
| D | 0 | 8 | 8 |
| E | 0 | 8 | 8 |
| F | 2 | 7 | 8 |
| G | 1 | 7 | 8 |
| H | 0 | 7 | 8 |
| I | 1 | 7 | 8 |
| J | 1 | 8 | 8 |
| K | 2 | 8 | 8 |
| N | 0 | 7 | 8 |
| O | 1 | 8 | 8 |
| P | 1 | 5 | 8 |
| Q | 4 | 7 | 8 |
| **Total** | **$P_0$ = 13** | **$P_1$ = 109** | **$P_2$ = 120** |

**Table 20 - Positive results (before and after confirmation) by the alternative methods (ALL the collaborators)**

| Laboratory | Contamination level | | | | | |
|---|---|---|---|---|---|---|
| | *L0* | | *L1* | | *L2* | |
| | *Before confirmation* | *After confirmation* | *Before confirmation* | *After confirmation* | *Before confirmation* | *After confirmation* |
| A | 0 | 0 | 7 | 7 | 8 | 8 |
| B | 0 | 0 | 7 | 7 | 8 | 8 |
| C | 1 | 0 | 7 | 7 | 8 | 8 |
| D | 0 | 0 | 8 | 8 | 8 | 8 |
| E | 1 | 0 | 7 | 7 | 8 | 8 |
| F | 0 | 0 | 2 | 2 | 8 | 8 |
| G | 0 | 0 | 8 | 8 | 8 | 8 |
| H | 0 | 0 | 8 | 8 | 8 | 8 |
| I | 0 | 0 | 8 | 8 | 8 | 8 |
| J | 0 | 0 | 6 | 6 | 8 | 8 |
| K | 0 | 0 | 4 | 4 | 6 | 6 |
| N | 0 | 0 | 8 | 8 | 8 | 8 |
| O | 1 | 0 | 5 | 4 | 8 | 8 |
| P | 0 | 0 | 8 | 8 | 8 | 8 |
| Q | 0 | 0 | 7 | 7 | 8 | 8 |
| **Total** | **$P_0$ = 3** | **$CP_0$ = 0** | **$P_1$ = 100** | **$CP_1$ = 99** | **$P_2$ = 118** | **$CP_2$ = 118** |

Unexpected data were observed for 8 Labs on unspiked samples using the reference method and for 3 labs using the alternative method (positive MDA tests not confirmed). Unfortunately, it was not possible to run additional testing to explain the observed data.

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 3 Labs (F, K and Q) were excluded.

### *3.2.3.3 Results of the collaborators retained for interpretation*

The results obtained with the 12 labs kept for interpretation are presented in Table 21 (reference method) and Table 22 (alternative method).

**Table 21 - Positive results by the reference method (Without Labs F, K and Q)**

| Laboratory | Contamination level | | |
|---|---|---|---|
| | *L0* | *L1* | *L2* |
| A | 0 | 6 | 8 |
| B | 0 | 8 | 8 |
| C | 0 | 8 | 8 |
| D | 0 | 8 | 8 |
| E | 0 | 8 | 8 |
| G | 1 | 7 | 8 |
| H | 0 | 7 | 8 |
| I | 1 | 7 | 8 |
| J | 1 | 8 | 8 |
| N | 0 | 7 | 8 |
| O | 1 | 8 | 8 |
| P | 1 | 5 | 8 |
| **Total** | **$P_0$ = 5** | **$P_1$ = 87** | **$P_2$ = 96** |

**Table 22 - Positive results (before and after confirmation) by the alternative methods (Without Labs F, K and Q)**

| Laboratory | Contamination level | | | | | |
|---|---|---|---|---|---|---|
| | *L0* | | *L1* | | *L2* | |
| | *Before confirmation* | *After confirmation* | *Before confirmation* | *After confirmation* | *Before confirmation* | *After confirmation* |
| A | 0 | 0 | 7 | 7 | 8 | 8 |
| B | 0 | 0 | 7 | 7 | 8 | 8 |
| C | 1 | 0 | 7 | 7 | 8 | 8 |
| D | 0 | 0 | 8 | 8 | 8 | 8 |
| E | 1 | 0 | 7 | 7 | 8 | 8 |
| G | 0 | 0 | 8 | 8 | 8 | 8 |
| H | 0 | 0 | 8 | 8 | 8 | 8 |
| I | 0 | 0 | 8 | 8 | 8 | 8 |
| J | 0 | 0 | 6 | 6 | 8 | 8 |
| N | 0 | 0 | 8 | 8 | 8 | 8 |
| O | 1 | 0 | 5 | 4 | 8 | 8 |
| P | 0 | 0 | 8 | 8 | 8 | 8 |
| **Total** | **$P_0$ = 3** | **$CP_0$ = 0** | **$P_1$ = 87** | **$CP_1$ = 86** | **$P_2$ = 96** | **$CP_2$ = 96** |

### 3.2.4 Calculation and interpretation

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

The percentage specificities (SP) of the reference method and of the alternative method, using the data after confirmation, based on the results of level L0 are the following (See Table 23).

**Table 23 - Percentage specificity**

| | | |
|---|---|---|
| **Specificity for the reference method** | $SP_{ref} = \left(1 - \left(\frac{P_0}{N\_}\right)\right) x\ 100\ \% =$ | 94.8 % |
| **Specificity for the alternative method** | $SP_{alt} = \left(1 - \left(\frac{CP_0}{N\_}\right)\right) x\ 100\ \% =$ | 100.0 % |

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

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

A summary of the results of the collaborators retained for interpretation, and obtained with the reference and the alternative methods for Level 1 is provided in Table 24.

**Table 24 - 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 = 77** | Positive deviation (R-/A+) **PD = 9** |
| **Alternative method negative (A-)** | Negative deviation (A-/R+) **ND = 10 (PPND = 1)** | Negative agreement (A-/R-) **NA = 0 (PPNA = 0)** |

Based on the data summarized in Table 24, the values of sensitivity of the alternative and reference methods, as well as the relative trueness and false positive ratio for the alternative method taking account the confirmations, are the following (See Table 25).

**Table 25 - Sensitivity, relative trueness and false positive ratio percentages**

| | | |
|---|---|---|
| **Sensitivity for the alternative method:** | $SE_{alt} = \frac{(PA+PD)}{(PA+PD+ND)} \ x \ 100\% =$ | 89.6 % |
| **Sensitivity for the reference method:** | $SE_{ref} = \frac{(PA+ND)}{(PA+PD+ND)} \ x \ 100\% =$ | 90.6 % |
| **Relative trueness** | $RT = \frac{(PA+NA)}{N} \ x \ 100\% =$ | 80.2 % |
| **False positive ratio for the alternative method** | $FPR = \frac{FP}{NA} \ x \ 100\% =$ | / |

### *3.2.4.3 Interpretation of data*

The negative deviations are listed in Table 26 for Level 1, and the positive deviations in Table 27 for Level 1.

**Table 26 - Negative deviations for Level 1**

| Sample No | MDS Result | Confirmation |
|---|---|---|
| A20 | - | - |
| B3 | - | - |
| C8 | -/-/- | - |
| E8 | - | - |
| J1 | - | + |
| J10 | - | + |
| O1 | - | - |
| O3 | + | - |
| O20 | - | - |
| O21 | - | - |

**Table 27 - Positive deviations for Level 1**

| Sample No | MDS Result | Confirmation |
|---|---|---|
| A3 | + | + |
| A8 | + | + |
| G16 | + | + |
| H20 | + | + |
| I16 | + | + |
| N16 | + | + |
| P3 | + | + |
| P21 | + | + |
| P24 | + | + |

Among the 10 negative deviations obtained, the presence of *E. coli* O157 was confirmed in enrichment broth for 2 samples (J1 and J10).

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

$$(p+)_{\text{ref}} = \frac{P_x}{N_x}$$

where

$P_x$ = number of samples with a positive result obtained with the reference method at level $x$ ($L_1$ or $L_2$) for all the collaborators

$N_x$ = number of samples tested at level $x$ ($L_1$ or $L_2$) with the reference method by all the collaborators

$$(p+)_{\text{alt}} = \frac{CP_x}{N_x}$$

where

$CP_x$ = number of samples with a confirmed positive result obtained with the alternative method at level $x$ ($L_1$ or $L_2$) for all the collaborators;

$N_x$ = number of samples tested at level $x$ ($L_1$ or $L_2$) with the alternative method by all the collaborators.

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

where

$N_x$ = number of samples tested for level $x$ ($L_1$ or $L_2$) with the reference method by all the collaborators.

The AL is not met when the observed value is higher than the AL. When the AL is not met, investigations should be made (e.g. root cause analysis) in order to provide an explanation of the observed results. Based on the AL and the additional information, it is decided whether the alternative method is regarded as not fit for purpose. The reasons for acceptance of the alternative method when the AL is not met shall be stated in the study report.

In this study, fractional recovery was observed at Level 1. The calculations are the following, according to the EN ISO 16140-2:2016 (See Table 28).

**Table 28 - Calculations**

| | |
|---|---|
| $N_X$ | 96 |
| $(p+)_{ref}$ | 0.91 |
| $(p+)_{alt}$ | 0.90 |
| AL = (ND - PD) max | 7.17 |
| ND - PD | 1 |
| Conclusion | ND -PD ≤ AL |

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

There is indeed no difference between the sensitivity of the compared methods, and the alternative method complies with the reproducibility conditions.

#### *3.2.4.4 Evaluation of the LOD 50%, LOD 95 % and RLOD between laboratories*

The RLOD was calculated using the EN ISO 16140-2:2016 Excel spreadsheet available at https://standards.iso.org/iso/16140/-5/ed-1/en/RLOD_inter-lab-study_16140-2_AnnexF_ver1_28-06-2017.xls. The results are used only for information (see Table 29).

**Table 29 - LOD 50%, LOD 95 % and RLOD**

| Method | LOD 50% | LOD 95% | RLOD |
|---|---|---|---|
| Reference | 0,79 [0,55;1,14] | 3,41 [2,26;4,91] | 1,00 [0,65;1,53] |
| Alternative | 0,79 [0,55;1,14] | 3,41 [2,26;4,91] | |

## 3.3 Conclusion

The **method comparison study conclusions** are:

☒ The method comparison study scheme corresponds to an UNPAIRED STUDY design as the alternative and reference methods have different enrichment procedures.

☒ In the sensitivity study, three food categories were tested. The protocol of the alternative method shows 23 positive deviations (PD) and 15 negative deviations (ND) for the three tested categories. The ((ND + PPND) - PD) values are below or equal to the acceptability limits (AL)

whatever the categories, and as well for the three tested categories. The number of PD is higher that the number of ND.

☒ The Relative Levels of Detection (RLOD) are all below the AL fixed at 2.5 for the unpaired data study whatever the matrix/strain pairs.

☒ The inclusivity and exclusivity testing did give the expected results for the 50 target strains and the 30 non target strains.

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

☒ The alternative method allows a screening of the negative samples within the day of initializing the analysis for the short protocol dedicated to raw beef meats category.

☒ The alternative method fulfils all the EN ISO 16140-2:2016 and AFNOR technical rules (PR revision 7).

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

☒ The data and interpretations comply with the EN ISO 16140-2:2016 requirements. **The 3M™ Molecular Detection Assay 2 - *E. coli* O157 (including H7) is considered equivalent to the ISO standard.**

Quimper, 06 May 2021

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

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

## Appendix 1 – Flow diagram of the alternative method: 3M™ Molecular Detection Assay 2 - *E. coli* O157 (including H7)

25 g + 225 mL pre-warmed 3M BPW ISO
according to ISO 6887 parts

↓

Incubation for 8 - 24 h at 41.5°C ±1°C for raw beef meat
*Or*
Incubation for 18-24 h at 41.5°C ±1°C for raw fruits and vegetables, and raw dairy products

↓

Transfer 20 µL of each enrichment in Lysis solution tube

↓

Transfer 20 µL of NC in an individual Lysis solution tube

↓

Extraction

↓

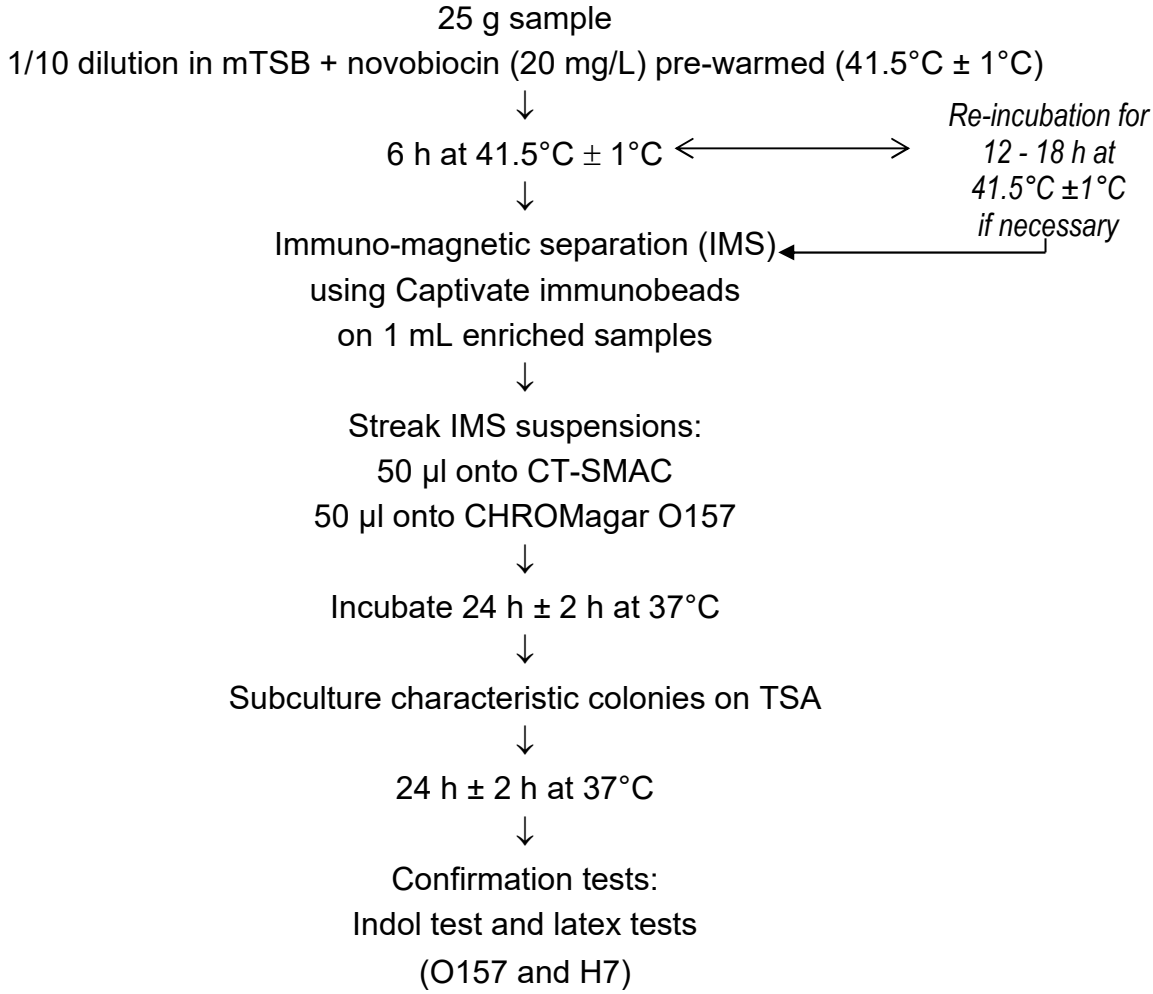
Automated Amplification and Detection on 20 µl lysate

↓

Confirmation

The positive results are confirmed by streaking 50 µl of enrichment broth on CT-SMAC and by performing latex tests on characteristic colonies isolated on nutrient agar. If the results are not confirmed using these simple tests, an IMS is performed before streaking 50 µl on CT-SMAC

**Appendix 2 – Flow diagram of the reference method: ISO 16654 (2011): Microbiology of food and animal feeding stuffs - Horizontal method for the detection of *Escherichia coli* O157 - Amendment 1 (March 2017): annex B: result of inter-laboratory studies**



# Appendix 3 – Artificial contamination of samples

| Sample N° | Product (French name) | Product | Artificial contamination | | | | Global result 8h |
|---|---|---|---|---|---|---|---|
| | | | Strain | Origin | Injury protocol | Inoculation rate/25g | |
| 7628 | Pavé de bœuf surgelé | Frozen beef meat | *E. coli* O157:H7 Ad683 | Frozen beef meat | Seeding -20°C 15 days | 1-2-1-1-3 (1.6) | + |
| 7629 | Effeuillé de charolais surgelé | Frozen beef meat | *E. coli* O157:H7 Ad683 | Frozen beef meat | Seeding -20°C 15 days | 1-2-1-1-3 (1.6) | + |
| 7630 | Pavé de rumsteak aux trois poivres surgelé | Frozen seasoned beef meat | *E. coli* O157:H7 Ad976 | Beef meat | Seeding -20°C 15 days | 5-1-3-1-5 (3.0) | + |
| 7631 | Steak haché surgelé | Frozen ground beef meat | *E. coli* O157:H7 Ad683 | Frozen beef meat | Seeding -20°C 15 days | 1-2-1-1-3 (1.6) | + |
| 7632 | Steak haché surgelé | Frozen ground beef meat | *E. coli* O157:H7 Ad683 | Frozen beef meat | Seeding -20°C 15 days | 1-2-1-1-3 (1.6) | + |
| 7633 | Steak haché pur bœuf surgelé | Frozen ground beef meat | *E. coli* O157:H7 Ad683 | Frozen beef meat | Seeding -20°C 15 days | 1-2-1-1-3 (1.6) | - |
| 7634 | Bavette d'aloyau surgelé | Frozen beef meat | *E. coli* O157:H7 Ad1174 | Frozen ground beef meat | Seeding -20°C 15 days | 3-4-1-4-3 (3.0) | + |
| 7636 | Pavé de rumsteak à l'échalote poivres surgelé | Frozen seasoned beef meat | *E. coli* O157:H7 Ad976 | Beef meat | Seeding -20°C 15 days | 5-1-3-1-5 (3.0) | - |
| 7637 | Tendre de bœuf surgelé | Frozen beef meat | *E. coli* O157:H7 Ad1174 | Frozen ground beef meat | Seeding -20°C 15 days | 3-4-1-4-3 (3.0) | + |
| 7638 | Steak haché pur bœuf surgelé | Frozen ground beef meat | *E. coli* O157:H7 Ad1174 | Frozen ground beef meat | Seeding -20°C 15 days | 3-4-1-4-3 (3.0) | + |
| 7639 | Haché pur bœuf 20% MG surgelé | Frozen ground beef meat | *E. coli* O157:H7 Ad1174 | Frozen ground beef meat | Seeding -20°C 15 days | 3-4-1-4-3 (3.0) | + |
| 7640 | Viande hachée pur bœuf surgelé | Frozen ground beef meat | *E. coli* O157:H7 Ad1174 | Frozen ground beef meat | Seeding -20°C 15 days | 3-4-1-4-3 (3.0) | + |
| 7904 | Carpaccio basilic | Seasoned beef | *E. coli* O157:H7 Ad976 | Beef meat | Seeding 2-8°C 48h | 5-1-3-1-5 (3.0) | - |
| 7905 | Carpaccio noisette vinaigre balsamique | Seasoned beef | *E. coli* O157:H7 Ad486 | Beef meat | Seeding 2-8°C 48h | 5-4-1-1-0 (2.2) | + |
| 7907 | Steak haché 5%MG | Raw ground beef | *E. coli* O157:H7 Ad486 | Beef meat | Seeding 2-8°C 48h | 5-4-1-1-0 (2.2) | + |
| 7908 | Steak de bœuf | Raw beef meat | *E. coli* O157:H7 Ad486 | Beef meat | Seeding 2-8°C 48h | 5-4-1-1-0 (2.2) | + |
| 7909 | Onglet de bœuf | Raw beef meat | *E. coli* O157:H7 Ad486 | Beef meat | Seeding 2-8°C 48h | 5-4-1-1-0 (2.2) | + |
| 7910 | Bavette de flanchet | Raw beef meat | *E. coli* O157:H7 Ad486 | Beef meat | Seeding 2-8°C 48h | 5-4-1-1-0 (2.2) | + |
| 8124 | Viande bovine steak à griller | Raw beef meat | *E. coli* O157:H7 Ad683 | Beef meat | Seeding 2-8°C 48h | 1-1-1-1-4 (1.6) | + |
| 8126 | Viande bovine pot au feu | Raw beef meat | *E. coli* O157:H7 Ad683 | Beef meat | Seeding 2-8°C 48h | 1-1-1-1-4 (1.6) | + |

| Sample N° | Product (French name) | Product | Artificial contamination | | | | Global result 8h |
|---|---|---|---|---|---|---|---|
| | | | Strain | Origin | Injury protocol | Inoculation rate/25g | |
| 8128 | Viande bovine bavette de flanchet | Raw beef meat | *E. coli* O157:H7 Ad585 | Beef meat | Seeding 2-8°C 48h | 1-2-2-2-2 (1.8) | + |
| 8130 | Viande bovine bavette d'aloyau | Raw beef meat | *E. coli* O157:H7 Ad585 | Beef meat | Seeding 2-8°C 48h | 1-2-2-2-2 (1.8) | + |
| 8132 | Viande bovine pavé en tournedos | Raw beef meat | *E. coli* O157:H7 Ad585 | Beef meat | Seeding 2-8°C 48h | 1-2-2-2-2 (1.8) | + |
| 8134 | Steak haché pur bœuf 5%MG | Raw ground beef | *E. coli* O157:H7 Ad585 | Beef meat | Seeding 2-8°C 48h | 1-2-2-2-2 (1.8) | + |
| 8138 | Viande bovine basse côte à griller | Raw beef meat | *E. coli* O157:H7 Ad585 | Beef meat | Seeding 2-8°C 48h | 1-2-2-2-2 (1.8) | + |
| 8140 | Pavé rumsteak trois poivres | Seasoned raw beef meat | *E. coli* O157:H7 Ad586 | Beef meat | Seeding 2-8°C 48h | 5-1-1-1-2 (2.0) | - |
| 8141 | Pavé rumsteak trois poivres | Seasoned raw beef meat | *E. coli* O157:H7 Ad587 | Beef meat | Seeding 2-8°C 48h | 0-3-0-1-1 (1.0) | - |
| 8142 | Viande hachée à la bolognaise | Seasoned raw ground beef | *E. coli* O157:H7 Ad586 | Beef meat | Seeding 2-8°C 48h | 5-1-1-1-2 (2.0) | + |
| 8143 | Viande hachée à la bolognaise | Seasoned raw ground beef | *E. coli* O157:H7 Ad587 | Beef meat | Seeding 2-8°C 48h | 0-3-0-1-1 (1.0) | + |
| 8144 | Carpaccio pistou basilic huile d'olive et ail | Seasoned Carpaccio | *E. coli* O157:H7 Ad586 | Beef meat | Seeding 2-8°C 48h | 5-1-1-1-2 (2.0) | + |
| 8146 | Carpaccio pur bœuf huile d'olive citron | Seasoned Carpaccio | *E. coli* O157:H7 Ad586 | Beef meat | Seeding 2-8°C 48h | 5-1-1-1-2 (2.0) | - |
| 8147 | Carpaccio pur bœuf huile d'olive citron | Seasoned Carpaccio | *E. coli* O157:H7 Ad587 | Beef meat | Seeding 2-8°C 48h | 0-3-0-1-1 (1.0) | + |
| 115 | Pavé de bœuf mariné aux trois poivres surgelé | Seasoned beef meat | *E. coli* O157:H7 Ad559 | Beef meat | Seeding 2-8°C 48h | 3-3-5-2-3 (3.2) | + |
| 116 | Carpaccio de bœuf marinade au pistou surgelé | Frozen seasoned Carpaccio | *E. coli* O157:H7 Ad559 | Beef meat | Seeding 2-8°C 48h | 3-3-5-2-3 (3.2) | + |
| 117 | Burger à l'oignon surgelé | Frozen seasoned ground beef meat | *E. coli* O157:H7 Ad559 | Beef meat | Seeding 2-8°C 48h | 3-3-5-2-3 (3.2) | + |
| 118 | Viande hachée à la bolognaise 15%MG | Seasoned raw ground beef meat | *E. coli* O157:H7 Ad560 | Beef meat | Seeding 2-8°C 48h | 4-1-1-0-1 (1.4) | - |
| 119 | Carpaccio pur bœuf (huile d'olive, citron) | Beef Carpaccio | *E. coli* O157:H7 Ad560 | Beef meat | Seeding 2-8°C 48h | 4-1-1-0-1 (1.4) | + |
| 7748 | Lait cru de vache | Raw milk | *E. coli* O157:H7 Ad688 | Environmental sample | Seeding 48h 2-8°C | 1-2-3-3-4 (2.6) | - |
| 7749 | Lait cru fermier | Raw milk | *E. coli* O157:H7 Ad688 | Environmental sample | Seeding 48h 2-8°C | 1-2-3-3-4 (2.6) | + |

| Sample N° | Product (French name) | Product | Artificial contamination | | | | Global result 8h |
|---|---|---|---|---|---|---|---|
| | | | Strain | Origin | Injury protocol | Inoculation rate/25g | |
| 7750 | Lait cru de vache fermier | Raw milk | *E. coli* O157:H7 Ad688 | Environmental sample | Seeding 48h 2-8°C | 1-2-3-3-4 (2.6) | + |
| 7751 | Lait cru de vache | Raw milk | *E. coli* O157:H7 Ad688 | Environmental sample | Seeding 48h 2-8°C | 1-2-3-3-4 (2.6) | + |
| 7752 | Lait cru fermier | Raw milk | *E. coli* O157:H7 Ad688 | Environmental sample | Seeding 48h 2-8°C | 1-2-3-3-4 (2.6) | + |
| 7753 | Fromage raclette lait cru | Raw milk cheese | *E. coli* O157:H7 Ad686 | Environmental sample | Seeding 48h 2-8°C | 4-0-6-2-2 (2.8) | + |
| 7754 | Comte au lait cru | Raw milk cheese | *E. coli* O157:H7 Ad686 | Environmental sample | Seeding 48h 2-8°C | 4-0-6-2-2 (2.8) | + |
| 7755 | Tomme de montagne lait cru | Raw milk cheese | *E. coli* O157:H7 Ad686 | Environmental sample | Seeding 48h 2-8°C | 4-0-6-2-2 (2.8) | + |
| 7756 | Picodon lait cru | Raw milk cheese | *E. coli* O157:H7 Ad686 | Environmental sample | Seeding 48h 2-8°C | 4-0-6-2-2 (2.8) | - |
| 7758 | Lait cru de vache | Raw milk | *E. coli* O157:H7 Ad572 | Feces | Seeding 48h 2-8°C | 4-4-2-4-1 (3.0) | + |
| 7759 | Lait cru fermier | Raw milk | *E. coli* O157:H7 Ad572 | Feces | Seeding 48h 2-8°C | 4-4-2-4-1 (3.0) | + |
| 7760 | Lait cru de vache fermier | Raw milk | *E. coli* O157:H7 Ad572 | Feces | Seeding 48h 2-8°C | 4-4-2-4-1 (3.0) | + |
| 7761 | Lait cru de vache | Raw milk | *E. coli* O157:H7 Ad572 | Feces | Seeding 48h 2-8°C | 4-4-2-4-1 (3.0) | + |
| 7762 | Lait cru fermier | Raw milk | *E. coli* O157:H7 Ad572 | Feces | Seeding 48h 2-8°C | 4-4-2-4-1 (3.0) | + |
| 7763 | Salade laitue | Lettuce | *E. coli* O157:H7 Ad575 | Feces | Seeding 48h 2-8°C | 2-3-0-4-4 (2.6) | + |
| 7764 | Salade iceberg | Green salad | *E. coli* O157:H7 Ad575 | Feces | Seeding 48h 2-8°C | 2-3-0-4-4 (2.6) | + |
| 7765 | Mâche | Green salad | *E. coli* O157:H7 Ad575 | Feces | Seeding 48h 2-8°C | 2-3-0-4-4 (2.6) | - |
| 7766 | Roquette | Green salad | *E. coli* O157:H7 Ad575 | Feces | Seeding 48h 2-8°C | 2-3-0-4-4 (2.6) | - |
| 7767 | Salade lucas | Green salad | *E. coli* O157:H7 Ad575 | Feces | Seeding 48h 2-8°C | 2-3-0-4-4 (2.6) | + |
| 7768 | Fines pousses Alfalfa Radis Fenouil | Sprouts | *E. coli* O157:H7 Ad557 | Water treatment plant | Seeding 48h 2-8°C | 3-2-3-1-2 (2.2) | - |
| 7769 | Fines pousses Alfalfa | Sprouts | *E. coli* O157:H7 Ad557 | Water treatment plant | Seeding 48h 2-8°C | 3-2-3-1-2 (2.2) | + |
| 7770 | Fines pousses Alfalfa Roquette | Sprouts | *E. coli* O157:H7 Ad557 | Water treatment plant | Seeding 48h 2-8°C | 3-2-3-1-2 (2.2) | + |
| 7771 | Fines pousses Alfalfa Poireaux lentilles | Sprouts | *E. coli* O157:H7 Ad557 | Water treatment plant | Seeding 48h 2-8°C | 3-2-3-1-2 (2.2) | + |
| 8023 | Beurre de baratte cru doux | Raw butter | *E. coli* O157:H7 Ad686 | Beef slaughterhouse | Seeding 48h 2-8°C | 1-2-7-3-2 (3.0) | + |
| 8024 | Beurre de baratte cru doux | Raw butter | *E. coli* O157:H7 Ad567 | Beef slaughterhouse | Seeding 48h 2-8°C | 4-3-4-3-5 (3.8) | + |
| 8025 | Beurre de baratte cru doux | Raw butter | *E. coli* O157:H7 Ad568 | Beef slaughterhouse | Seeding 48h 2-8°C | 2-2-2-3-2 (2.2) | - |
| 8026 | Beurre de baratte cru demi-sel | Raw butter | *E. coli* O157:H7 Ad686 | Beef slaughterhouse | Seeding 48h 2-8°C | 1-2-7-3-2 (3.0) | - |
| 8028 | Beurre de baratte cru demi-sel | Raw butter | *E. coli* O157:H7 Ad568 | Beef slaughterhouse | Seeding 48h 2-8°C | 2-2-2-3-2 (2.2) | - |
| 8029 | Beurre de baratte cru demi-sel | Raw butter | *E. coli* O157:H7 Ad686 | Beef slaughterhouse | Seeding 48h 2-8°C | 1-2-7-3-2 (3.0) | + |

| Sample N° | Product (French name) | Product | Artificial contamination | | | | Global result 8h |
|---|---|---|---|---|---|---|---|
| | | | Strain | Origin | Injury protocol | Inoculation rate/25g | |
| 8031 | Beurre de baratte cru demi-sel | Raw butter | *E. coli* O157:H7 Ad568 | Beef slaughterhouse | Seeding 48h 2-8°C | 2-2-2-3-2 (2.2) | + |
| 8032 | Mâche | Salad | *E. coli* O157:H7 Ad556 | Water treatment plant | Seeding 48h 2-8°C | 2-3-4-4-5 (3.6) | + |
| 8033 | Mâche | Salad | *E. coli* O157:H7 Ad558 | Water treatment plant | Seeding 48h 2-8°C | 3-1-1-8-5 (3.6) | - |
| 8035 | Roquette | Salad | *E. coli* O157:H7 Ad558 | Water treatment plant | Seeding 48h 2-8°C | 3-1-1-8-5 (3.6) | + |
| 8036 | Laitue | Salad | *E. coli* O157:H7 Ad556 | Water treatment plant | Seeding 48h 2-8°C | 2-3-4-4-5 (3.6) | + |
| 8037 | Laitue | Salad | *E. coli* O157:H7 Ad558 | Water treatment plant | Seeding 48h 2-8°C | 3-1-1-8-5 (3.6) | + |
| 8038 | Petite salade espagnole | Salad | *E. coli* O157:H7 Ad556 | Water treatment plant | Seeding 48h 2-8°C | 2-3-4-4-5 (3.6) | + |
| 8039 | Petite salade espagnole | Salad | *E. coli* O157:H7 Ad558 | Water treatment plant | Seeding 48h 2-8°C | 3-1-1-8-5 (3.6) | + |
| 8040 | Cidre de Bretagne Brut | Cider | *E. coli* O157:H7 Ad2308 | Water | Seeding 48h 2-8°C | 3-5-5-1-6 (4.0) | - |
| 8041 | Cidre de Bretagne Brut | Cider | *E. coli* O157:H7 Ad571 | Feces | Seeding 48h 2-8°C | 3-2-2-4-6 (3.4) | - |
| 8042 | Jus de raisin 100% pur jus | Grape juice | *E. coli* O157:H7 Ad2308 | Water | Seeding 48h 2-8°C | 3-5-5-1-6 (4.0) | + |
| 8043 | Cidre bouché brut bio | Cider | *E. coli* O157:H7 Ad2308 | Water | Seeding 48h 2-8°C | 3-5-5-1-6 (4.0) | - |
| 8044 | Cidre bouché brut bio | Cider | *E. coli* O157:H7 Ad571 | Feces | Seeding 48h 2-8°C | 3-2-2-4-6 (3.4) | - |
| 8045 | Jus multifruit 100% pur jus | Fruit juice | *E. coli* O157:H7 Ad2308 | Water | Seeding 48h 2-8°C | 3-5-5-1-6 (4.0) | - |
| 8046 | Jus multifruit 100% pur jus | Fruit juice | *E. coli* O157:H7 Ad571 | Feces | Seeding 48h 2-8°C | 3-2-2-4-6 (3.4) | + |
| 8048 | Jus d'orange 100% pur jus | Orange juice | *E. coli* O157:H7 Ad571 | Feces | Seeding 48h 2-8°C | 3-2-2-4-6 (3.4) | + |
| 8049 | Jus de pomme 100% pur jus | Apple juice | *E. coli* O157:H7 Ad571 | Feces | Seeding 48h 2-8°C | 3-2-2-4-6 (3.4) | + |
| 33 | Camembert au lait cru | Raw milk cheese | *E. coli* O157:H7 Ad570 | Beef slaughterhouse | Seeding 48h 2-8°C | 5-3-4-1-1 (2.8) | - |
| 34 | Camembert au lait cru | Raw milk cheese | *E. coli* O157:H7 Ad569 | Beef slaughterhouse | Seeding 48h 2-8°C | 2-3-3-0-3 (2.2) | - |
| 35 | Rocamadour au lait cru | Raw milk cheese | *E. coli* O157:H7 Ad570 | Beef slaughterhouse | Seeding 48h 2-8°C | 5-3-4-1-1 (2.8) | + |
| 36 | Rocamadour au lait cru | Raw milk cheese | *E. coli* O157:H7 Ad569 | Beef slaughterhouse | Seeding 48h 2-8°C | 2-3-3-0-3 (2.2) | + |
| 38 | Roquefort au lait cru de brebis | Raw milk cheese | *E. coli* O157:H7 Ad569 | Beef slaughterhouse | Seeding 48h 2-8°C | 2-3-3-0-3 (2.2) | + |
| 39 | Morbier au lait cru | Raw milk cheese | *E. coli* O157:H7 Ad570 | Beef slaughterhouse | Seeding 48h 2-8°C | 5-3-4-1-1 (2.8) | + |
| 40 | Fines pousses Alfalfa Poireaux lentilles | Sprouts | *E. coli* O157:H7 Ad573 | Feces | Seeding 48h 2-8°C | 1-8-6-4-4 (4.6) | + |
| 41 | Fines pousses Alfalfa Poireaux lentilles | Sprouts | *E. coli* O157:H7 Ad574 | Feces | Seeding 48h 2-8°C | 3-1-4-0-0 (1.6) | + |
| 43 | Fines pousses Alfalfa Roquettes | Sprouts | *E. coli* O157:H7 Ad574 | Feces | Seeding 48h 2-8°C | 3-1-4-0-0 (1.6) | + |
| 44 | Fines pousses Alfalfa | Sprouts | *E. coli* O157:H7 Ad573 | Feces | Seeding 48h 2-8°C | 1-8-6-4-4 (4.6) | + |
| 45 | Fines pousses Alfalfa | Sprouts | *E. coli* O157:H7 Ad574 | Feces | Seeding 48h 2-8°C | 3-1-4-0-0 (1.6) | - |

| Sample N° | Product (French name) | Product | Artificial contamination | | | | Global result 8h |
|---|---|---|---|---|---|---|---|
| | | | Strain | Origin | Injury protocol | Inoculation rate/25g | |
| 46 | Fines pousses Alfalfa Radis Fenouil | Sprouts | *E. coli* O157:H7 Ad573 | Feces | Seeding 48h 2-8°C | 1-8-6-4-4 (4.6) | + |
| 47 | Cidre de Bretagne Brut | Cider | *E. coli* O157:H7 Ad556 | Water treatment plant | Seeding 48h 2-8°C | 2-2-5-2-3 (2.8) | - |
| 48 | Cidre de Bretagne Brut | Cider | *E. coli* O157:H7 Ad557 | Water treatment plant | Seeding 48h 2-8°C | 4-3-5-5-6 (4.6) | - |
| 49 | 100% pur jus de pample-mousse rose et orange | Fruit juice | *E. coli* O157:H7 Ad556 | Water treatment plant | Seeding 48h 2-8°C | 2-2-5-2-3 (2.8) | + |
| 50 | 100% pur jus de pample-mousse rose et orange | Fruit juice | *E. coli* O157:H7 Ad557 | Water treatment plant | Seeding 48h 2-8°C | 4-3-5-5-6 (4.6) | + |
| 51 | 100% pur jus d'orange abricot pomme et mandarine | Fruit juice | *E. coli* O157:H7 Ad556 | Water treatment plant | Seeding 48h 2-8°C | 2-2-5-2-3 (2.8) | + |
| 244 | Lait cru de vache | Raw milk | *E. coli* O157:H7 Ad579 | Feces | Seeding 48h 2-8°C | 4-3-1-3-1 (2.4) | + |
| 245 | Lait cru fermier | Raw milk | *E. coli* O157:H7 Ad579 | Feces | Seeding 48h 2-8°C | 4-3-1-3-1 (2.4) | + |
| 246 | Lait cru | Raw milk | *E. coli* O157:H7 Ad579 | Feces | Seeding 48h 2-8°C | 4-3-1-3-1 (2.4) | + |
| 252 | Munster au lait cru | Raw milk cheese | *E. coli* O157:H7 Ad1745 | Raw milk cheese | Seeding 48h 2-8°C | 2-1-0-3-3 (1.8) | + |
| 253 | Roquefort au lait cru de brebis | Raw milk cheese | *E. coli* O157:H7 Ad1745 | Raw milk cheese | Seeding 48h 2-8°C | 2-1-0-3-3 (1.8) | - |
| 254 | Picodon au lait cru | Raw milk cheese | *E. coli* O157:H7 Ad1745 | Raw milk cheese | Seeding 48h 2-8°C | 2-1-0-3-3 (1.8) | + |
| 255 | Roquefort au lait cru de brebis | Raw milk cheese | *E. coli* O157:H7 Ad581 | Feces | Seeding 48h 2-8°C | 0-3-1-1-2 (1.4 | + |
| 256 | Cantal au lait cru | Raw milk cheese | *E. coli* O157:H7 Ad581 | Feces | Seeding 48h 2-8°C | 0-3-1-1-2 (1.4 | + |
| 262 | Laitue craquante | Lettuce | *E. coli* O157:H7 Ad580 | Feces | Seeding 48h 2-8°C | 2-2-4-4-1 (2.6) | + |
| 263 | Salade | Salad | *E. coli* O157:H7 Ad580 | Feces | Seeding 48h 2-8°C | 2-2-4-4-1 (2.6) | + |
| 645 | Jus d'orange 100% pur jus | Fruit juice | *E. coli* O157:H7 Ad577 | Feces | Seeding 48h 2-8°C | 1-1-0-1-1 (0.8) | + |
| 646 | Jus d'orange avec pulpe 100% pur jus | Fruit juice | *E. coli* O157:H7 Ad577 | Feces | Seeding 48h 2-8°C | 1-1-0-1-1 (0.8) | + |
| 647 | Cidre brut de Normandie | Cider | *E. coli* O157:H7 Ad577 | Feces | Seeding 48h 2-8°C | 1-1-0-1-1 (0.8) | - |
| 648 | Jus d'orange 100% pur jus | Fruit juice | *E. coli* O157:H7 Ad578 | Feces | Seeding 48h 2-8°C | 1-0-1-1-1 (0.8) | + |
| 649 | Jus d'orange avec pulpe 100% pur jus | Fruit juice | *E. coli* O157:H7 Ad578 | Feces | Seeding 48h 2-8°C | 1-0-1-1-1 (0.8) | - |
| 650 | Cidre brut | Cider | *E. coli* O157:H7 Ad578 | Feces | Seeding 48h 2-8°C | 1-0-1-1-1 (0.8) | - |
| 651 | Lait ribot | Fermented milk | *E. coli* O157:H7 Ad576 | Beef feces | Seeding 48h 2-8°C | 2-3-1-1-6 (2.6) | + |
| 652 | Lait ribot | Fermented milk | *E. coli* O157:H7 Ad576 | Beef feces | Seeding 48h 2-8°C | 2-3-1-1-6 (2.6) | - |
| 653 | Lait ribot | Fermented milk | *E. coli* O157:H7 Ad576 | Beef feces | Seeding 48h 2-8°C | 2-3-1-1-6 (2.6) | - |

| Sample N° | Product (French name) | Product | Artificial contamination | | | | Global result 8h |
|---|---|---|---|---|---|---|---|
| | | | Strain | Origin | Injury protocol | Inoculation rate/25g | |
| **654** | **Lait fermenté** | **Fermented milk** | *E. coli* O157:H7 Ad576 | Beef feces | Seeding 48h 2-8°C | 2-3-1-1-6 (2.6) | **-** |
| **841** | **Jeunes pousses radis** | **Sprouts** | *E. coli* O157:H7 Ad576 | Feces | Seeding 48h 2-8°C | 2-3-3-2-0 (2.0) | **-** |
| **842** | **Jeunes pousses poireaux** | **Sprouts** | *E. coli* O157:H7 Ad576 | Feces | Seeding 48h 2-8°C | 2-3-3-2-0 (2.0) | **+** |
| **843** | **Jeunes pousses betteraves rouges** | **Sprouts** | *E. coli* O157:H7 Ad577 | Feces | Seeding 48h 2-8°C | 3-1-3-3-0 (2.0) | **+** |
| **1398** | **Lait ribot** | **Fermented milk** | *E. coli* O157:H7 Ad579 | Feces | Seeding 48h 2-8°C | 3-5-2-7-5 (4.4) | **+** |
| **1399** | **Lait ribot lait fermenté** | **Fermented milk** | *E. coli* O157:H7 Ad579 | Feces | Seeding 48h 2-8°C | 3-5-2-7-5 (4.4) | **+** |
| **1400** | **Lait ribot lait fermenté** | **Fermented milk** | *E. coli* O157:H7 Ad568 | Beef slaughterhouse | Seeding 48h 2-8°C | 3-1-6-6-4(4.0) | **+** |
| **1401** | **Lait fermenté** | **Fermented milk** | *E. coli* O157:H7 Ad568 | Beef slaughterhouse | Seeding 48h 2-8°C | 3-1-6-6-4(4.0) | **+** |
| **1402** | **Lait fermenté** | **Fermented milk** | *E. coli* O157:H7 Ad582 | Feces | Seeding 48h 2-8°C | 3-4-5-4-3 (3.8) | **+** |
| **1403** | **Lait ribot** | **Fermented milk** | *E. coli* O157:H7 Ad582 | Feces | Seeding 48h 2-8°C | 3-4-5-4-3 (3.8) | **+** |

# Appendix 4 – Sensitivity study: raw data

**Bold typing : artificially inoculated samples**

***E. coli* O157 detection results:**

| | |
|---|---|
| m: | minority level of target analyte |
| M : | majority level of target analyte |
| P: | pure culture level of target analyte |
| 1/2 : | 50% level of target analyte |
| -: | no typical colonies but presence of background microflora |
| st: | plate without any colony |
| PA: | positive agreement |
| NA: | negative agreement |
| ND: | negative deviation |
| PD: | positive deviation |
| PPNA: | positive presumptive negative agreement |
| PPND : | positive presumptive negative deviation |
| L: | latex test O157:H7 |
| NC: | non-characteristic colony on nutrient agar |
| d: | doubtful colony |
| +w: | weak reaction for Latex test |
| auto: | auto agglutinate strain |
| Regrowth in BHI: | IMS on the enrichment broth, subculture in BHI, IMS on the BHI |

| RAW BEEF MEATS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample N° | Product (French name) | Product | REFERENCE METHOD: NF EN ISO 16654♦ | | | | | ALTERNATIVE METHOD: 3M Molecular Detection Assay 2 *E. coli* O157 (including H7) method | | | | | | | | | | | | | | | | | | | | | | | | Category | Type |
| | | | IMS 6h | | IMS 24h | | Final result | Pre-warmed 3M BPW ISO - **8h at 41.5°C** | | | | | | | | | Pre-warmed 3M BPW ISO - **24h at 41.5°C** | | | | | | | | | | | | | | | |
| | | | | | | | | MDA2 TEST | | Confirmation | | | | | Final result | Agree-ment 8h | MDA2 TEST | | Confirmation | | | | | Final result | Agree-ment 24h | | |
| | | | CT SMAC | CHROMagar O157 | CT SMAC | CHROMagar O157 | | Result | Matrix control | CT-SMAC (50µL) | CT-SMAC (50µL) after IMS | After purification | | All confirmatory tests | | | Result | Matrix control | CT-SMAC (50µL) | CT-SMAC (50µL) after IMS | After purification | | All confir-matory tests | | | | | | |
| | | | | | | | | | | | | latex O157/H7 | Indole test | | | | | | | | latex O157/H7 | Indole test | | | | | | | | |
| **7907** | **Steak haché 5%MG** | **Raw ground beef** | +p | +M | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | + | +M | / | +/+ | + | + | + | **PA** | 1 | a |
| **7908** | **Steak de bœuf** | **Raw beef meat** | +p | +p | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | + | +p | / | +/+ | + | + | + | **PA** | 1 | a |
| **7909** | **Onglet de bœuf** | **Raw beef meat** | +p | +p | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | + | +p | / | +/+ | + | + | + | **PA** | 1 | a |
| **7910** | **Bavette de flanchet** | **Raw beef meat** | +p | +p | / | / | + | - | + | - | - | / | / | - | - | **ND** | - | + | - | - | / | / | - | - | **ND** | 1 | a |
| **8124** | **Viande bovine steak à griller** | **Raw beef meat** | +p | +M | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | + | +p | / | +/+ | + | + | + | **PA** | 1 | a |
| 8125 | Viande bovine steak à griller | Raw beef meat | st | - | st | st | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | a |
| **8126** | **Viande bovine pot au feu** | **Raw beef meat** | +p | +m | / | / | + | + | + | +1/2 | / | +/+ | + | + | + | **PA** | + | + | +1/2 | / | +/+ | + | + | + | **PA** | 1 | a |
| 8127 | Viande bovine pot au feu | Raw beef meat | st | - | st | st | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | a |
| **8128** | **Viande bovine bavette de flanchet** | **Raw beef meat** | +p | +M | / | / | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | + | +M | / | +/+ | + | + | + | **PA** | 1 | a |
| 8129 | Viande bovine bavette de flanchet | Raw beef meat | st | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | a |
| **8130** | **Viande bovine bavette d'aloyau** | **Raw beef meat** | +p | +M | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | + | +p | +p | +/+ | + | + | + | **PA** | 1 | a |
| 8131 | Viande bovine bavette d'aloyau | Raw beef meat | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | a |
| **8132** | **Viande bovine pavé en tournedos** | **Raw beef meat** | +p | +1/2 | / | / | + | - | + | - | - | / | / | - | - | **ND** | - | + | - | - | / | / | - | - | **ND** | 1 | a |
| 8133 | Viande bovine pavé en tournedos | Raw beef meat | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | a |
| **8134** | **Steak haché pur bœuf 5%MG** | **Raw ground beef** | - | - | - | - | - | + | + | +M | / | +/+ | + | + | + | **PD** | + | + | + | / | +/+ | + | + | + | **PD** | 1 | a |
| 8135 | Steak haché pur bœuf 5%MG | Raw ground beef | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | a |
| 8137 | Steak haché pur bœuf 15%MG | Raw ground beef | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | a |
| **8138** | **Viande bovine basse côte à griller** | **Raw beef meat** | +M | +1/2 | / | / | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | + | +M | / | +/+ | + | + | + | **PA** | 1 | a |

♦ Analyses performed according to the COFRAC accreditation

## RAW BEEF MEATS

| Sample N° | Product (French name) | Product | REFERENCE METHOD: NF EN ISO 16654♦ | | | | | ALTERNATIVE METHOD: 3M Molecular Detection Assay 2 *E. coli* O157 (including H7) method | | | | | | | | | | | | | | | | | | Category | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IMS 6h | | IMS 24h | | Final result | Pre-warmed 3M BPW ISO - **8h at 41.5°C** | | | | | | | | Pre-warmed 3M BPW ISO - **24h at 41.5°C** | | | | | | | | | | | |
| | | | | | | | | MDA2 TEST | | Confirmation | | | | | Agree-ment 8h | MDA2 TEST | | Confirmation | | | | | Agree-ment 24h | | | | |
| | | | CT SMAC | CHROMagar O157 | CT SMAC | CHROMagar O157 | | Result | Matrix control | CT-SMAC (50µL) | CT-SMAC (50µL) after IMS | After purification: latex O157/H7 | After purification: Indole test | All confirmatory tests | Final result | Result | Matrix control | CT-SMAC (50µL) | CT-SMAC (50µL) after IMS | After purification: latex O157/H7 | After purification: Indole test | All confirmatory tests | Final result | | | |
| 8139 | Viande bovine basse côte à griller | Raw beef meat | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | a |
| 104 | Viande bovine pot au feu | Raw beef meat | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | a |
| 105 | Viande bovine bourguignon | Raw beef meat | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | a |
| **7628** | **Pavé de bœuf surgelé** | **Frozen beef meat** | +p | +M | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | + | +M | / | +/+ | + | + | + | **PA** | 1 | b |
| **7629** | **Effeuillé de charolais surgelé** | **Frozen beef meat** | +p | +p | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | + | +p | / | +/+ | + | + | + | **PA** | 1 | b |
| **7631** | **Steak haché surgelé** | **Frozen ground beef meat** | +p | +p | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | + | +p | / | +/+ | + | + | + | **PA** | 1 | b |
| **7632** | **Steak haché surgelé** | **Frozen ground beef meat** | st | st | st | - | - | + | + | +p | / | +/+ | + | + | + | **PD** | + | + | +p | / | +/+ | + | + | + | **PD** | 1 | b |
| **7633** | **Steak haché pur bœuf surgelé** | **Frozen ground beef meat** | st | st | st | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | b |
| **7634** | **Bavette d'aloyau surgelé** | **Frozen beef meat** | +p | +p | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | + | +p | / | +/+ | + | + | + | **PA** | 1 | b |
| **7637** | **Tendre de bœuf surgelé** | **Frozen beef meat** | +p | +p | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | + | +p | / | +/+ | + | + | + | **PA** | 1 | b |
| **7638** | **Steak haché pur bœuf surgelé** | **Frozen ground beef meat** | +p | +p | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | + | +p | / | +/+ | + | + | + | **PA** | 1 | b |
| **7639** | **Haché pur bœuf 20% MG surgelé** | **Frozen ground beef meat** | +p | +1/2 | / | / | + | - | + | - | - | / | / | - | - | **ND** | - | + | - | - | / | / | - | - | **ND** | 1 | b |
| **7640** | **Viande hachée pur bœuf surgelé** | **Frozen ground beef meat** | +p | +M | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | + | +M | / | +/+ | + | + | + | **PA** | 1 | b |
| 106 | Mon haché bouché 15%MG surgelé | Frozen raw ground beef meat | st | st | - | - | - | - | + | - | st | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | b |
| 107 | Effeuillé de charolais surgelé | Frozen raw beef meat | st | st | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | b |
| 108 | Steak haché pur bœuf 15%MG surgelé | Raw ground beef meat | st | st | - | - | - | - | + | - | st | / | / | - | - | **NA** | - | + | - | st | / | / | - | - | **NA** | 1 | b |
| 109 | Tendre de bœuf surgelé | Frozen raw beef meat | st | st | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | b |

| RAW BEEF MEATS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample N° | Product (French name) | Product | REFERENCE METHOD: NF EN ISO 16654♦ | | | | | ALTERNATIVE METHOD: 3M Molecular Detection Assay 2 *E. coli* O157 (including H7) method | | | | | | | | | | | | | | | | | | | | | Category | Type |
| | | | IMS 6h | | IMS 24h | | Final result | Pre-warmed 3M BPW ISO - **8h at 41.5°C** | | | | | | | | | Pre-warmed 3M BPW ISO - **24h at 41.5°C** | | | | | | | | | | | | |
| | | | | | | | | MDA2 TEST | | Confirmation | | | | | Final result | Agree-ment 8h | MDA2 TEST | | Confirmation | | | | | Final result | Agree-ment 24h | | |
| | | | CT SMAC | CHROMagar O157 | CT SMAC | CHROMagar O157 | | Result | Matrix control | CT-SMAC (50µL) | CT-SMAC (50µL) after IMS | After purification | | All confirmatory tests | | | Result | Matrix control | CT-SMAC (50µL) | CT-SMAC (50µL) after IMS | After purification | | All confir-matory tests | | | | |
| | | | | | | | | | | | | latex O157/H7 | Indole test | | | | | | | | | latex O157/H7 | Indole test | | | | | |
| 110 | Viande haché 15%MG surgelé | Frozen raw ground beef meat | - | st | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | b |
| 111 | Haché moelleux bœuf surgelé | Frozen raw ground beef meat | st | st | st | st | - | - | + | - | st | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | b |
| 112 | Steak haché pur bœuf 15%MG surgelé | Frozen raw ground beef meat | st | st | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | b |
| 113 | Haché pur bœuf 20% MG surgelé | Frozen raw ground beef meat | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | b |
| 114 | Bavette d'aloyau surgelé | Raw beef meat | st | st | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | b |
| 525 | Steak haché congelé 15%MG | Frozen raw ground beef meat | st | - | st | - | - | - | + | - | st | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | b |
| **7630** | **Pavé de rumsteak aux trois poivres surgelé** | **frozen seasoned beef meat** | +p | +M | / | / | + | - | + | - | - | / | / | - | - | **ND** | - | + | - | - | / | / | - | - | **ND** | 1 | c |
| **7636** | **Pavé de rumsteak à l'échalote poivres surgelé** | **Frozen seasoned beef meat** | st | - | st | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | c |
| **7904** | **Carpaccio basilica** | **Seasoned beef** | st | st | st | - | - | - | + | st | st | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | c |
| **7905** | **Carpaccio noisette vinaigre balsamique** | **Seasoned beef** | st | st | - | - | - | + | + | +p | / | +/+ | + | + | + | **PD** | + | + | +p | / | +/+ | + | + | + | **PD** | 1 | c |
| **8140** | **Pavé rumsteak trois poivres** | **Seasoned raw beef meat** | st | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | c |
| **8141** | **Pavé rumsteak trois poivres** | **Seasoned raw beef meat** | st | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | c |
| **8142** | **Viande hachée à la bolognaise** | **Seasoned raw ground beef** | st | - | - | - | - | + | + | +p | / | +/+ | + | + | + | **PD** | + | + | +M | / | +/+ | + | + | + | **PD** | 1 | c |
| **8143** | **Viande hachée à la bolognaise** | **Seasoned raw ground beef** | +p | +M | / | / | + | - | + | - | - | / | / | - | - | **ND** | - | + | - | - | / | / | - | - | **ND** | 1 | c |

| RAW BEEF MEATS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample N° | Product (French name) | Product | REFERENCE METHOD: NF EN ISO 16654♦ | | | | | ALTERNATIVE METHOD: 3M Molecular Detection Assay 2 *E. coli* O157 (including H7) method | | | | | | | | | | | | | | | | | | | | | | | Category | Type |
| | | | IMS 6h | | IMS 24h | | Final result | Pre-warmed 3M BPW ISO - **8h at 41.5°C** | | | | | | | | | Pre-warmed 3M BPW ISO - **24h at 41.5°C** | | | | | | | | | | | | | | |
| | | | | | | | | MDA2 TEST | | Confirmation | | | | | Final result | Agree-ment 8h | MDA2 TEST | | Confirmation | | | | | Final result | Agree-ment 24h | | |
| | | | | | | | | Result | Matrix control | CT-SMAC (50µL) | CT-SMAC (50µL) after IMS | After purification | | All confirmatory tests | | | Result | Matrix control | CT-SMAC (50µL) | CT-SMAC (50µL) after IMS | After purification | | All confir-matory tests | | | | | | |
| | | | CT SMAC | CHROMagar O157 | CT SMAC | CHROMagar O157 | | | | | | latex O157/H7 | Indole test | | | | | | | | | latex O157/H7 | Indole test | | | | | | | |
| **8144** | **Carpaccio pistou basilic huile d'olive et ail** | **Seasoned Carpaccio** | +p | +p | / | / | + | - | + | - | - | / | / | - | - | **ND** | - | + | - | - | / | / | - | - | **ND** | 1 | c |
| **8146** | **Carpaccio pur bœuf huile d'olive citron** | **Seasoned Carpaccio** | st | st | st | - | - | - | + | st | - | / | / | - | - | **NA** | - | + | st | - | / | / | - | - | **NA** | 1 | c |
| **8147** | **Carpaccio pur bœuf huile d'olive citron** | **Seasoned Carpaccio** | +Md | +p | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | + | +p | / | +/+ | + | + | + | **PA** | 1 | c |
| **115** | **Pavé de bœuf mariné aux trois poivres surgelé** | **Seasoned beef meat** | +p | +M | / | / | + | + | + | +1/2 | / | +/+ | + | + | + | **PA** | + | + | +m | / | +/+ | + | + | + | **PA** | 1 | c |
| **116** | **Carpaccio de bœuf marinade au pistou surgelé** | **Frozen seasoned Carpaccio** | +p | +p | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | + | +M | / | +/+ | + | + | + | **PA** | 1 | c |
| **117** | **Burger à l'oignon surgelé** | **Frozen seasoned ground beef meat** | +p | +p | / | / | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | + | +M | / | +/+ | + | + | + | **PA** | 1 | c |
| **118** | **Viande hachée à la bolognaise 15%MG** | **Seasoned raw ground beef meat** | st | st | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | c |
| **119** | **Carpaccio pur bœuf (huile d'olive, citron)** | **Beef Carpaccio** | +p | +p | / | / | + | - | + | st | - | / | / | - | - | **ND** | - | + | st | st | / | / | - | - | **ND** | 1 | c |
| 120 | Carpaccio pistou basilic huile d'olive et ail | Seasoned Carpaccio | st | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | st | / | / | - | - | **NA** | 1 | c |
| 121 | Carpaccio basilic et sa marinade | Seasoned Carpaccio | st | st | st | st | - | - | + | - | st | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | c |
| 122 | Carpaccio olive et sa marinade | Seasoned Carpaccio | st | - | - | - | - | - | + | - | st | / | / | - | - | **NA** | - | + | - | st | / | / | - | - | **NA** | 1 | c |
| 123 | Rumsteak à l'échalotte | Seasoned beef meat | +d(1) (latex-, indole-) | +md (latex-, indole-) | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | c |
| 124 | Carpaccio basilic et sa marinade | Seasoned Carpaccio | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | - | + | - | - | / | / | - | - | **NA** | 1 | c |

## RAW BEEF MEATS

| Sample N° | Product (French name) | Product | Reference method: NF EN ISO 16654♦ Final result | ALTERNATIVE METHOD: 3M Molecular Detection Assay 2 *E.coli* O157 (including H7) method | | | | | | | | | | | | | | | | | | | | | | | | | | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Pre-warmed 3M BPW ISO 8h at 41.5°C + 72h at 5°C ± 3°C | | | | | | | | | | | | | | | | Pre-warmed 3M BPW ISO 24h at 41.5°C +72h at 5°C ± 3°C | | | | | | | | | | | | |
| | | | | MDA2 test Lysate | | MDA2 test BPW | | Confirmation | | | | | Final result Lysate | Agreement 8h+72h Lysate | Final result BPW | Agreement 8h+72h BPW | MDA2 test Lysate | | MDA2 test BPW | | Confirmation | | | | | Final result Lysate | Agree-ment 24h+72h Lysate | Final result BPW | Agree-ment 24h+72h BPW | |
| | | | | Re-sult | Matrix control | Re-sult | Matrix control | CT-SMAC (50µL) | CT-SMAC (50µL) after IMS | After purification: Latex O157/ H7 | After purification: Indole test | All confir-matory tests | | | | | Re-sult | Matrix control | Re-sult | Matrix control | CT-SMAC (50µL) | CT-SMAC (50µL) after IMS | After purification: latex O157/H7 | After purification: Indole test | All confir-matory tests | | | | | |
| **7907** | **Steak haché 5%MG** | **Raw ground beef** | + | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | **PA** | a |
| **7908** | **Steak de bœuf** | **Raw beef meat** | + | + | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | a |
| **7909** | **Onglet de bœuf** | **Raw beef meat** | + | + | + | + | + | +1/2 | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | **PA** | a |
| **7910** | **Bavette de flanchet** | **Raw beef meat** | + | - | + | - | + | +1/2d | / | - | - | - | - | **ND** | - | **ND** | - | + | - | + | +md | / | - | - | - | - | **ND** | - | **ND** | a |
| **8124** | **Viande bovine steak à griller** | **Raw beef meat** | + | + | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | a |
| 8125 | Viande bovine steak à griller | Raw beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | a |
| **8126** | **Viande bovine pot au feu** | **Raw beef meat** | + | + | + | + | + | +1/2 | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +1/2 | / | +/+ | + | + | + | **PA** | + | **PA** | a |
| 8127 | Viande bovine pot au feu | Raw beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | a |
| **8128** | **Viande bovine bavette de flanchet** | **Raw beef meat** | + | + | + | + | + | +M | +p | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +1/2 | / | +/+ | + | + | + | **PA** | + | **PA** | a |
| 8129 | Viande bovine bavette de flanchet | Raw beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | a |
| **8130** | **Viande bovine bavette d'aloyau** | **Raw beef meat** | + | + | + | + | + | +pd | +p | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +pd | +p | +/+ | + | + | + | **PA** | + | **PA** | a |
| 8131 | Viande bovine bavette d'aloyau | Raw beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | a |
| **8132** | **Viande bovine pavé en tournedos** | **Raw beef meat** | + | - | + | - | + | +Md | - | -/- | - | - | - | **ND** | - | **ND** | - | + | - | + | +Md | - | -/- | - | - | - | **ND** | - | **ND** | a |
| 8133 | Viande bovine pavé en tournedos | Raw beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | a |
| **8134** | **Steak haché pur bœuf 5%MG** | **Raw ground beef** | - | + | + | + | + | +M | +M | +/+ | + | + | + | **PD** | + | **PD** | + | + | + | + | - | +M | +/+ | + | + | + | **PD** | + | **PD** | a |
| 8135 | Steak haché pur bœuf 5%MG | Raw ground beef | - | | | | | | | | | | | | | | | | | | | | | | | | | | | a |
| 8137 | Steak haché pur bœuf 15%MG | Raw ground beef | - | | | | | | | | | | | | | | | | | | | | | | | | | | | a |
| **8138** | **Viande bovine basse côte à griller** | **Raw beef meat** | + | + | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +1/2 | / | +/+ | + | + | + | **PA** | + | **PA** | a |

♦ Analyses performed according to the COFRAC accreditation

## RAW BEEF MEATS

| Sample N° | Product (French name) | Product | Reference method: NF EN ISO 16654♦ Final result | ALTERNATIVE METHOD: 3M Molecular Detection Assay 2 *E.coli* O157 (including H7) method | | | | | | | | | | | | | | | | | | | | | | | | | | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Pre-warmed 3M BPW ISO 8h at 41.5°C + 72h at 5°C ± 3°C | | | | | | | | | | | | | Pre-warmed 3M BPW ISO 24h at 41.5°C +72h at 5°C ± 3°C | | | | | | | | | | | | | | |
| | | | | MDA2 test Lysate | | MDA2 test BPW | | Confirmation | | | | | Final result Lysate | Agreement 8h+72h Lysate | Final result BPW | Agreement 8h+72h BPW | MDA2 test Lysate | | MDA2 test BPW | | Confirmation | | | | | Final result Lysate | Agreement 24h+72h Lysate | Final result BPW | Agreement 24h+72h BPW | | |
| | | | | Re-sult | Matrix control | Re-sult | Matrix control | CT-SMAC (50µL) | CT-SMAC (50µL) after IMS | After purification | | All confir-matory tests | | | | | Re-sult | Matrix control | Re-sult | Matrix control | CT-SMAC (50µL) | CT-SMAC (50µL) after IMS | After purification | | All confir-matory tests | | | | | |
| | | | | | | | | | | Latex O157/ H7 | Indole test | | | | | | | | | | | | latex O157/H7 | Indole test | | | | | | | |
| 8139 | Viande bovine basse côte à griller | Raw beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | a |
| 104 | Viande bovine pot au feu | Raw beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | a |
| 105 | Viande bovine bourguignon | Raw beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | a |
| **7628** | **Pavé de bœuf surgelé** | **Frozen beef meat** | + | + | + | + | + | +1/2 | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +1/2 | / | +/+ | + | + | + | **PA** | + | **PA** | b |
| **7629** | **Effeuillé de charolais surgelé** | **Frozen beef meat** | + | + | + | + | + | +m | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | b |
| **7631** | **Steak haché surgelé** | **Frozen ground beef meat** | + | + | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | b |
| **7632** | **Steak haché surgelé** | **Frozen ground beef meat** | - | + | + | + | + | +M | / | +/+ | + | + | + | **PD** | + | **PD** | + | + | + | + | +p | / | +/+ | + | + | + | **PD** | + | **PD** | b |
| **7633** | **Steak haché pur bœuf surgelé** | **Frozen ground beef meat** | - | | | | | | | | | | | | | | | | | | | | | | | | | | | b |
| **7634** | **Bavette d'aloyau surgelé** | **Frozen beef meat** | + | + | + | + | + | +1/2 | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | b |
| **7637** | **Tendre de bœuf surgelé** | **Frozen beef meat** | + | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | b |
| **7638** | **Steak haché pur bœuf surgelé** | **Frozen ground beef meat** | + | + | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | **PA** | b |
| **7639** | **Haché pur bœuf 20% MG surgelé** | **Frozen ground beef meat** | + | - | + | - | + | - | - | / | / | - | - | **ND** | - | **ND** | - | + | - | + | - | - | / | / | - | - | **ND** | - | **ND** | b |
| **7640** | **Viande hachée pur bœuf surgelé** | **Frozen ground beef meat** | + | + | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | b |
| 106 | Mon haché bouché 15% MG surgelé | Frozen raw ground beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | b |
| 107 | Effeuillé de charolais surgelé | Frozen raw beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | b |
| 108 | Steak haché pur bœuf 15% MG surgelé | Raw ground beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | b |
| 109 | Tendre de bœuf surgelé | Frozen raw beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | b |
| 110 | Viande haché 15% MG surgelé | Frozen raw ground beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | b |

## RAW BEEF MEATS

| Sample N° | Product (French name) | Product | Reference method: NF EN ISO 16654♦ Final result | ALTERNATIVE METHOD: 3M Molecular Detection Assay 2 *E.coli* O157 (including H7) method | | | | | | | | | | | | | | | | | | | | | | | | | | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Pre-warmed 3M BPW ISO 8h at 41.5°C + 72h at 5°C ± 3°C | | | | | | | | | | | | | | Pre-warmed 3M BPW ISO 24h at 41.5°C +72h at 5°C ± 3°C | | | | | | | | | | | | | | |
| | | | | MDA2 test Lysate | | MDA2 test BPW | | Confirmation | | | | | Final result Lysate | Agreement 8h+72h Lysate | Final result BPW | Agreement 8h+72h BPW | MDA2 test Lysate | | MDA2 test BPW | | Confirmation | | | | | Final result Lysate | Agree-ment 24h+72h Lysate | Final result BPW | Agree-ment 24h+72h BPW | | |
| | | | | Re-sult | Matrix control | Re-sult | Matrix control | CT-SMAC (50µL) | CT-SMAC (50µL) after IMS | After purification | | All confir-matory tests | | | | | Re-sult | Matrix control | Re-sult | Matrix control | CT-SMAC (50µL) | CT-SMAC (50µL) after IMS | After purification | | All confir-matory tests | | | | | |
| | | | | | | | | | | Latex O157/ H7 | Indole test | | | | | | | | | | | | latex O157/H7 | Indole test | | | | | | | |
| 111 | Haché moelleux bœuf surgelé | Frozen raw ground beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | b |
| 112 | Steak haché pur bœuf 15%MG surgelé | Frozen raw ground beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | b |
| 113 | Haché pur bœuf 20% MG surgelé | Frozen raw ground beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | b |
| 114 | Bavette d'aloyau surgelé | Raw beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | b |
| 525 | Steak haché congelé 15%MG | Frozen raw ground beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | | b |
| **7630** | **Pavé de rumstek aux trois poivres surgelé** | **frozen seasoned beef meat** | + | - | + | - | + | - | - | / | / | - | - | **ND** | - | **ND** | - | + | - | + | - | - | / | / | - | - | **ND** | - | **ND** | c |
| **7636** | **Pavé de rumstek à l'échalotte poivres surgelé** | **Frozen seasoned beef meat** | - | | | | | | | | | | | | | | | | | | | | | | | | | | | c |
| **7904** | **Carpaccio basilic** | **Seasoned beef** | - | | | | | | | | | | | | | | | | | | | | | | | | | | | c |
| **7905** | **Carpaccio noisette vinaigre balsamique** | **Seasoned beef** | - | + | + | + | + | +p | / | +/+ | + | + | + | **PD** | + | **PD** | + | + | + | + | +p | / | +/+ | + | + | + | **PD** | + | **PD** | c |
| **8140** | **Pavé rumsteak trois poivres** | **Seasoned raw beef meat** | - | | | | | | | | | | | | | | | | | | | | | | | | | | | c |
| **8141** | **Pavé rumsteak trois poivres** | **Seasoned raw beef meat** | - | | | | | | | | | | | | | | | | | | | | | | | | | | | c |
| **8142** | **Viande hachée à la bolognaise** | **Seasoned raw ground beef** | - | + | + | + | + | +m | / | +/+ | + | + | + | **PD** | + | **PD** | + | + | + | + | +m | +/+ | + | + | + | + | **PD** | + | **PD** | c |
| **8143** | **Viande hachée à la bolognaise** | **Seasoned raw ground beef** | + | - | + | - | + | - | - | / | / | - | - | **ND** | - | **ND** | - | + | - | + | - | - | / | / | - | - | **ND** | - | **ND** | c |
| **8144** | **Carpaccio pistou basilic huile d'olive et ail** | **Seasoned Carpaccio** | + | - | + | - | + | +pd | - | -/- | - | - | - | **ND** | - | **ND** | - | + | - | + | +pd | - | -/- | - | - | - | **ND** | - | **ND** | c |
| **8146** | **Carpaccio pur bœuf huile d'olive citron** | **Seasoned Carpaccio** | - | | | | | | | | | | | | | | | | | | | | | | | | | | | c |

## RAW BEEF MEATS

| Sample N° | Product (French name) | Product | Reference method: NF EN ISO 16654♦ Final result | ALTERNATIVE METHOD: 3M Molecular Detection Assay 2 *E.coli* O157 (including H7) method | | | | | | | | | | | | | | | | | | | | | | | | | | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Pre-warmed 3M BPW ISO 8h at 41.5°C + 72h at 5°C ± 3°C | | | | | | | | | | | | | Pre-warmed 3M BPW ISO 24h at 41.5°C +72h at 5°C ± 3°C | | | | | | | | | | | | | | |
| | | | | MDA2 test Lysate | | MDA2 test BPW | | Confirmation | | | | Final result Lysate | Agreement 8h+72h Lysate | Final result BPW | Agreement 8h+72h BPW | | MDA2 test Lysate | | MDA2 test BPW | | Confirmation | | | | Final result Lysate | Agree-ment 24h+72h Lysate | Final result BPW | Agree-ment 24h+72h BPW | |
| | | | | Re-sult | Matrix control | Re-sult | Matrix control | CT-SMAC (50µL) | CT-SMAC (50µL) after IMS | After purification: Latex O157/ H7 | After purification: Indole test | All confir-matory tests | | | | | Re-sult | Matrix control | Re-sult | Matrix control | CT-SMAC (50µL) | CT-SMAC (50µL) after IMS | After purification: latex O157/H7 | After purification: Indole test | All confir-matory tests | | | | | |
| **8147** | **Carpaccio pur bœuf huile d'olive citron** | **Seasoned Carpaccio** | + | + | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | **PA** | c |
| **115** | **Pavé de bœuf mariné aux trois poivres surgelé** | **Seasoned beef meat** | + | + | + | + | + | +1/2 | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +M | +/+ | + | + | + | + | **PA** | + | **PA** | c |
| **116** | **Carpaccio de bœuf marinade au pistou surgelé** | **Frozen seasoned Carpaccio** | + | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +p | +/+ | + | + | + | + | **PA** | + | **PA** | c |
| **117** | **Burger à l'oignon surgelé** | **Frozen seasoned ground beef meat** | + | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | + | + | + | + | +M | +/+ | + | + | + | + | **PA** | + | **PA** | c |
| **118** | **Viande hachée à la bolognaise 15%MG** | **Seasoned raw ground beef meat** | - | | | | | | | | | | | | | | | | | | | | | | | | | | c |
| **119** | **Carpaccio pur bœuf (huile d'olive, citron)** | **Beef Carpaccio** | + | - | + | - | + | - | - | / | / | - | - | **ND** | - | **ND** | - | + | - | + | st | - | / | / | - | - | **ND** | - | **ND** | c |
| 120 | Carpaccio pistou basilic huile d'olive et ail | Seasoned Carpaccio | - | | | | | | | | | | | | | | | | | | | | | | | | | | c |
| 121 | Carpaccio basilic et sa marinade | Seasoned Carpaccio | - | | | | | | | | | | | | | | | | | | | | | | | | | | c |
| 122 | Carpaccio olive et sa marinade | Seasoned Carpaccio | - | | | | | | | | | | | | | | | | | | | | | | | | | | c |
| 123 | Rumsteak à l'échalotte | Seasoned beef meat | - | | | | | | | | | | | | | | | | | | | | | | | | | | c |
| 124 | Carpaccio basilic et sa marinade | Seasoned Carpaccio | - | | | | | | | | | | | | | | | | | | | | | | | | | | c |

| RAW DAIRY PRODUCTS | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample N° | Product (French name) | Product | Reference method: NF EN ISO 16654 ♦ | | | | | ALTERNATIVE METHOD: 3M Molecular Detection Assay 2 *E.coli* O157 (including H7) method | | | | | | | | | | Category | Type |
| | | | IMS 6h | | IMS 24h | | Final result | Pre-warmed 3M BPW ISO - 18h at 41.5°C | | | | | | | | | | | |
| | | | | | | | | MDA2 TEST | | Confirmation | | | | | | Final result | Agreement 18h | | |
| | | | CT SMAC | CHROMagar O157 | CT SMAC | CHROMagar O157 | | Result | Matrix control | CT SMAC (50µL) | CT SMAC (50µL) after IMS | After purification: latex O157/H7 | After purification: Indole test | All confirmatory tests | | | | | |
| **7748** | **Lait cru de vache** | **Raw milk** | - | - | - | - | - | -/-/- | + | +1d | +d (5) | +/+ | + | + | - | **NA** | 2 | a |
| **7749** | **Lait cru fermier** | **Raw milk** | +M | - | / | / | + | + | + | +m | / | +/+ | + | + | + | **PA** | 2 | a |
| **7750** | **Lait cru de vache fermier** | **Raw milk** | +M | - | / | / | + | + | + | +m | / | +/+ | + | + | + | **PA** | 2 | a |
| **7751** | **Lait cru de vache** | **Raw milk** | +p | - | / | / | + | + | + | +m | / | +/+ | + | + | + | **PA** | 2 | a |
| **7752** | **Lait cru fermier** | **Raw milk** | +d (2) | +Md | +md | +m | + | + | + | +1/2 | / | +/+ | + | + | + | **PA** | 2 | a |
| **7758** | **Lait cru de vache** | **Raw milk** | +m | +m | / | / | + | + | + | +m | / | +/+ | + | + | + | **PA** | 2 | a |
| **7759** | **Lait cru fermier** | **Raw milk** | +M | +m | / | / | + | + | + | +m | / | +/+ | + | + | + | **PA** | 2 | a |
| **7760** | **Lait cru de vache fermier** | **Raw milk** | +M | +m | / | / | + | + | + | +m | / | +/+ | + | + | + | **PA** | 2 | a |
| **7761** | **Lait cru de vache** | **Raw milk** | +M | - | / | / | + | + | + | +m | / | +/+ | + | + | + | **PA** | 2 | a |
| **7762** | **Lait cru fermier** | **Raw milk** | +p | +m | / | / | + | - | + | - | - | / | / | - | - | **ND** | 2 | a |
| **244** | **Lait cru de vache** | Raw milk | +M | +m | / | / | + | + | + | +md/+p | +p | +/+ | + | + | + | **PA** | 2 | a |
| **245** | **Lait cru fermier** | Raw milk | +m | +m | / | / | + | + | + | - | +M (after regrowth step in BHI) | +/+ | + | + | + | **PA** | 2 | a |
| **246** | **Lait cru** | Raw milk | +m | +m | / | / | + | + | + | - | +m | +/+ | + | + | + | **PA** | 2 | a |
| 247 | Lait cru de vache | Raw milk | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 2 | a |
| 248 | Lait cru fermier | Raw milk | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 2 | a |
| 249 | Lait cru | Raw milk | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 2 | a |
| 250 | Lait cru fermier | Raw milk | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 2 | a |
| 251 | Lait cru | Raw milk | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 2 | a |
| 830 | Lait cru | Raw milk | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 2 | a |
| 831 | Lait cru | Raw milk | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 2 | a |
| 832 | Lait cru fermier | Raw milk | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 2 | a |
| **7753** | **Fromage raclette lait cru** | **Raw milk cheese** | +p | - | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | 2 | b |
| **7754** | **Comte au lait cru** | **Raw milk cheese** | +p | +p | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | 2 | b |
| **7755** | **Tomme de montagne lait cru** | **Raw milk cheese** | +d (1) (latex-, indole-) | +d (1) (latex-, indole-) | - | - | - | + | + | +m | / | +/+ | + | + | + | **PD** | 2 | b |
| **7756** | **Picodon lait cru** | **Raw milk cheese** | st | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 2 | b |
| **33** | **Camembert au lait cru** | **Raw milk cheese** | +md (latex-, indole-) | +md (latex-, indole-) | - | - | - | - | + | +1/2d | - | -/- | - | - | - | **NA** | 2 | b |
| **34** | **Camembert au lait cru** | **Raw milk cheese** | +md (latex-, indole-) | +md (latex-, indole-) | - | - | - | - | + | +1/2d | - | -/- | - | - | - | **NA** | 2 | b |
| **35** | **Rocamadour au lait cru** | **Raw milk cheese** | - | - | - | - | - | + | + | +1/2 | / | +/+ | + | + | + | **PD** | 2 | b |
| **36** | **Rocamadour au lait cru** | **Raw milk cheese** | +M | +M | / | / | + | + | + | +m | / | +/+ | + | + | + | **PA** | 2 | b |
| **38** | **Roquefort au lait cru de brebis** | **Raw milk cheese** | st | st | st | - | - | + | + | +p | / | +/+ | + | + | + | **PD** | 2 | b |
| **39** | **Morbier au lait cru** | **Raw milk cheese** | +p | +m | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | 2 | b |
| **252** | **Munster au lait cru** | **Raw milk cheese** | +M | +M | / | / | + | - | + | - | - | / | / | - | - | **ND** | 2 | b |

♦ Analyses performed according to the COFRAC accreditation

| RAW DAIRY PRODUCTS | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample N° | Product (French name) | Product | Reference method: NF EN ISO 16654 ♦ | | | | | ALTERNATIVE METHOD: 3M Molecular Detection Assay 2 *E.coli* O157 (including H7) method | | | | | | | | | | Category | Type |
| | | | IMS 6h | | IMS 24h | | Final result | Pre-warmed 3M BPW ISO - **18h at 41.5°C** | | | | | | | | | | | |
| | | | | | | | | MDA2 TEST | | Confirmation | | | | | | Final result | Agreement 18h | | |
| | | | CT SMAC | CHROMagar O157 | CT SMAC | CHROMagar O157 | | Result | Matrix control | CT SMAC (50µL) | CT SMAC (50µL) after IMS | After purification: latex O157/H7 | After purification: Indole test | All confirmatory tests | | | | | |
| **253** | **Roquefort au lait cru de brebis** | **Raw milk cheese** | st | st | - | - | - | - | + | - | - | / | / | - | - | **NA** | 2 | b |
| **254** | **Picodon au lait cru** | **Raw milk cheese** | +md (latex-, indole-) | - | - | - | - | + | + | +d | +p | +/+ | + | + | + | **PD** | 2 | b |
| **255** | **Roquefort au lait cru de brebis** | **Raw milk cheese** | +p | +p | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | 2 | b |
| **256** | **Cantal au lait cru** | **Raw milk cheese** | st | st | - | - | - | + | + | +M | / | +/+ | + | + | + | **PD** | 2 | b |
| 257 | Munster au lait cru | Raw milk cheese | st | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 2 | b |
| 258 | Roquefort au lait cru de brebis | Raw milk cheese | st | st | - | - | - | - | + | - | - | / | / | - | - | **NA** | 2 | b |
| 259 | Picodon au lait cru | Raw milk cheese | - | - | - | - | - | - | + | +d | - | -/- | - | - | - | **NA** | 2 | b |
| 260 | Roquefort au lait cru | Raw milk cheese | st | st | - | - | - | - | + | +d | - | -/- | - | - | - | **NA** | 2 | b |
| 261 | Cantal au lait cru | Raw milk cheese | st | st | st | - | - | - | + | +d | - | -/- | - | - | - | **NA** | 2 | b |
| **8023** | **Beurre de baratte cru doux** | **Raw butter** | - | - | +d (latex-, indole-) | +d (latex+, indole+) | + | + | + | +M | / | +/+ | + | + | + | **PA** | 2 | c |
| **8024** | **Beurre de baratte cru doux** | **Raw butter** | - | - | +d (latex-, indole-) | - | - | + | + | +M | / | +/+ | + | + | + | **PD** | 2 | c |
| **8025** | **Beurre de baratte cru doux** | **Raw butter** | +1d (latex-, indole-) | st | +d (latex-, indole-) | - | - | - | + | - | - | / | / | - | - | **NA** | 2 | c |
| **8026** | **Beurre de baratte cru demi-sel** | **Raw butter** | st | st | st | st | - | - | + | - | st | / | / | - | - | **NA** | 2 | c |
| **8028** | **Beurre de baratte cru demi-sel** | **Raw butter** | st | st | - | - | - | - | + | st | / | / | / | - | - | **NA** | 2 | c |
| **8029** | **Beurre de baratte cru demi-sel** | **Raw butter** | +p | +p | / | / | + | + | + | +M | / | +/+ | + | + | + | **PA** | 2 | c |
| **8031** | **Beurre de baratte cru demi-sel** | **Raw butter** | +p | +M | +p | +1/2 | + | + | + | +M | / | +/+ | + | + | + | **PA** | 2 | c |
| 640 | Lait ribot | Fermented milk | st | st | st | st | - | - | + | st | st | / | / | - | - | **NA** | 2 | c |
| 641 | Lait ribot | Fermented milk | st | st | st | st | - | - | + | st | st | / | / | - | - | **NA** | 2 | c |
| 642 | Lait ribot | Fermented milk | st | st | st | st | - | - | + | st | st | / | / | - | - | **NA** | 2 | c |
| 643 | Lait fermenté | Fermented milk | st | st | st | st | - | - | + | st | st | / | / | - | - | **NA** | 2 | c |
| 644 | Lait ribot | Fermented milk | st | st | st | st | - | - | + | st | st | / | / | - | - | **NA** | 2 | c |
| **651** | **Lait ribot** | **Fermented milk** | st | st | st | st | - | + | + | +p | / | +/+ | + | + | + | **PD** | 2 | c |
| **652** | **Lait ribot** | **Fermented milk** | st | st | st | st | - | - | + | st | st | / | / | - | - | **NA** | 2 | c |
| **653** | **Lait ribot** | **Fermented milk** | st | st | st | st | - | - | + | st | st | / | / | - | - | **NA** | 2 | c |
| **654** | **Lait fermenté** | **Fermented milk** | st | st | st | st | - | - | + | st | st | / | / | - | - | **NA** | 2 | c |
| **1398** | **Lait ribot** | **Fermented milk** | +M | +1/2 | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | 2 | c |
| **1399** | **Lait ribot lait fermenté** | **Fermented milk** | +M | +m | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | 2 | c |
| **1400** | **Lait ribot lait fermenté** | **Fermented milk** | +M | +M | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | 2 | c |
| **1401** | **Lait fermenté** | **Fermented milk** | +M | +1/2 | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | 2 | c |
| **1402** | **Lait fermenté** | **Fermented milk** | +M | +1/2 | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | 2 | c |
| **1403** | **Lait ribot** | **Fermented milk** | - | - | - | - | - | + | + | +p | / | +/+ | + | + | + | **PD** | 2 | c |
| 1404 | Lait ribot | Fermented milk | - | - | - | - | - | - | + | st | - | / | / | - | - | **NA** | 2 | c |

| RAW FRUITS AND VEGETABLES | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample N° | Product (French name) | Product | Reference method: NF EN ISO 16654 ♦ | | | | | ALTERNATIVE METHOD: 3M Molecular Detection Assay 2 *E.coli* O157 (including H7) method | | | | | | | | | | Category | Type |
| | | | IMS 6h | | IMS 24h | | Final result | Pre-warmed 3M BPW ISO - **18h at 41.5°C** | | | | | | | | | | | |
| | | | | | | | | MDA2 TEST | | Confirmation | | | | | | Final result | Agreement 18h | | |
| | | | CT SMAC | CHROMagar O157 | CT SMAC | CHROMagar O157 | | Result | Matrix control | CT SMAC (50µL) | CT SMAC (50µL) after IMS | After purification: latex O157/H7 | After purification: Indole test | All confirmatory tests | | | | | |
| **7763** | **Salade laitue** | **Lettuce** | +d (1) (latex-, indole-) | - | +md (latex-, indole-) | +md (latex-, indole-) | - | + | + | +1/2 | / | +/+ | + | + | + | **PD** | 3 | a |
| **7764** | **Salade iceberg** | **Green salad** | +p | +1/2 | / | / | + | + | + | +M | / | +/+ | + | + | + | **PA** | 3 | a |
| **7765** | **Mâche** | **Green salad** | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | a |
| **7766** | **Roquette** | **Green salad** | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | a |
| **7767** | **Salade lucas** | **Green salad** | st | st | +p | +m | + | - | + | - | - | / | / | - | - | **ND** | 3 | a |
| **8032** | **Mâche** | **Salad** | - | - | - | - | - | + | + | +M | / | +/+ | + | + | + | **PD** | 3 | a |
| **8033** | **Mâche** | **Salad** | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | a |
| **8035** | **Roquette** | **Salad** | - | - | - | - | - | + | + | +1/2 | / | +/+ | + | + | + | **PD** | 3 | a |
| **8036** | **Laitue** | **Lettuce** | +p | +M | / | / | + | - | + | - | - | / | / | - | - | **ND** | 3 | a |
| **8037** | **Laitue** | **Lettuce** | +p | +M | / | / | + | + | + | +m | / | +/+ | + | + | + | **PA** | 3 | a |
| **8038** | **Petite salade espagnole** | **Salad** | +p | +M | / | / | + | + | + | +1/2 | / | +/+ | + | + | + | **PA** | 3 | a |
| **8039** | **Petite salade espagnole** | **Salad** | +p | +p | / | / | + | + | + | +M | / | +/+ | + | + | + | **PA** | 3 | a |
| **262** | **Laitue craquante** | **Salad** | - | - | st | - | - | + | + | - | +p | +/+ | + | + | + | **PD** | 3 | a |
| **263** | **Salade** | **Salad** | +M | +M | / | / | + | - | + | - | - | / | / | - | - | **ND** | 3 | a |
| 265 | Laitue craquante | Salad | - | - | st | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | a |
| 266 | Salade | Salad | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | a |
| 267 | Salade | Salad | st | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | a |
| 268 | Salade | Salad | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | a |
| 269 | Salade mélangée | Salad | st | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | a |
| 833 | Laitue | Salad | st | st | st | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | a |
| 834 | Salade | Salad | - | st | st | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | a |
| **7768** | **Fines pousses Alfalfa Radis Fenouil** | **Sprouts** | +md (latex-, indole-) | +1d (latex-, indole-) | - | - | - | - | + | +md | / | -/- | - | - | - | **NA** | 3 | b |
| **7769** | **Fines pousses Alfalfa** | **Sprouts** | +m | - | / | / | + | + | + | +m | / | +/+ | + | + | + | **PA** | 3 | b |
| **7770** | **Fines pousses Alfalfa Roquette** | **Sprouts** | +p | - | +1/2 | - | + | - | + | +md | - | -/- | - | - | - | **ND** | 3 | b |
| **7771** | **Fines pousses Alfalfa Poireaux lentilles** | **Sprouts** | +md (latex-, indole-) | - | - | - | - | + | + | +m | / | +/+ | + | + | + | **PD** | 3 | b |
| **40** | **Fines pousses Alfalfa Poireaux lentilles** | **Sprouts** | +1/2 | - | +Md (latex+, indole+) | +md (latex+, indole+) | + | + | + | - | +m (after regrowth step in BHI) | +/+ | + | + | + | **PA** | 3 | b |
| **41** | **Fines pousses Alfalfa Poireaux lentilles** | **Sprouts** | - | - | - | - | - | + | + | - | +m (after regrowth step in BHI) | +/+ | + | + | + | **PD** | 3 | b |
| **43** | **Fines pousses Alfalfa Roquettes** | **Sprouts** | +md (latex-, indole-) | - | +md (latex+, indole+) | - | + | + | + | - | +md (after regrowth step in BHI) | +/+ | + | + | + | **PA** | 3 | b |
| **44** | **Fines pousses Alfalfa** | **Sprouts** | +m | - | +m | +m | + | + | + | - | +md (after regrowth step in BHI) | +/+ | + | + | + | **PA** | 3 | b |
| **45** | **Fines pousses Alfalfa** | **Sprouts** | - | - | - | - | - | +/+/+ | + | - | - (- after regrowth step in BHI) | / | / | - | - | **PPNA** | 3 | b |

♦ Analyses performed according to the COFRAC accreditation

| RAW FRUITS AND VEGETABLES | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample N° | Product (French name) | Product | Reference method: NF EN ISO 16654 ♦ | | | | | ALTERNATIVE METHOD: 3M Molecular Detection Assay 2 *E.coli* O157 (including H7) method | | | | | | | | | | Category | Type |
| | | | IMS 6h | | IMS 24h | | Final result | Pre-warmed 3M BPW ISO - 18h at 41.5°C | | | | | | | | | | | |
| | | | | | | | | MDA2 TEST | | Confirmation | | | | | | Final result | Agreement 18h | | |
| | | | CT SMAC | CHROMagar O157 | CT SMAC | CHROMagar O157 | | Result | Matrix control | CT SMAC (50µL) | CT SMAC (50µL) after IMS | After purification: latex O157/H7 | After purification: Indole test | All confirmatory tests | | | | | |
| **46** | **Fines pousses Alfalfa Radis Fenouil** | **Sprouts** | - | - | - | - | - | + | + | +md (latex-, indole-) | +m (after regrowth step in BHI) | +/+ | + | + | + | **PD** | 3 | b |
| 835 | Jeunes pousses de haricots | Sprouts | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | b |
| 836 | Jeunes pousses betteraves rouges | Sprouts | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | b |
| 837 | Jeunes pousses poireaux | Sprouts | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | b |
| 838 | Jeunes pousses betteraves rouges | Sprouts | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | b |
| 839 | Jeunes pousses radis | Sprouts | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | b |
| 840 | Jeunes pousses poireaux | Sprouts | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | b |
| **841** | **Jeunes pousses radis** | **Sprouts** | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | b |
| **842** | **Jeunes pousses poireaux** | **Sprouts** | - | - | - | - | - | + | + | - | +M (after regrowth step in BHI) | +/+ | + | + | + | **PD** | 3 | b |
| **843** | **Jeunes pousses betteraves rouges** | **Sprouts** | +M | - | +M | +(3) | + | - | + | - | - | / | / | - | - | **ND** | 3 | b |
| 1405 | Fines pousses ALFALFA | Sprouts | - | - | - | - | - | - | + | - | - | / | / | - | - | **NA** | 3 | b |
| **8040** | **Cidre de Bretagne Brut** | **Cider** | st | st | - | - | - | +/+/+ | + | - | - (st after regrowth step in BHI) | / | / | - | - | **PPNA** | 3 | c |
| **8041** | **Cidre de Bretagne Brut** | **Cider** | st | st | - | - | - | - | + | st | st | / | / | - | - | **NA** | 3 | c |
| **8042** | **Jus de raisin 100% pur jus** | **Grape juice** | - | - | - | - | - | +/+/+ | + | - | - (+ after regrowth step in BHI at 72h) | +/+ | + | + | + | **PD** | 3 | c |
| **8043** | **Cidre bouché brut bio** | **Cider** | st | st | - | - | - | +/+/+ | + | - | - (st after regrowth step in BHI) | / | / | - | - | **PPNA** | 3 | c |
| **8044** | **Cidre bouché brut bio** | **Cider** | st | st | - | - | - | +/-/- | + | st | - (st after regrowth step in BHI) | / | / | - | - | **PPNA** | 3 | c |
| **8045** | **Jus multifruit 100% pur jus** | **Fruit juice** | - | - | - | - | - | +/+/+ | + | +1d | - (st after regrowth step in BHI) | -/- | - | - | - | **PPNA** | 3 | c |
| **8046** | **Jus multifruit 100% pur jus** | **Fruit juice** | +p | +p | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | 3 | c |
| **8048** | **Jus d'orange 100% pur jus** | **Orange juice** | +p | +p | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | 3 | c |
| **8049** | **Jus de pomme 100% pur jus** | **Apple juice** | st | st | - | - | - | + | + | +p | / | +/+ | + | + | + | **PD** | 3 | c |
| **47** | **Cidre de Bretagne Brut** | **Cider** | - | - | st | - | - | - | + | st | - | / | / | - | - | **NA** | 3 | c |
| **48** | **Cidre de Bretagne Brut** | **Cider** | - | - | st | - | - | - | + | st | - | / | / | - | - | **NA** | 3 | c |
| **49** | **100% pur jus de pamplemousse rose et orange** | **Fruit juice** | +p | +p | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | 3 | c |
| **50** | **100% pur jus de pamplemousse rose et orange** | **Fruit juice** | st | st | +p | +M | + | + | + | +p | / | +/+ | + | + | + | **PA** | 3 | c |
| **51** | **100% pur jus d'orange abricot pomme et mandarine** | **Fruit juice** | +p | +M | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | 3 | c |

| RAW FRUITS AND VEGETABLES | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample N° | Product (French name) | Product | Reference method: NF EN ISO 16654 ♦ | | | | | ALTERNATIVE METHOD: 3M Molecular Detection Assay 2 *E.coli* O157 (including H7) method | | | | | | | | | | | Category | Type |
| | | | IMS 6h | | IMS 24h | | Final result | Pre-warmed 3M BPW ISO - 18h at 41.5°C | | | | | | | | | | | | |
| | | | | | | | | MDA2 TEST | | Confirmation | | | | | | Final result | Agreement 18h | | | |
| | | | CT SMAC | CHROMagar O157 | CT SMAC | CHROMagar O157 | | Result | Matrix control | CT SMAC (50µL) | CT SMAC (50µL) after IMS | After purification latex O157/H7 | After purification Indole test | All confirmatory tests | | | | | | |
| **645** | **Jus d'orange 100% pur jus** | **Fruit juice** | +p | +p | / | / | + | + | + | +p | / | +/+ | + | + | + | **PA** | 3 | c |
| **646** | **Jus d'orange avec pulpe 100% pur jus** | **Fruit juice** | +(4) | +(4) | +p | +p | + | - | + | st | st | / | / | - | - | **ND** | 3 | c |
| **647** | **Cidre brut de Normandie** | **Cider** | st | st | st | st | - | - | + | st | st | / | / | - | - | **NA** | 3 | c |
| **648** | **Jus d'orange 100% pur jus** | **Fruit juice** | st | st | st | st | - | + | + | +p | / | +/+ | + | + | + | **PD** | 3 | c |
| **649** | **Jus d'orange avec pulpe 100% pur jus** | **Fruit juice** | st | st | st | st | - | - | + | st | st | / | / | - | - | **NA** | 3 | c |
| **650** | **Cidre brut** | **Cider** | st | st | st | st | - | - | + | st | st | / | / | - | - | **NA** | 3 | c |

| RAW DAIRY PRODUCTS | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample N° | Product (French name) | Product | Reference method: NF EN ISO 16654 ♦ | | | | | Alternative method: 3M Molecular Detection Assay 2 *E. coli* O157 (including H7) method | | | | | | | | | | | | | | Category | Type |
| | | | IMS 6h | | IMS 24h | | Final result | Pre-warmed 3M BPW ISO - **18 h at 41.5°C** + **72 h at 5°C ± 3°C** | | | | | | | | | | | | | | | |
| | | | | | | | | MDA2 test Lysate | | MDA2 test BPW | | Confirmation | | | | | Fina result Lysate | Agreement 18h+72h Lysate | Fina result BPW | Agreement 18h+72h BPW | | |
| | | | CT SMAC | CHROMagar O157 | CT SMAC | CHROMagar O157 | | Result | Matrix control | Result | Matrix control | CT SMAC (50µL) | CT SMAC (50µL) after IMS | After purification: Latex O157/H7 | After purification: Indole test | All confir-matory tests | | | | | | |
| **7748** | **Lait cru de vache** | **Raw milk** | - | - | - | - | - | +/+/- | + | -/-/+ | + | - | +m | +/+ | + | + | + | PD | - | NA | 2 | a |
| **7749** | **Lait cru fermier** | **Raw milk** | +M | - | / | / | + | + | + | + | + | +m | / | +/+ | + | + | + | PA | + | PA | 2 | a |
| **7750** | **Lait cru de vache fermier** | **Raw milk** | +M | - | / | / | + | + | + | + | + | +1/2 | / | +/+ | + | + | + | PA | + | PA | 2 | a |
| **7751** | **Lait cru de vache** | **Raw milk** | +p | - | / | / | + | + | + | + | + | +m | / | +/+ | + | + | + | PA | + | PA | 2 | a |
| **7752** | **Lait cru fermier** | **Raw milk** | +d (2) | +Md | +md | +m | + | + | + | + | + | +m | / | +/+ | + | + | + | PA | + | PA | 2 | a |
| **7758** | **Lait cru de vache** | **Raw milk** | +m | +m | / | / | + | + | + | + | + | +m | / | +/+ | + | + | + | PA | + | PA | 2 | a |
| **7759** | **Lait cru fermier** | **Raw milk** | +M | +m | / | / | + | + | + | + | + | +M | / | +/+ | + | + | + | PA | + | PA | 2 | a |
| **7760** | **Lait cru de vache fermier** | **Raw milk** | +M | +m | / | / | + | + | + | + | + | +d | / | +/+ | + | + | + | PA | + | PA | 2 | a |
| **7761** | **Lait cru de vache** | **Raw milk** | +M | - | / | / | + | + | + | + | + | +m | / | +/+ | + | + | + | PA | + | PA | 2 | a |
| **7762** | **Lait cru fermier** | **Raw milk** | +p | +m | / | / | + | - | + | - | + | - | - | / | / | - | - | ND | - | ND | 2 | a |
| **244** | **Lait cru de vache** | Raw milk | +M | +m | / | / | + | + | + | + | + | +M | +M | +/+ | + | + | + | PA | + | PA | 2 | a |
| **245** | **Lait cru fermier** | Raw milk | +m | +m | / | / | + | + | + | + | + | - | +M | +/+ | + | + | + | PA | + | PA | 2 | a |
| **246** | **Lait cru** | Raw milk | +m | +m | / | / | + | + | + | + | + | +m | / | +/+ | + | + | + | PA | + | PA | 2 | a |
| 247 | Lait cru de vache | Raw milk | - | - | - | - | - | | | | | | | | | | | | | | 2 | a |
| 248 | Lait cru fermier | Raw milk | - | - | - | - | - | | | | | | | | | | | | | | 2 | a |
| 249 | Lait cru | Raw milk | - | - | - | - | - | | | | | | | | | | | | | | 2 | a |
| 250 | Lait cru fermier | Raw milk | - | - | - | - | - | | | | | | | | | | | | | | 2 | a |
| 251 | Lait cru | Raw milk | - | - | - | - | - | | | | | | | | | | | | | | 2 | a |
| 830 | Lait cru | Raw milk | - | - | - | - | - | | | | | | | | | | | | | | 2 | a |
| 831 | Lait cru | Raw milk | - | - | - | - | - | | | | | | | | | | | | | | 2 | a |
| 832 | Lait cru fermier | Raw milk | - | - | - | - | - | | | | | | | | | | | | | | 2 | a |
| **7753** | **Fromage raclette lait cru** | **Raw milk cheese** | +p | - | / | / | + | + | + | + | + | +p | / | +/+ | + | + | + | PA | + | PA | 2 | b |
| **7754** | **Comte au lait cru** | **Raw milk cheese** | +p | +p | / | / | + | + | + | + | + | +p | / | +/+ | + | + | + | PA | + | PA | 2 | b |
| **7755** | **Tomme de montagne lait cru** | **Raw milk cheese** | +d (1) (latex-, indole-) | +d (1) (latex-, indole-) | - | - | - | + | + | + | + | +1/2 | / | +/+ | + | + | + | PD | + | PD | 2 | b |
| **7756** | **Picodon lait cru** | **Raw milk cheese** | st | - | - | - | - | | | | | | | | | | | | | | 2 | b |
| **33** | **Camembert au lait cru** | **Raw milk cheese** | +md (latex-, indole-) | +md (latex-, indole-) | - | - | - | - | + | - | + | - | - | / | / | - | - | NA | - | NA | 2 | b |
| **34** | **Camembert au lait cru** | **Raw milk cheese** | +md (latex-, indole-) | +md (latex-, indole-) | - | - | - | - | + | - | + | - | - | / | / | - | - | NA | - | NA | 2 | b |
| **35** | **Rocamadour au lait cru** | **Raw milk cheese** | - | - | - | - | - | + | + | + | + | +m | / | +/+ | + | + | + | PD | + | PD | 2 | b |
| **36** | **Rocamadour au lait cru** | **Raw milk cheese** | +M | +M | / | / | + | + | + | + | + | +m | / | +/+ | + | + | + | PA | + | PA | 2 | b |

♦ Analyses performed according to the COFRAC accreditation

| RAW DAIRY PRODUCTS | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample N° | Product (French name) | Product | Reference method: NF EN ISO 16654 ♦ | | | | | Alternative method: 3M Molecular Detection Assay 2 *E. coli* O157 (including H7) method | | | | | | | | | | | | | | | Category | Type |
| | | | IMS 6h | | IMS 24h | | Final result | Pre-warmed 3M BPW ISO - **18 h at 41.5°C** + **72 h at 5°C ± 3°C** | | | | | | | | | | | | | | | | |
| | | | | | | | | MDA2 test Lysate | | MDA2 test BPW | | Confirmation | | | | | Fina result Lysate | Agreement 18h+72h Lysate | Fina result BPW | Agreement 18h+72h BPW | | |
| | | | CT SMAC | CHROMagar O157 | CT SMAC | CHROMagar O157 | | Result | Matrix control | Result | Matrix control | CT SMAC (50µL) | CT SMAC (50µL) after IMS | After purification | | All confir-matory tests | | | | | | | | |
| | | | | | | | | | | | | | | Latex O157/H7 | Indole test | | | | | | | | | |
| **38** | **Roquefort au lait cru de brebis** | **Raw milk cheese** | st | st | st | - | - | + | + | + | + | +p | / | +/+ | + | + | + | **PD** | + | **PD** | 2 | b |
| **39** | **Morbier au lait cru** | **Raw milk cheese** | +p | +m | / | / | + | + | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | **PA** | 2 | b |
| **252** | **Munster au lait cru** | **Raw milk cheese** | +M | +M | / | / | + | - | + | - | + | - | - | / | / | - | - | **ND** | - | **ND** | 2 | b |
| **253** | **Roquefort au lait cru de brebis** | **Raw milk cheese** | st | st | - | - | - | | | | | | | | | | | | | | 2 | b |
| **254** | **Picodon au lait cru** | **Raw milk cheese** | +md (latex-, indole-) | - | - | - | - | + | + | inspect/ inspect/+ | + | +M | +m | +/+ | + | + | + | **PD** | + | **PD** | 2 | b |
| **255** | **Roquefort au lait cru de brebis** | **Raw milk cheese** | +p | +p | / | / | + | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | 2 | b |
| **256** | **Cantal au lait cru** | **Raw milk cheese** | st | st | - | - | - | + | + | + | + | +m | / | +/+ | + | + | + | **PD** | + | **PD** | 2 | b |
| 257 | Munster au lait cru | Raw milk cheese | st | - | - | - | - | | | | | | | | | | | | | | 2 | b |
| 258 | Roquefort au lait cru de brebis | Raw milk cheese | st | st | - | - | - | | | | | | | | | | | | | | 2 | b |
| 259 | Picodon au lait cru | Raw milk cheese | - | - | - | - | - | | | | | | | | | | | | | | 2 | b |
| 260 | Roquefort au lait cru | Raw milk cheese | st | st | - | - | - | | | | | | | | | | | | | | 2 | b |
| 261 | Cantal au lait cru | Raw milk cheese | st | st | st | - | - | | | | | | | | | | | | | | 2 | b |
| **8023** | **Beurre de baratte cru doux** | **Raw butter** | - | - | +d (latex-, indole-) | +d (latex+, indole+) | + | + | + | + | + | + | +1/2 | / | +/+ | + | + | + | **PA** | + | **PA** | 2 | c |
| **8024** | **Beurre de baratte cru doux** | **Raw butter** | - | - | +d (latex-, indole-) | - | - | + | + | + | + | + | +1/2 | / | +/+ | + | + | + | **PD** | + | **PD** | 2 | c |
| **8025** | **Beurre de baratte cru doux** | **Raw butter** | +1d (latex-, indole-) | st | +d (latex-, indole-) | - | - | | | | | | | | | | | | | | 2 | c |
| **8026** | **Beurre de baratte cru demi-sel** | **Raw butter** | st | st | st | st | - | | | | | | | | | | | | | | 2 | c |
| **8028** | **Beurre de baratte cru demi-sel** | **Raw butter** | st | st | - | - | - | | | | | | | | | | | | | | 2 | c |
| **8029** | **Beurre de baratte cru demi-sel** | **Raw butter** | +p | +p | / | / | + | + | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | **PA** | 2 | c |
| **8031** | **Beurre de baratte cru demi-sel** | **Raw butter** | +p | +M | +p | +1/2 | + | + | + | + | + | +M | / | +/+ | + | + | + | **PA** | + | **PA** | 2 | c |
| 640 | Lait ribot | Fermented milk | st | st | st | st | - | | | | | | | | | | | | | | 2 | c |
| 641 | Lait ribot | Fermented milk | st | st | st | st | - | | | | | | | | | | | | | | 2 | c |
| 642 | Lait ribot | Fermented milk | st | st | st | st | - | | | | | | | | | | | | | | 2 | c |
| 643 | Lait fermenté | Fermented milk | st | st | st | st | - | | | | | | | | | | | | | | 2 | c |
| 644 | Lait ribot | Fermented milk | st | st | st | st | - | | | | | | | | | | | | | | 2 | c |

| RAW DAIRY PRODUCTS | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample N° | Product (French name) | Product | Reference method: NF EN ISO 16654 ♦ | | | | | Alternative method: 3M Molecular Detection Assay 2 *E. coli* O157 (including H7) method | | | | | | | | | | | | | | Category | Type |
| | | | IMS 6h | | IMS 24h | | Final result | Pre-warmed 3M BPW ISO - **18 h at 41.5°C** + **72 h at 5°C ± 3°C** | | | | | | | | | | | | | | | |
| | | | | | | | | MDA2 test Lysate | | MDA2 test BPW | | Confirmation | | | | | Fina result Lysate | Agreement 18h+72h Lysate | Fina result BPW | Agreement 18h+72h BPW | | |
| | | | CT SMAC | CHROMagar O157 | CT SMAC | CHROMagar O157 | | Result | Matrix control | Result | Matrix control | CT SMAC (50µL) | CT SMAC (50µL) after IMS | After purification | | All confir-matory tests | | | | | | |
| | | | | | | | | | | | | | | Latex O157/H7 | Indole test | | | | | | | |
| **651** | **Lait ribot** | **Fermented milk** | st | st | st | st | - | + | + | + | + | +p | / | +/+ | + | + | + | **PD** | + | **PD** | 2 | c |
| **652** | **Lait ribot** | **Fermented milk** | st | st | st | st | - | | | | | | | | | | | | | | 2 | c |
| **653** | **Lait ribot** | **Fermented milk** | st | st | st | st | - | | | | | | | | | | | | | | 2 | c |
| **654** | **Lait fermenté** | **Fermented milk** | st | st | st | st | - | | | | | | | | | | | | | | 2 | c |
| **1398** | **Lait ribot** | **Fermented milk** | +M | +1/2 | / | / | + | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | 2 | c |
| **1399** | **Lait ribot lait fermenté** | **Fermented milk** | +M | +m | / | / | + | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | 2 | c |
| **1400** | **Lait ribot lait fermenté** | **Fermented milk** | +M | +M | / | / | + | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | 2 | c |
| **1401** | **Lait fermenté** | **Fermented milk** | +M | +1/2 | / | / | + | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | 2 | c |
| **1402** | **Lait fermenté** | **Fermented milk** | +M | +1/2 | / | / | + | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | 2 | c |
| **1403** | **Lait ribot** | **Fermented milk** | - | - | - | - | - | + | + | + | + | +p | / | +/+ | + | + | + | **PD** | + | **PD** | 2 | c |
| 1404 | Lait ribot | Fermented milk | - | - | - | - | - | | | | | | | | | | | | | | 2 | c |

## RAW FRUITS AND VEGETABLES

| Sample N° | Product (French name) | Product | Reference method: NF EN ISO 16654 ♦ | | | | | Alternative method: 3M Molecular Detection Assay 2 *E. coli* O157 (including H7) method | | | | | | | | | | | | | Category | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IMS 6h | | IMS 24h | | Final result | Pre-warmed 3M BPW ISO - **18 h at 41.5°C** + **72 h at 5°C ± 3°C** | | | | | | | | | | | | | | |
| | | | | | | | | MDA2 test Lysate | | MDA2 test BPW | | Confirmation | | | | | Fina result Lysate | Agreement 18h+72h Lysate | Fina result BPW | Agreement 18h+72h BPW | | |
| | | | CT SMAC | CHROMagar O157 | CT SMAC | CHROMagar O157 | | Result | Matrix control | Result | Matrix control | CT SMAC (50µL) | CT SMAC (50µL) after IMS | After purification: Latex O157/H7 | After purification: Indole test | All confir-matory tests | | | | | | |
| **7763** | **Salade laitue** | **Lettuce** | +d (1) (latex-, indole-) | - | +md (latex-, indole-) | +md (latex-, indole-) | - | + | + | + | + | +M | / | +/+ | + | + | + | PD | + | PD | 3 | a |
| **7764** | **Salade iceberg** | **Green salad** | +p | +1/2 | / | / | + | + | + | + | + | +1/2 | / | +/+ | + | + | + | PA | + | PA | 3 | a |
| **7765** | **Mâche** | **Green salad** | - | - | - | - | - | | | | | | | | | | | | | | 3 | a |
| **7766** | **Roquette** | **Green salad** | - | - | - | - | - | | | | | | | | | | | | | | 3 | a |
| **7767** | **Salade lucas** | **Green salad** | st | st | +p | +m | + | - | + | - | + | - | - | / | / | - | - | ND | - | ND | 3 | a |
| **8032** | **Mâche** | **Salad** | - | - | - | - | - | + | + | + | + | +1/2 | / | +/+ | + | + | + | PD | + | PD | 3 | a |
| **8033** | **Mâche** | **Salad** | - | - | - | - | - | | | | | | | | | | | | | | 3 | a |
| **8035** | **Roquette** | **Salad** | - | - | - | - | - | + | + | + | + | +1/2 | / | +/+ | + | + | + | PD | + | PD | 3 | a |
| **8036** | **Laitue** | **Lettuce** | +p | +M | / | / | + | - | + | - | + | - | - | / | / | - | - | ND | - | ND | 3 | a |
| **8037** | **Laitue** | **Lettuce** | +p | +M | / | / | + | + | + | + | + | +m | / | +/+ | + | + | + | PA | + | PA | 3 | a |
| **8038** | **Petite salade espagnole** | **Salad** | +p | +M | / | / | + | + | + | + | + | +1/2 | / | +/+ | + | + | + | PA | + | PA | 3 | a |
| **8039** | **Petite salade espagnole** | **Salad** | +p | +p | / | / | + | + | + | + | + | +1/2 | / | +/+ | + | + | + | PA | + | PA | 3 | a |
| **262** | **Laitue craquante** | **Lettuce** | - | - | st | - | - | + | + | + | + | +m | / | +/+ | + | + | + | PD | + | PD | 3 | a |
| **263** | **Salade** | **Salad** | +M | +M | / | / | + | - | + | - | + | - | - | / | / | - | - | ND | - | ND | 3 | a |
| 265 | Laitue craquante | Salad | - | - | st | - | - | | | | | | | | | | | | | | 3 | a |
| 266 | Salade | Salad | - | - | - | - | - | | | | | | | | | | | | | | 3 | a |
| 267 | Salade | Salad | st | - | - | - | - | | | | | | | | | | | | | | 3 | a |
| 268 | Salade | Salad | - | - | - | - | - | | | | | | | | | | | | | | 3 | a |
| 269 | Salade mélangée | Salad | st | - | - | - | - | | | | | | | | | | | | | | 3 | a |
| 833 | Laitue | Salad | st | st | st | - | - | | | | | | | | | | | | | | 3 | a |
| 834 | Salade | Salad | - | st | st | - | - | | | | | | | | | | | | | | 3 | a |
| **7768** | **Fines pousses Alfalfa Radis Fenouil** | **Sprouts** | +md (latex-, indole-) | +1d (latex-, indole-) | - | - | - | | | | | | | | | | | | | | 3 | b |
| **7769** | **Fines pousses Alfalfa** | **Sprouts** | +m | - | / | / | + | + | + | -/+/+ | + | +m | / | +/+ | + | + | + | PA | - | ND | 3 | b |
| **7770** | **Fines pousses Alfalfa Roquette** | **Sprouts** | +p | - | +1/2 | - | + | - | + | - | + | +md | / | -/- | - | - | - | ND | - | ND | 3 | b |
| **7771** | **Fines pousses Alfalfa Poireaux lentilles** | **Sprouts** | +md (latex-, indole-) | - | - | - | - | + | + | + | + | +md | / | +/+ | + | + | + | PD | + | PD | 3 | b |
| **40** | **Fines pousses Alfalfa Poireaux lentilles** | **Sprouts** | +1/2 | - | +Md (latex+, indole+) | +md (latex+, indole+) | + | + | + | + | + | - | +m (after regrowth step in BHI) | +/+ | + | + | + | PA | + | PA | 3 | b |
| **41** | **Fines pousses Alfalfa Poireaux lentilles** | **Sprouts** | - | - | - | - | - | + | + | + | + | +md (latex-, indole+) | +m (after regrowth step in BHI) | +/+ | + | + | + | PD | + | PD | 3 | b |

♦ Analyses performed according to the COFRAC accreditation

| RAW FRUITS AND VEGETABLES | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample N° | Product (French name) | Product | Reference method: NF EN ISO 16654 ♦ | | | | | Alternative method: 3M Molecular Detection Assay 2 *E. coli* O157 (including H7) method | | | | | | | | | | | | | | | | Category | Type |
| | | | IMS 6h | | IMS 24h | | Final result | Pre-warmed 3M BPW ISO - **18 h at 41.5°C** + **72 h at 5°C ± 3°C** | | | | | | | | | | | | | | | | | |
| | | | | | | | | MDA2 test Lysate | | MDA2 test BPW | | Confirmation | | | | | Fina result Lysate | Agreement 18h+72h Lysate | Fina result BPW | Agreement 18h+72h BPW | | | | | |
| | | | CT SMAC | CHROMagar O157 | CT SMAC | CHROMagar O157 | | Result | Matrix control | Result | Matrix control | CT SMAC (50µL) | CT SMAC (50µL) after IMS | After purification: Latex O157/H7 | After purification: Indole test | All confir-matory tests | | | | | | | | | |
| **43** | **Fines pousses Alfalfa Roquettes** | **Sprouts** | +md (latex-, indole-) | - | +md (latex+, indole+) | - | + | + | + | + | + | +md | / | +/+ | + | + | + | **PA** | + | **PA** | 3 | b |
| **44** | **Fines pousses Alfalfa** | **Sprouts** | +m | - | +m | +m | + | + | + | + | + | +md (latex-, indole+) | +m (after regrowth step in BHI) | +/+ | + | + | + | **PA** | + | **PA** | 3 | b |
| **45** | **Fines pousses Alfalfa** | **Sprouts** | - | - | - | - | - | +/+/+ | + | +/+/- | + | +md | - | -/- | + | | - | **PPNA** | - | **PPNA** | 3 | b |
| **46** | **Fines pousses Alfalfa Radis Fenouil** | **Sprouts** | - | - | - | - | - | + | + | + | + | +md | +1 | +/+ | + | + | + | **PD** | + | **PD** | 3 | b |
| 835 | Jeunes pousses de haricots | Sprouts | - | - | - | - | - | | | | | | | | | | | | | | 3 | b |
| 836 | Jeunes pousses betteraves rouges | Sprouts | - | - | - | - | - | | | | | | | | | | | | | | 3 | b |
| 837 | Jeunes pousses poireaux | Sprouts | - | - | - | - | - | | | | | | | | | | | | | | 3 | b |
| 838 | Jeunes pousses betteraves rouges | Sprouts | - | - | - | - | - | | | | | | | | | | | | | | 3 | b |
| 839 | Jeunes pousses radis | Sprouts | - | - | - | - | - | | | | | | | | | | | | | | 3 | b |
| 840 | Jeunes pousses poireaux | Sprouts | - | - | - | - | - | | | | | | | | | | | | | | 3 | b |
| **841** | **Jeunes pousses radis** | **Sprouts** | - | - | - | - | - | | | | | | | | | | | | | | 3 | b |
| **842** | **Jeunes pousses poireaux** | **Sprouts** | - | - | - | - | - | + | + | + | + | - | +M (after regrowth step in BHI) | +/+ | + | + | + | **PD** | + | **PD** | 3 | b |
| **843** | **Jeunes pousses betteraves rouges** | **Sprouts** | +M | - | +M | +(3) | + | - | + | - | + | - | - | / | / | - | - | **ND** | - | **ND** | 3 | b |
| 1405 | Fines pousses ALFALFA | Sprouts | - | - | - | - | - | | | | | | | | | | | | | | 3 | b |
| **8040** | **Cidre de Bretagne Brut** | **Cider** | st | st | - | - | - | +/+/+ | + | +/+/+ | + | - | - (st after regrowth step in BHI) | / | / | - | - | **PPNA** | - | **PPNA** | 3 | c |
| **8041** | **Cidre de Bretagne Brut** | **Cider** | st | st | - | - | - | | | | | | | | | | | | | | 3 | c |
| **8042** | **Jus de raisin 100% pur jus** | **Grape juice** | - | - | - | - | - | +/+/+ | + | +/+/+ | + | - | +d (2) | +/+ | + | + | + | **PD** | + | **PD** | 3 | c |
| **8043** | **Cidre bouché brut bio** | **Cider** | st | st | - | - | - | +/+/+ | + | +/+/+ | + | - | - (st after regrowth step in BHI) | / | / | - | - | **PPNA** | - | **PPNA** | 3 | c |
| **8044** | **Cidre bouché brut bio** | **Cider** | st | st | - | - | - | -/-/- | + | -/-/- | + | st | st | / | / | - | - | **NA** | - | **NA** | 3 | c |
| **8045** | **Jus multifruit 100% pur jus** | **Fruit juice** | - | - | - | - | - | +/+/+ | + | +/+/+ | + | - | - (st after regrowth step in BHI) | / | / | - | - | **PPNA** | - | **PPNA** | 3 | c |

| RAW FRUITS AND VEGETABLES | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample N° | Product (French name) | Product | Reference method: NF EN ISO 16654 ♦ | | | | | Alternative method: 3M Molecular Detection Assay 2 *E. coli* O157 (including H7) method | | | | | | | | | | | | | | | Category | Type |
| | | | IMS 6h | | IMS 24h | | Final result | Pre-warmed 3M BPW ISO - **18 h at 41.5°C** + **72 h at 5°C ± 3°C** | | | | | | | | | | | | | | | | |
| | | | | | | | | MDA2 test Lysate | | MDA2 test BPW | | Confirmation | | | | | Fina result Lysate | Agreement 18h+72h Lysate | Fina result BPW | Agreement 18h+72h BPW | | | | |
| | | | CT SMAC | CHROMagar O157 | CT SMAC | CHROMagar O157 | | Result | Matrix control | Result | Matrix control | CT SMAC (50µL) | CT SMAC (50µL) after IMS | After purification | | All confir-matory tests | | | | | | | | |
| | | | | | | | | | | | | | | Latex O157/H7 | Indole test | | | | | | | | | |
| **8046** | **Jus multifruit 100% pur jus** | **Fruit juice** | +p | +p | / | / | + | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | 3 | c |
| **8048** | **Jus d'orange 100% pur jus** | **Orange juice** | +p | +p | / | / | + | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | 3 | c |
| **8049** | **Jus de pomme 100% pur jus** | **Apple juice** | st | st | - | - | - | + | + | + | + | +p | / | +/+ | + | + | + | **PD** | + | **PD** | 3 | c |
| **47** | **Cidre de Bretagne Brut** | **Cider** | - | - | st | - | - | | | | | | | | | | | | | | 3 | c |
| **48** | **Cidre de Bretagne Brut** | **Cider** | - | - | st | - | - | | | | | | | | | | | | | | 3 | c |
| **49** | **100% pur jus de pamplemousse rose et orange** | **Fruit juice** | +p | +p | / | / | + | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | 3 | c |
| **50** | **100% pur jus de pamplemousse rose et orange** | **Fruit juice** | st | st | +p | +M | + | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | 3 | c |
| **51** | **100% pur jus d'orange abricot pomme et mandarine** | **Fruit juice** | +p | +M | / | / | + | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | 3 | c |
| **645** | **Jus d'orange 100% pur jus** | **Fruit juice** | +p | +p | / | / | + | + | + | + | + | +p | / | +/+ | + | + | + | **PA** | + | **PA** | 3 | c |
| **646** | **Jus d'orange avec pulpe 100% pur jus** | **Fruit juice** | +(4) | +(4) | +p | +p | + | - | + | - | + | st | st | / | / | - | - | **ND** | - | **ND** | 3 | c |
| **647** | **Cidre brut de Normandie** | **Cider** | st | st | st | st | - | | | | | | | | | | | | | | 3 | c |
| **648** | **Jus d'orange 100% pur jus** | **Fruit juice** | st | st | st | st | - | + | + | + | + | +p | / | +/+ | + | + | + | **PD** | + | **PD** | 3 | c |
| **649** | **Jus d'orange avec pulpe 100% pur jus** | **Fruit juice** | st | st | st | st | - | | | | | | | | | | | | | | 3 | c |
| **650** | **Cidre brut** | **Cider** | st | st | st | st | - | | | | | | | | | | | | | | 3 | c |

# Appendix 5 – Relative level of detection study: raw data

**Matrix : Raw ground beef**
**Strain : *E.coli O157:H7* Ad486**

Aerobic mesophilic flora : 4,6.10$^3$CFU/g

| N° sample | Level | Contamination level- (cfu/sample) | Reference method : ISO 16654♦ | | | | | Number positive samples / Total | Alternative method: 3M™ Molecular Detection Assay 2 - *E. coli* O157 (including H7) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IMS 6h | | IMS 24h | | Final result | | Protocol 8h at 41.5°C ±1°C 3M BPW ISO | | | | Number positive samples / Total | Protocol 24h at 41.5°C± 1°C 3M BPW ISO | | | | Number positive samples /Total |
| | | | CT-SMAC | CHROMagar O157 | CT-SMAC | CHROMagar O157 | | | MDA test | Matrix control | Confir-mation | Final result | | MDA test | Matrix control | Confir-mation | Final result | |
| 526 | 0 | / | st | st | st | - | - | 0/5 | - | + | - | - | 0/5 | - | + | - | - | 0/5 |
| 527 | | | st | st | st | - | - | | - | + | - | - | | - | + | - | - | |
| 528 | | | st | st | st | - | - | | - | + | - | - | | - | + | - | - | |
| 529 | | | st | st | st | st | - | | - | + | - | - | | - | + | - | - | |
| 530 | | | st | st | st | - | - | | - | + | - | - | | - | + | - | - | |
| 531 | Low | 0,6 | st | st | - | - | - | 12/20 | + | + | + | + | 10/20 | + | + | + | + | 10/20 |
| 532 | | | st | st | st | - | - | | - | + | - | - | | - | + | - | - | |
| 533 | | | +p | +p | / | / | + | | - | + | - | - | | - | + | - | - | |
| 534 | | | +p | +p | / | / | + | | + | + | + | + | | + | + | + | + | |
| 535 | | | st | st | st | - | - | | - | + | - | - | | - | + | - | - | |
| 536 | | | +p | +p | / | / | + | | - | + | - | - | | - | + | - | - | |
| 537 | | | st | st | st | st | - | | + | + | + | + | | + | + | + | + | |
| 538 | | | st | st | +p | +p | + | | - | + | - | - | | - | + | - | - | |
| 539 | | | st | st | st | - | - | | + | + | + | + | | + | + | + | + | |
| 540 | | | st | st | st | - | - | | + | + | + | + | | + | + | + | + | |
| 541 | | | +p | +p | / | / | + | | + | + | + | + | | + | + | + | + | |
| 542 | | | +p | +p | / | / | + | | - | + | - | - | | - | + | - | - | |
| 543 | | | +p | +p | / | / | + | | inspect/+ | + | + | + | | + | + | + | + | |
| 544 | | | st | st | st | - | - | | - | + | - | - | | - | + | - | - | |
| 545 | | | +p | +p | / | / | + | | + | + | + | + | | + | + | + | + | |
| 546 | | | +p | +p | / | / | + | | inspect/- | + | - | - | | - | + | - | - | |
| 547 | | | +p | +p | / | / | + | | + | + | + | + | | + | + | + | + | |
| 548 | | | +p | +p | / | / | + | | + | + | + | + | | + | + | + | + | |
| 549 | | | st | st | st | - | - | | - | + | - | - | | - | + | - | - | |
| 550 | | | +p | +p | / | / | + | | - | + | - | - | | - | + | - | - | |
| 551 | High | 5,5 | +p | +p | / | / | + | 5/5 | + | + | + | + | 5/5 | + | + | + | + | 5/5 |
| 552 | | | +p | +p | / | / | + | | + | + | + | + | | + | + | + | + | |
| 553 | | | +p | +p | / | / | + | | + | + | + | + | | + | + | + | + | |
| 554 | | | +p | +p | / | / | + | | inspect/+ | + | + | + | | + | + | + | + | |
| 555 | | | st | st | +p | +p | + | | inspect/+ | + | + | + | | + | + | + | + | |

Inspect: unusual light output during the run. The user has to repeat a second assay without applying any dilution

♦ Analyses performed according to the COFRAC accreditation

**Matrix : Raw milk**
**Strain : *E.coli O157:H7* Ad686**

Aerobic mesophilic flora : $6.10^7$CFU/g

| N° sample | Level | Contamination level- (cfu/sample) | Reference method: ISO 16654♦ | | | | | Number positive samples/ Total | Alternative method: 3M™ Molecular Detection Assay 2 - *E. coli* O157 (including H7) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IMS 6 h | | IMS 24 h | | Final result | | Protocol 18h at 41,5°C±1°C 3M BPW ISO | | | | Number positive samples/ Total |
| | | | CT-SMAC | CHROMagar O157 | CT-SMAC | CHROMagar O157 | | | MDA test | Matrix control | Confirmation | Final result | |
| 730 | 0 | / | - | - | - | - | - | 0/5 | - | + | - | - | 0/5 |
| 731 | | | - | - | - | - | - | | - | + | - | - | |
| 732 | | | - | - | - | - | - | | - | + | - | - | |
| 733 | | | - | - | - | - | - | | - | + | - | - | |
| 734 | | | - | - | - | - | - | | - | + | - | - | |
| 735 | Low | 0,6 | +m | +m | / | / | + | 5/20 | + | + | + | + | 8/20 |
| 736 | | | - | - | - | - | - | | - | + | - | - | |
| 737 | | | - | - | - | - | - | | - | + | - | - | |
| 738 | | | - | - | - | - | - | | - | + | - | - | |
| 739 | | | - | - | - | - | - | | + | + | + | + | |
| 740 | | | - | - | - | - | - | | - | + | - | - | |
| 741 | | | - | - | - | - | - | | + | + | + | + | |
| 742 | | | - | - | - | - | - | | + | + | + | + | |
| 743 | | | - | - | - | - | - | | - | + | - | - | |
| 744 | | | - | - | - | - | - | | - | + | - | - | |
| 745 | | | - | - | - | - | - | | - | + | - | - | |
| 746 | | | +m | +m | / | / | + | | - | + | - | - | |
| 747 | | | - | - | - | - | - | | + | + | + | + | |
| 748 | | | +m | - | / | / | + | | + | + | + | + | |
| 749 | | | +M | - | +m | +m | + | | - | + | - | - | |
| 750 | | | - | - | - | - | - | | - | + | - | - | |
| 751 | | | - | - | - | - | - | | + | + | + | + | |
| 752 | | | - | +d(2) (NC) | +md (NC) | - | - | | - | + | - | - | |
| 753 | | | - | - | - | - | - | | - | + | - | - | |
| 754 | | | +M | +m | +1/2 | +m | + | | + | + | + | + | |
| 755 | High | 5,5 | +m | +m | / | / | + | 5/5 | + | + | + | + | 5/5 |
| 756 | | | +m | +m | / | / | + | | + | + | + | + | |
| 757 | | | +m | +m | / | / | + | | + | + | + | + | |
| 758 | | | +1/2 | +m | / | / | + | | + | + | + | + | |
| 759 | | | +1/2 | +m | / | / | + | | + | + | + | + | |

NC: Non characteristic on non-selective agar plate

♦ Analyses performed according to the COFRAC accreditation

**Matrix : Raw spinach**
**Strain : *E.coli O157:H7* Ad556**

Aerobic mesophilic flora : 8,2.10$^6$ CFU/g

| N° sample | Level | Contamination level- (cfu/sample) | Reference method : ISO 16654♦ | | | | | Number positive samples/ Total | Alternative method: 3M™ Molecular Detection Assay 2 - *E. coli* O157 (including H7) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IMS 6h | | IMS 24h | | Final result | | Protocol 18h at 41,5°C±1°C 3M BPW ISO | | | | Number positive samples/ Total |
| | | | CT-SMAC | CHROMagar O157 | CT-SMAC | CHROMagar O157 | | | MDA test | Matrix control | Confirmation | Final result | |
| 1067 | 0 | / | - | - | - | - | - | 0/5 | - | + | - | - | 0/5 |
| 1068 | | | - | - | - | - | - | | - | + | - | - | |
| 1069 | | | - | - | - | - | - | | - | + | - | - | |
| 1070 | | | - | - | - | - | - | | - | + | - | - | |
| 1071 | | | - | - | - | - | - | | - | + | - | - | |
| 1072 | Low | 1,0 | - | - | - | - | - | 8/20 | - | + | - | - | 7/20 |
| 1073 | | | - | - | - | - | - | | - | + | - | - | |
| 1074 | | | - | - | - | - | - | | - | + | - | - | |
| 1075 | | | - | - | - | - | - | | - | + | - | - | |
| 1076 | | | - | - | - | - | - | | - | + | - | - | |
| 1077 | | | - | - | - | - | - | | + | + | + | + | |
| 1078 | | | - | - | - | - | - | | - | + | - | - | |
| 1079 | | | +m | +m | +m | +m | + | | + | + | + | + | |
| 1080 | | | - | - | - | - | - | | - | + | - | - | |
| 1081 | | | +M | +1/2 | / | / | + | | - | + | - | - | |
| 1082 | | | +m | - | +m | - | + | | - | + | - | - | |
| 1083 | | | +M | +1/2 | / | / | + | | + | + | + | + | |
| 1084 | | | +m | - | +m | - | + | | + | + | + | + | |
| 1085 | | | - | - | +p | +m | + | | - | + | - | - | |
| 1086 | | | +M | +1/2 | / | / | + | | - | + | - | - | |
| 1087 | | | - | - | - | - | - | | + | + | + | + | |
| 1088 | | | - | - | - | - | - | | - | + | - | - | |
| 1089 | | | - | - | - | - | - | | - | + | - | - | |
| 1090 | | | +M | +1/2 | / | / | + | | + | + | + | + | |
| 1091 | | | - | - | - | - | - | | + | + | + | + | |
| 1092 | High | 10,0 | +p | +M | / | / | + | 5/5 | + | + | + | + | 5/5 |
| 1093 | | | +p | +1/2 | / | / | + | | + | + | + | + | |
| 1094 | | | +M | +1/2 | / | / | + | | + | + | + | + | |
| 1095 | | | +M | +M | / | / | + | | + | + | + | + | |
| 1096 | | | +M | +1/2 | / | / | + | | + | + | + | + | |

♦ Analyses performed according to the COFRAC accreditation

# Appendix 6 – Inclusivity and exclusivity study: raw data

| INCLUSIVITY | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Strains | | | | Origin | Inoculation level (cfu/225ml) | 3M™ Molecular Detection Assay 2 - *E. coli* O157 (including H7) | | | | | |
| | | | | | | Protocol 8h at 41.5°C ± 1°C 3M BPW ISO | | | | | Final result |
| | | | | | | MDA test | | Confirmation | | | |
| | | | | | | MDA | Matrix control | CT-SMAC (50µL) | Latex O157 | Latex H7 | |
| 1 | *Escherichia coli* | O157:H7 | Ad552 | Slaughterhouse | 42 | + | + | + | + | + | + |
| 2 | *Escherichia coli* | O157:H7 | Ad553 | Slaughterhouse | 23 | + | + | + | + | + | + |
| 3 | *Escherichia coli* | O157:H7 | Ad554 | Slaughterhouse | 15 | + | + | + | + | + | + |
| 4 | *Escherichia coli* | O157:H7 | Ad555 | Slaughterhouse | 20 | + | + | + | + | + | + |
| 5 | *Escherichia coli* | O157:H7 | Ad556 | Water purification | 20 | + | + | + | + | + | + |
| 6 | *Escherichia coli* | O157:H7 | Ad557 | Water purification | 19 | + | + | + | + | + | + |
| 7 | *Escherichia coli* | O157:H7 | Ad558 | Water purification | 29 | + | + | + | + | + | + |
| 8 | *Escherichia coli* | O157:H7 | Ad559 | Ground beef | 36 | + | + | + | + | + | + |
| 9 | *Escherichia coli* | O157:H7 | Ad560 | Ground beef | 12 | + | + | + | + | + | + |
| 10 | *Escherichia coli* | O157:H7 | Ad561 | Ground beef | 27 | + | + | + | + | + | + |
| 11 | *Escherichia coli* | O157:H7 | Ad562 | Ground beef | 21 | + | + | + | + | + | + |
| 12 | *Escherichia coli* | O157:H7 | Ad563 | Ground beef | 22 | + | + | + | + | + | + |
| 13 | *Escherichia coli* | O157:H7 | Ad564 | Ground beef | 13 | + | + | + | + | + | + |
| 14 | *Escherichia coli* | O157:H7 | Ad567 | Slaughterhouse | 27 | + | + | + | + | + | + |
| 15 | *Escherichia coli* | O157:H7 | Ad568 | Slaughterhouse | 19 | + | + | + | + | + | + |
| 16 | *Escherichia coli* | O157:H7 | Ad569 | Slaughterhouse | 27 | + | + | + | + | + | + |
| 17 | *Escherichia coli* | O157:H7 | Ad570 | Slaughterhouse | 27 | + | + | + | + | + | + |
| 18 | *Escherichia coli* | O157:H7 | Ad571 | Feces | 10 | + | + | + | + | + | + |
| 19 | *Escherichia coli* | O157:H7 | Ad572 | Feces | 33 | + | + | + | + | + | + |
| 20 | *Escherichia coli* | O157:H7 | Ad573 | Feces | 30 | + | + | + | + | + | + |
| 21 | *Escherichia coli* | O157:H7 | Ad574 | Feces | 39 | + | + | + | + | + | + |

| INCLUSIVITY | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Strains | | | | Origin | Inoculation level (cfu/225ml) | 3M™ Molecular Detection Assay 2 - *E. coli* O157 (including H7) | | | | | |
| | | | | | | Protocol 8h at 41.5°C ± 1°C 3M BPW ISO | | | | | Final result |
| | | | | | | MDA test | | Confirmation | | | |
| | | | | | | MDA | Matrix control | CT-SMAC (50µL) | Latex O157 | Latex H7 | |
| 22 | *Escherichia coli* | O157:H7 | Ad575 | Feces | 19 | + | + | + | + | + | + |
| 23 | *Escherichia coli* | O157:H7 | Ad576 | Feces | 32 | + | + | + | + | + | + |
| 24 | *Escherichia coli* | O157:H7 | Ad577 | Feces | 28 | + | + | + | + | + | + |
| 25 | *Escherichia coli* | O157:H7 | Ad578 | Feces | 20 | + | + | + | + | + | + |
| 26 | *Escherichia coli* | O157:H7 | Ad579 | Feces | 29 | + | + | + | + | + | + |
| 27 | *Escherichia coli* | O157:H7 | Ad580 | Feces | 35 | + | + | + | + | + | + |
| 28 | *Escherichia coli* | O157:H7 | Ad585 | Ground beef | 37 | + | + | + | + | + | + |
| 29 | *Escherichia coli* | O157:H7 | Ad586 | Ground beef | 26 | + | + | + | + | + | + |
| 30 | *Escherichia coli* | O157:H7 | Ad587 | Ground beef | 26 | + | + | + | + | + | + |
| 31 | *Escherichia coli* | O157:H7 | Ad588 | Ground beef | 13 | + | + | + | + | + | + |
| 32 | *Escherichia coli* | O157:H7 | Ad589 | Ground beef | 17 | + | + | + | + | + | + |
| 33 | *Escherichia coli* | O157:H7 | Ad590 | Ground beef | 35 | + | + | + | + | + | + |
| 34 | *Escherichia coli* | O157:H7 | Ad591 | Ground beef | 37 | + | + | + | + | + | + |
| 35 | *Escherichia coli* | O157:H7 | EF190 | Feces | 23 | + | + | + | + | + | + |
| 36 | *Escherichia coli* | O157:H7 | Ad686 | Slaughterhouse | 25 | + | + | + | + | + | + |
| 37 | *Escherichia coli* | O157:H7 | CIP103571 (ATCC 35150) | Clinical origin | 38 | + | + | + | + | + | + |
| 38 | *Escherichia coli* | O157:H7 | ATCC 43888 | / | 23 | + | + | + | + | + | + |
| 39 | *Escherichia coli* | O157:H7 | Ad486 | Ground beef | 29 | + | + | + | + | + | + |
| 40 | *Escherichia coli* | O157:H7 | Ad487 | Ground beef | 19 | + | + | + | + | + | + |
| 41 | *Escherichia coli* | O157:H7 | Ad488 | Ground beef | 20 | + | + | + | + | + | + |
| 42 | *Escherichia coli* | O157:H7 | Ad489 | Ground beef | 18 | + | + | + | + | + | + |
| 43 | *Escherichia coli* | O157:H7 | ATCC 700728 | / | 38 | + | + | + | + | + | + |
| 44 | *Escherichia coli* | O157 | Ad524 | Environment (dairy products) | 18 | + | + | + (red colonies) | + | - | + |

| INCLUSIVITY | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Strains | | | | Origin | Inoculation level (cfu/225ml) | 3M™ Molecular Detection Assay 2 - *E. coli* O157 (including H7) | | | | | |
| | | | | | | Protocol 8h at 41.5°C ± 1°C 3M BPW ISO | | | | | Final result |
| | | | | | | MDA test | | Confirmation | | | |
| | | | | | | MDA | Matrix control | CT-SMAC (50µL) | Latex O157 | Latex H7 | |
| 45 | *Escherichia coli* | O157 | Ad525 | Feces | 26 | + | + | + (red colonies) | + | - | + |
| 46 | *Escherichia coli* | O157 | Ad526 | Feces | 34 | + | + | + (red colonies) | + | - | + |
| 47 | *Escherichia coli* | O157 | Ad527 | Clinical origin | 19 | + | + | + (red colonies) | + | - | + |
| 48 | *Escherichia coli* | O157:H- | Ad535 | / | 17 | + | + | + (red colonies) | + | - | + |
| 49 | *Escherichia coli* | O157:H- | Ad536 | / | 31 | + | + | + (red colonies) | + | - | + |
| 50 | *Escherichia coli* | O157:H43 | Ad517 | Pork (USA) | 33 | + | + | + (red colonies) | + | - | + |

| EXCLUSIVITY | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Strains | | | | Origin | 3M™ Molecular Detection Assay 2 - *E. coli* O157 (including H7) | | | |
| | | | | | Inoculation level (cfu/ml) | Protocol 24 h at 37°C ± 1°C 3M BPW ISO | | Final result |
| | | | | | | Result | Matrix control | |
| 1 | *Citrobacter freundii* | / | 25 | Frozen raw spinach | $3{,}02.10^5$ | - | + | - |
| 2 | *Citrobacter freundii* | / | 104 | Ground beef | $2{,}60.10^5$ | - | + | - |
| 3 | *Escherichia coli* | O92:H33 | Ad503 | Clinical origin (Mexico) | $3{,}68.10^5$ | - | + | - |
| 4 | *Escherichia coli* | O3:H2 | Ad504 | Clinical origin (Chili) | $3{,}30.10^5$ | - | + | - |
| 5 | *Escherichia coli* | O78:H11 | ATCC 35401 | Human origin | $2{,}50.10^5$ | - | + | - |
| 6 | *Escherichia coli* | O6:H6 | Ad506 | Human origin | $3{,}16.10^5$ | - | + | - |
| 7 | *Escherichia coli* | O6:H10 | Ad507 | Clinical origin (Sweden) | $5{,}11.10^5$ | - | + | - |
| 8 | *Escherichia coli* | O111:H21 | Ad508 | Clinical origin (USA) | $2{,}00.10^5$ | - | + | - |
| 9 | *Escherichia coli* | O86:H43 | Ad509 | Animal origin (elephant USA) | $2{,}40.10^5$ | - | + | - |
| 10 | *Escherichia coli* | O26:H11 | Ad510 | Clinical origin (USA) | $3{,}40.10^5$ | - | + | - |
| 11 | *Escherichia coli* | O111:H8 | Ad511 | Clinical origin (USA) | $1{,}60.10^5$ | - | + | - |
| 12 | *Escherichia coli* | O128:H2 | Ad512 | Clinical origin (USA) | $4{,}00.10^5$ | - | + | - |
| 13 | *Escherichia coli* | O111:H2 | Ad513 | Clinical origin (UK) | $4{,}00.10^5$ | - | + | - |
| 14 | *Escherichia coli* | O128:H7 | Ad514 | Clinical origin (USA) | $3{,}02.10^5$ | - | + | - |
| 15 | *Escherichia coli* | O78:K80:H12 | ATCC43896 | Human origin | $3{,}30.10^5$ | - | + | - |
| 16 | *Escherichia coli* | O104:H21 | Ad516 | Clinical origin (USA) | $5{,}60.10^5$ | - | + | - |
| 17 | *Escherichia coli* | O26 | Ad980 | Clinical origin | $1{,}60.10^5$ | - | + | - |
| 18 | *Escherichia coli* | O55:H7 | Ad518 | Clinical origin (Sri Lanka) | $2{,}89.10^5$ | - | + | - |
| 19 | *Escherichia coli* | O44:H18 | Ad519 | Clinical origin (Peru) | $3{,}40.10^5$ | - | + | - |
| 20 | *Escherichia coli* | O127:H6 | Ad520 | Clinical origin (UK) | $4{,}40.10^5$ | - | + | - |
| 21 | *Escherichia coli* | O55:H6 | Ad521 | Clinical origin (USA) | $3{,}29.10^5$ | - | + | - |
| 22 | *Escherichia coli* | O18:K1:H7 | Ad522 | Clinical origin | $4{,}00.10^5$ | - | + | - |
| 23 | *Escherichia coli* | O145 | Ad983 | Clinical origin | $2{,}63.10^5$ | - | + | - |
| 24 | *Escherichia vulneris* | / | 127 | Raw milk | $3{,}60.10^5$ | - | + | - |
| 25 | *Hafnia alvei* | / | 88 | Bakery | $4{,}22.10^5$ | - | + | - |
| 26 | *Pantoea spp.* | / | 134 | Pork | $3{,}55.10^5$ | - | + | - |
| 27 | *Salmonella* Landau | | Ad499 | / | $2{,}60.10^5$ | - | + | - |
| 28 | *Salmonella* Sternhauze | | Ad500 | / | $2{,}00.10^5$ | - | + | - |
| 29 | *Salmonella* Urbana | | Ad501 | / | $3{,}00.10^5$ | - | + | - |
| 30 | *Salmonella* Wayne | | Ad502 | / | $2{,}08.10^5$ | - | + | - |

## Appendix 7 - Results obtained by the collaborative laboratories and the expert laboratory

**Laboratoy:** **A**

Aerobic mesophilic flora 1,9.10$^3$ CFU/g

| N°Sample | Reference method: ISO 16654 | | | | Alternative method 3M MDA 2 - *E. coli* O157 (including H7) | | | | Agreement |
|---|---|---|---|---|---|---|---|---|---|
| | CT SMAC | CHROMagar O157 | Confirmation | Final result | MDS result | CT SMAC | Latex | Final result | |
| **A4** | - | - | / | - | - | / | / | - | **NA** |
| **A6** | - | - | / | - | - | / | / | - | **NA** |
| **A9** | - | - | / | - | - | / | / | - | **NA** |
| **A12** | - | - | / | - | - | / | / | - | **NA** |
| **A13** | - | - | / | - | - | / | / | - | **NA** |
| **A17** | - | - | / | - | - | / | / | - | **NA** |
| **A22** | - | - | / | - | - | / | / | - | **NA** |
| **A23** | - | - | / | - | - | / | / | - | **NA** |
| **A1** | + | + | + | + | + | + | + | + | **PA** |
| **A3** | - | - | / | - | + | + | + | + | **PD** |
| **A8** | - | - | / | - | + | + | + | + | **PD** |
| **A10** | + | + | + | + | + | + | + | + | **PA** |
| **A16** | + | + | + | + | + | + | + | + | **PA** |
| **A20** | + | + | + | + | - | - * | / | - | **ND** |
| **A21** | + | + | + | + | + | + | + | + | **PA** |
| **A24** | + | + | + | + | + | + | + | + | **PA** |
| **A2** | + | + | + | + | + | + | + | + | **PA** |
| **A5** | + | + | + | + | + | + | + | + | **PA** |
| **A7** | + | + | + | + | + | + | + | + | **PA** |
| **A11** | + | + | + | + | + | + | + | + | **PA** |
| **A14** | + | + | + | + | + | + | + | + | **PA** |
| **A15** | + | + | + | + | + | + | + | + | **PA** |
| **A18** | + | + | + | + | + | + | + | + | **PA** |
| **A19** | + | + | + | + | + | + | + | + | **PA** |

***** Sample A20(Alt): The streaking of BPW after one-week storage didn't allow to recover the inoculated strain.

**Laboratoy:** **B**

Aerobic mesophilic flora 1,9.10² CFU/g

| N°Sample | Reference method: ISO 16654 | | | | Alternative method 3M MDA 2 - *E. coli* O157 (including H7) | | | | Agreement |
|---|---|---|---|---|---|---|---|---|---|
| | CT SMAC | CHROMagar O157 | Confirmation | Final result | MDS result | CT SMAC | Latex | Final result | |
| **B4** | - | - | / | - | - | / | / | - | **NA** |
| **B6** | - | - | / | - | - | / | / | - | **NA** |
| **B9** | - | - | / | - | - | / | / | - | **NA** |
| **B12** | - | - | / | - | - | / | / | - | **NA** |
| **B13** | - | - | / | - | - | / | / | - | **NA** |
| **B17** | - | - | / | - | - | / | / | - | **NA** |
| **B22** | - | - | / | - | - | / | / | - | **NA** |
| **B23** | - | - | / | - | - | / | / | - | **NA** |
| **B1** | + | + | + | + | + | + | + | + | **PA** |
| **B3** | + | + | + | + | - | - | / | - | **ND** |
| **B8** | + | + | + | + | + | + | + | + | **PA** |
| **B10** | + | + | + | + | + | + | + | + | **PA** |
| **B16** | + | + | + | + | + | + | + | + | **PA** |
| **B20** | + | + | + | + | + | + | + | + | **PA** |
| **B21** | + | + | + | + | + | + | + | + | **PA** |
| **B24** | + | + | + | + | + | + | + | + | **PA** |
| **B2** | + | + | + | + | + | + | + | + | **PA** |
| **B5** | + | + | + | + | + | + | + | + | **PA** |
| **B7** | + | + | + | + | + | + | + | + | **PA** |
| **B11** | + | + | + | + | + | + | + | + | **PA** |
| **B14** | + | + | + | + | + | + | + | + | **PA** |
| **B15** | + | + | + | + | + | + | + | + | **PA** |
| **B18** | + | + | + | + | + | + | + | + | **PA** |
| **B19** | + | + | + | + | + | + | + | + | **PA** |

**Laboratoy:** **C**

Aerobic mesophilic flora 1,3.10$^3$ CFU/g

| N°Sample | Reference method: ISO 16654 | | | | Alternative method 3M MDA 2 - *E. coli* O157 (including H7) | | | | Agreement |
|---|---|---|---|---|---|---|---|---|---|
| | CT SMAC | CHROMagar O157 | Confir-mation | Final result | MDS result | CT SMAC | Latex | Final result | |
| **C4** | - | - | / | - | +/+/-/-/- (low ct values) | - | / | - | **PPNA** |
| **C6** | - | - | / | - | - | / | / | - | **NA** |
| **C9** | - | - | / | - | - | / | / | - | **NA** |
| **C12** | - | - | / | - | - | / | / | - | **NA** |
| **C13** | - | - | / | - | - | / | / | - | **NA** |
| **C17** | - | - | / | - | - | / | / | - | **NA** |
| **C22** | - | - | / | - | - | / | / | - | **NA** |
| **C23** | - | - | / | - | - | / | / | - | **NA** |
| **C1** | + | + | + | + | + | + | + | + | **PA** |
| **C3** | + | + | + | + | + | + | + | + | **PA** |
| **C8** | + | + | + | + | -/-/-/- | - | / | - | **ND** |
| **C10** | + | + | + | + | + | + | + | + | **PA** |
| **C16** | + | + | + | + | + | + | + | + | **PA** |
| **C20** | + | + | + | + | + | + | + | + | **PA** |
| **C21** | + | + | + | + | + | + | + | + | **PA** |
| **C24** | + | + | + | + | + | + | + | + | **PA** |
| **C2** | + | + | + | + | + | + | + | + | **PA** |
| **C5** | + | + | + | + | + | + | + | + | **PA** |
| **C7** | + | + | + | + | + | + | + | + | **PA** |
| **C11** | + | + | + | + | + | + | + | + | **PA** |
| **C14** | + | + | + | + | + | + | + | + | **PA** |
| **C15** | + | + | + | + | + | + | + | + | **PA** |
| **C18** | + | + | + | + | + | + | + | + | **PA** |
| **C19** | + | + | + | + | + | + | + | + | **PA** |

**Laboratoy:** **D**

Aerobic mesophilic flora 7,8.10$^2$ CFU/g

| N°Sample | Reference method: ISO 16654 | | | | Alternative method 3M MDA 2 - *E. coli* O157 (including H7) | | | | Agreement |
|---|---|---|---|---|---|---|---|---|---|
| | CT SMAC | CHROMagar O157 | Confir-mation | Final result | MDS result | CT SMAC | Latex | Final result | |
| **D4** | - | - | / | - | - | / | / | - | **NA** |
| **D6** | - | - | / | - | - | / | / | - | **NA** |
| **D9** | - | - | / | - | - | / | / | - | **NA** |
| **D12** | - | - | / | - | - | / | / | - | **NA** |
| **D13** | - | - | / | - | - | / | / | - | **NA** |
| **D17** | - | - | / | - | - | / | / | - | **NA** |
| **D22** | - | - | / | - | - | / | / | - | **NA** |
| **D23** | - | - | / | - | - | / | / | - | **NA** |
| **D1** | + | + | + | + | + | + | + | + | **PA** |
| **D3** | + | + | + | + | + | + | + | + | **PA** |
| **D8** | + | + | + | + | + | + | + | + | **PA** |
| **D10** | + | + | + | + | + | + | + | + | **PA** |
| **D16** | + | + | + | + | + | + | + | + | **PA** |
| **D20** | + | + | + | + | + | + | + | + | **PA** |
| **D21** | + | + | + | + | + | + | + | + | **PA** |
| **D24** | + | + | + | + | + | + | + | + | **PA** |
| **D2** | + | + | + | + | + | + | + | + | **PA** |
| **D5** | + | + | + | + | + | + | + | + | **PA** |
| **D7** | + | + | + | + | + | + | + | + | **PA** |
| **D11** | + | + | + | + | + | + | + | + | **PA** |
| **D14** | + | + | + | + | + | + | + | + | **PA** |
| **D15** | + | + | + | + | + | + | + | + | **PA** |
| **D18** | + | + | + | + | + | + | + | + | **PA** |
| **D19** | + | + | + | + | + | + | + | + | **PA** |

**Laboratoy:** **E**

Aerobic mesophilic flora 2,3.10$^3$ CFU/g

| N° Sample | Reference method: ISO 16654 | | | | Alternative method 3M MDA 2 - *E. coli* O157 (including H7) | | | | Agree-ment |
|---|---|---|---|---|---|---|---|---|---|
| | CT SMAC | CHROMagar O157 | Confirmation | Final result | MDS result | CT SMAC | Latex | Final result | |
| **E4** | - | - | / | - | - | / | / | - | **NA** |
| **E6** | - | - | / | - | - | / | / | - | **NA** |
| **E9** | + | + | + (Latex Auto ADRIA) ** | +(-) | - | / | / | - | **NA** |
| **E12** | - | - | / | - | - | / | / | - | **NA** |
| **E13** | - | - | / | - | + | + | +(ADRIA: Latex -) ** | - | **PPNA** |
| **E17** | - | - | / | - | - | / | / | - | **NA** |
| **E22** | - | - | / | - | - | / | / | - | **NA** |
| **E23** | - | - | / | - | - | / | / | - | **NA** |
| **E1** | + | + | + | + | + | + | + | + | **PA** |
| **E3** | + | + | + | + | + | + | + | + | **PA** |
| **E8** | + | + | + | + | - | - * | / | - | **ND** |
| **E10** | + | + | + | + | + | + | + (ADRIA: Latex+) ** | + | **PA** |
| **E16** | + | + | + | + | + | + | + | + | **PA** |
| **E20** | + | + | + | + | + | + | + | + | **PA** |
| **E21** | + | + | + | + | + | + | + | + | **PA** |
| **E24** | + | + | + | + | + | + | + | + | **PA** |
| **E2** | + | + | + | + | + | + | + | + | **PA** |
| **E5** | + | + | + | + | + | + | + | + | **PA** |
| **E7** | + | + | + | + | + | + | + (Latex+ ADRIA) ** | + | **PA** |
| **E11** | + | + | + | + | + | + | + | + | **PA** |
| **E14** | + | + | + | + | + | + | + | + | **PA** |
| **E15** | + | + | + | + | + | + | + | + | **PA** |
| **E18** | + | + | + | + | + | + | + | + | **PA** |
| **E19** | + | + | + | + | + | + | + | + | **PA** |

* Sample E8: The streaking of BPW after BPW storage didn't allow to recover the inoculated strains.

** Samples E9, E13, E10 and E7: The isolates were tested twice in ADRIA.

**Laboratoy:** **F**

Aerobic mesophilic flora 4,7.10² CFU/g

| N° Sample | Reference method: ISO 16654 | | | | Alternative method 3M MDA 2 - *E. coli* O157 (including H7) | | | | Agreement |
|---|---|---|---|---|---|---|---|---|---|
| | CT SMAC | CHROMagar O157 | Confirmation | Final result | MDS result | CT SMAC | Latex | Final result | |
| **F4** | - | - | / | - | - | + (ADRIA: +/-) | + (ADRIA: auto+) | - | **NA** |
| **F6** | +(ADRIA:-) | + | + (ADRIA:+) | + | - | - | / | - | **ND** |
| **F9** | +(ADRIA:-) | - | + (+ADRIA:+) | + | - | - | / | - | **ND** |
| **F12** | - | - | / | - | - | - | / | - | **NA** |
| **F13** | - | - | / | - | - | + (few colonies) | + (ADRIA:-) | - | **NA** |
| **F17** | - | - | / | - | - | - | / | - | **NA** |
| **F22** | - | - | / | - | - | - | / | - | **NA** |
| **F23** | - | - | / | - | - | - | / | - | **NA** |
| **F1** | + | + | + | + | + | + | + | + | **PA** |
| **F3** | + | + | + | + | + | + | + | + | **PA** |
| **F8** | + | + | + | + | -/+ * | + | + | - | **ND** |
| **F10** | + | + | + | + | -/- * | + (few colonies) | + | - | **ND** |
| **F16** | - | - | / | - | -/+ * | + | + | - | **NA** |
| **F20** | + | + | + | + | -/- * | - | / | - | **ND** |
| **F21** | + | + | + | + | -/+ * | - | / | - | **ND** |
| **F24** | + | + | + | + | -/- * | + | + | - | **ND** |
| **F2** | + | + | + | + | + | + | + | + | **PA** |
| **F5** | + | + | + | + | + | + | + | + | **PA** |
| **F7** | + | + | + | + | + | + | + | + | **PA** |
| **F11** | + | + | + | + | + | + | + | + | **PA** |
| **F14** | + | + | + | + | + | + | + | + | **PA** |
| **F15** | + | + | + | + | + | + | + | + | **PA** |
| **F18** | + | + | + | + | + | + | + | + | **PA** |
| **F19** | + | + | + | + | + | + | + | + | **PA** |

* Samples F8-F10-F16-F20-F21-F24: New lysates were tested after 1 week storage of BPW at 4°C. Confirmations were also run by streaking onto CT-SMAC

Streaking performed at ADRIA on BPW provided by the Lab

**Due to the observed unexpected data and the additional testing results, it was decided to exclude this lab.**

**Laboratoy:** **G**

Aerobic mesophilic flora 2,4.10$^3$ CFU/g

| N°Sample | Reference method: ISO 16654 | | | | Alternative method 3M MDA 2 - *E. coli* O157 (including H7) | | | | Agree-ment |
|---|---|---|---|---|---|---|---|---|---|
| | CT SMAC | CHROMagar O157 | Confirmation | Final result | MDS result | CT SMAC | Latex | Final result | |
| **G4** | - | - | / | - | - | / | / | - | **NA** |
| **G6** | - | - | / | - | - | / | / | - | **NA** |
| **G9** | + | + | +(ADRIA: O157+/H7+) * | + | - | / | / | - | **ND** |
| **G12** | - | - | / | - | - | / | / | - | **NA** |
| **G13** | - | - | / | - | - | / | / | - | **NA** |
| **G17** | - | - | / | - | - | / | / | - | **NA** |
| **G22** | - | - | / | - | - | / | / | - | **NA** |
| **G23** | - | + | - | - | - | / | / | - | **NA** |
| **G1** | + | + | + | + | + | + | + | + | **PA** |
| **G3** | + | + | + | + | + | + | + | + | **PA** |
| **G8** | + | + | + | + | + | + | + | + | **PA** |
| **G10** | + | + | + | + | + | + | + | + | **PA** |
| **G16** | - | - | / | - | + | + | + | + | **PD** |
| **G20** | + | + | + | + | + | + | + | + | **PA** |
| **G21** | + | + | + | + | + | + | + | + | **PA** |
| **G24** | + | + | + | + | + | + | + | + | **PA** |
| **G2** | + | + | + | + | + | + | + | + | **PA** |
| **G5** | + | + | + | + | + | + | + | + | **PA** |
| **G7** | + | + | + | + | + | + | + | + | **PA** |
| **G11** | + | + | + | + | + | + | + | + | **PA** |
| **G14** | + | + | + | + | + | + | + | + | **PA** |
| **G15** | + | + | + | + | + | + | + | + | **PA** |
| **G18** | + | + | + | + | + | + | + | + | **PA** |
| **G19** | + | + | + | + | + | + | + | + | **PA** |

* The additional test done in ADRIA showed a positive reaction as well.

**Laboratoy:** **H**

Aerobic mesophilic flora : 1,5.10$^3$ CFU/g

| N°Sample | Reference method: ISO 16654 | | | | Alternative method 3M MDA 2 - *E. coli* O157 (including H7) | | | | Agree-ment |
|---|---|---|---|---|---|---|---|---|---|
| | CT SMAC | CHROMagar O157 | Confirmation | Final result | MDS result | CT SMAC | Latex | Final result | |
| **H4** | - | - | / | - | - | / | / | - | **NA** |
| **H6** | - | - | / | - | - | / | / | - | **NA** |
| **H9** | - | - | / | - | - | / | / | - | **NA** |
| **H12** | - | - | / | - | - | / | / | - | **NA** |
| **H13** | - | - | / | - | - | / | / | - | **NA** |
| **H17** | - | - | / | - | - | / | / | - | **NA** |
| **H22** | - | - | / | - | - | / | / | - | **NA** |
| **H23** | - | - | / | - | - | / | / | - | **NA** |
| **H1** | + | + | + | + | + | + | + | + | **PA** |
| **H3** | + | + | + | + | + | + | + | + | **PA** |
| **H8** | + | + | + | + | + | + | + | + | **PA** |
| **H10** | + | + | + | + | + | + | + | + | **PA** |
| **H16** | + | - | + | + | + | + | + | + | **PA** |
| **H20** | - | - | / | - | + | + | + | + | **PD** |
| **H21** | + | + | + | + | + | + | + | + | **PA** |
| **H24** | + | + | + | + | + | + | + | + | **PA** |
| **H2** | + | + | + | + | + | + | + | + | **PA** |
| **H5** | + | + | + | + | + | + | + | + | **PA** |
| **H7** | + | + | + | + | + | + | + | + | **PA** |
| **H11** | + | + | + | + | + | + | + | + | **PA** |
| **H14** | + | + | + | + | + | + | + | + | **PA** |
| **H15** | + | + | + | + | + | + | + | + | **PA** |
| **H18** | + | + | + | + | + | + | + | + | **PA** |
| **H19** | + | + | + | + | + | + | + | + | **PA** |

**Laboratoy: I**

Aerobic mesophilic flora 1,7.10$^3$ CFU/g

| N°Sample | Reference method: ISO 16654 | | | | Alternative method 3M MDA 2 - *E. coli* O157 (including H7) | | | | Agree-ment |
|---|---|---|---|---|---|---|---|---|---|
| | CT SMAC | CHROMagar O157 | Confirmation | Final result | MDS result | CT SMAC | Latex | Final result | |
| **I4** | - | - | / | - | - | - | / | - | **NA** |
| **I6** | + | + | + | + | - | - | / | - | **ND** |
| **I9** | - | - | / | - | - | - | / | - | **NA** |
| **I12** | - | - | / | - | - | - | / | - | **NA** |
| **I13** | - | - | / | - | - | - | / | - | **NA** |
| **I17** | - | - | / | - | - | - | / | - | **NA** |
| **I22** | - | - | / | - | - | - | / | - | **NA** |
| **I23** | - | - | / | - | - | - | / | - | **NA** |
| **I1** | + | + | + | + | + | + | + | + | **PA** |
| **I3** | + | + | + | + | + | + | + | + | **PA** |
| **I8** | + | + | + | + | + | + | + | + | **PA** |
| **I10** | + | + | + | + | + | + | + | + | **PA** |
| **I16** | - | - | / | - | + | + | + | + | **PD** |
| **I20** | + | + | + | + | + | + | + | + | **PA** |
| **I21** | + | + | + | + | + | + | + | + | **PA** |
| **I24** | + | + | + | + | + | + | + | + | **PA** |
| **I2** | + | + | + | + | + | + | + | + | **PA** |
| **I5** | + | + | + | + | + | + | + | + | **PA** |
| **I7** | + | + | + | + | + | + | + | + | **PA** |
| **I11** | + | + | + | + | + | + | + | + | **PA** |
| **I14** | + | + | + | + | + | + | + | + | **PA** |
| **I15** | + | + | + | + | + | + | + | + | **PA** |
| **I18** | + | + | + | + | + | + | + | + | **PA** |
| **I19** | + | + | + | + | + | + | + | + | **PA** |

**Laboratoy:** **J**

Aerobic mesophilic flora 7,8.10$^2$ CFU/g

| N°Sample | Reference method: ISO 16654 | | | | Alternative method 3M MDA 2 - *E. coli* O157 (including H7) | | | | Agree-ment |
|---|---|---|---|---|---|---|---|---|---|
| | CT SMAC | CHROMagar O157 | Confirmation | Final result | MDS result | CT SMAC | Latex | Final result | |
| **J4** | + | - | - | - | - | / | / | - | **NA** |
| **J6** | - | - | / | - | - | / | / | - | **NA** |
| **J9** | - | - | / | - | - | / | / | - | **NA** |
| **J12** | +/- * | +/- * | +/- * | + | - | / | / | - | **ND** |
| **J13** | - | - | / | - | - | / | / | - | **NA** |
| **J17** | - | - | / | - | - | / | / | - | **NA** |
| **J22** | - | - | / | - | - | / | / | - | **NA** |
| **J23** | - | - | / | - | - | / | / | - | **NA** |
| **J1** | + | + | + | + | - | + ** | + ** | - | **ND** |
| **J3** | + | + | + | + | + | + | + | + | **PA** |
| **J8** | + | + | + | + | + | + | + | + | **PA** |
| **J10** | + | + | + | + | - | + ** | + ** | - | **ND** |
| **J16** | + | + | + | + | + | + | + | + | **PA** |
| **J20** | + | - | + | + | + | + | + | + | **PA** |
| **J21** | + | + | + | + | + | + | + | + | **PA** |
| **J24** | + | + | + | + | + | + | + | + | **PA** |
| **J2** | + | + | + | + | + | + | + | + | **PA** |
| **J5** | + | + | + | + | + | + | + | + | **PA** |
| **J7** | + | + | + | + | + | + | + | + | **PA** |
| **J11** | + | + | + | + | + | + | + | + | **PA** |
| **J14** | + | + | + | + | + | + | + | + | **PA** |
| **J15** | + | + | + | + | + | + | + | + | **PA** |
| **J18** | + | + | + | + | + | + | + | + | **PA** |
| **J19** | + | + | + | + | + | + | + | + | **PA** |

* Sample J12 (Ref): A second IMS after 1-week storage of the mTSB gave a negative result.

** Samples J1 and J10 (Alt): Streaking were done twice according to ADRIA recommendations. When coming back again to the lab, it was then not possible anymore to run additional MDS.

**Laboratoy:** **K**

Aerobic mesophilic flora 2,5.10$^3$ CFU/g

| N°Sample | Reference method: ISO 16654 | | | | Alternative method 3M MDA 2 - *E. coli* O157 (including H7) | | | | Agree-ment |
|---|---|---|---|---|---|---|---|---|---|
| | CT SMAC | CHROMagar O157 | Confirmation | Final result | MDS result | CT SMAC | Latex | Final result | |
| **K4** | - | - | / | - | - | / | / | - | **NA** |
| **K6** | + | - | +** | + | - | +(IMS)* | + | - | **FN** |
| **K9** | + | - | +** | + | - | / | / | - | **ND** |
| **K12** | - | - | / | - | - | / | / | - | **NA** |
| **K13** | - | - | / | - | - | / | / | - | **NA** |
| **K17** | - | - | / | - | - | / | / | - | **NA** |
| **K22** | - | - | / | - | - | / | / | - | **NA** |
| **K23** | - | - | / | - | - | / | / | - | **NA** |
| **K1** | + | + | + | + | + | + | + | + | **PA** |
| **K3** | + | + | + | + | - | +* | + | - | **ND** |
| **K8** | + | + | + | + | + | + | + | + | **PA** |
| **K10** | + | + | + | + | + | + | + | + | **PA** |
| **K16** | + | + | + | + | - | / | / | - | **ND** |
| **K20** | + | + | + | + | - | +(IMS)* | + | - | **ND** |
| **K21** | + | + | + | + | - | +(IMS)* | + | - | **ND** |
| **K24** | + | + | + | + | + | + | + | + | **PA** |
| **K2** | + | + | + | + | + | + | + | + | **PA** |
| **K5** | + | + | + | + | + | + | + | + | **PA** |
| **K7** | + | + | + | + | + | + | + | + | **PA** |
| **K11** | + | + | + | + | + | + | + | + | **PA** |
| **K14** | + | + | + | + | + | + | + | + | **PA** |
| **K15** | + | + | + | + | + | + | + | + | **PA** |
| **K18** | + | + | + | + | - | +* | + | - | **ND** |
| **K19** | + | + | + | + | - | +* | + | - | **ND** |

* Samples K3-K6-K18-K19-K20-K21: Confirmatory tests were realized after 1-week storage of BPW. When coming back to the lab, it was too late to repeat the assays related to the unexpected results.

** Samples K6 and K9 (ref: Isolates from were not available for additional testing by ADRIA.

**Due to the observed unexpected data, and the impossibility to run further testing to explain the observed results, it was decided to exclude that Lab.**

**Laboratoy:** **N**

Aerobic mesophilic flora 1,5.10$^3$ CFU/g

| N°Sample | Reference method: ISO 16654 | | | | Alternative method 3M MDA 2 - *E. coli* O157 (including H7) | | | | Agree-ment |
|---|---|---|---|---|---|---|---|---|---|
| | CT SMAC | CHROMagar O157 | Confirmation | Final result | MDS result | CT SMAC | Latex | Final result | |
| **N4** | - | - | / | - | - | / | / | - | **NA** |
| **N6** | - | - | / | - | - | / | / | - | **NA** |
| **N9** | - | - | / | - | - | / | / | - | **NA** |
| **N12** | - | - | / | - | - | / | / | - | **NA** |
| **N13** | - | - | / | - | - | / | / | - | **NA** |
| **N17** | - | - | / | - | - | / | / | - | **NA** |
| **N22** | - | - | / | - | - | / | / | - | **NA** |
| **N23** | - | - | / | - | - | / | / | - | **NA** |
| **N1** | + | + | + | + | + | + | + | + | **PA** |
| **N3** | + | + | + | + | + | + | + | + | **PA** |
| **N8** | + | + | + | + | + | + | + | + | **PA** |
| **N10** | + | + | + | + | + | + | + | + | **PA** |
| **N16** | - | - | / | - | + | + | + | + | **PD** |
| **N20** | + | + | + | + | + | + | + | + | **PA** |
| **N21** | + | + | + | + | + | + | + | + | **PA** |
| **N24** | + | + | + | + | + | + | + | + | **PA** |
| **N2** | + | + | + | + | + | + | + | + | **PA** |
| **N5** | + | + | + | + | + | + | + | + | **PA** |
| **N7** | + | + | + | + | + | + | + | + | **PA** |
| **N11** | + | + | + | + | + | + | + | + | **PA** |
| **N14** | + | + | + | + | + | + | + | + | **PA** |
| **N15** | + | + | + | + | + | + | + | + | **PA** |
| **N18** | + | + | + | + | + | + | + | + | **PA** |
| **N19** | + | + | + | + | + | + | + | + | **PA** |

**Laboratoy: O**

Aerobic mesophilic flora 1,7.10$^3$ CFU/g

| N°Sample | Reference method: ISO 16654 | | | | Alternative method 3M MDA 2 - *E. coli* O157 (including H7) | | | | Agree-ment |
|---|---|---|---|---|---|---|---|---|---|
| | CT SMAC | CHROMagar O157 | Confirmation | Final result | MDS result | CT SMAC | Latex | Final result | |
| **O4** | - | - | / | - | - | / | / | - | **NA** |
| **O6** | + | + | + | + | + | -/- (IMS)* | / | - | **PPND** |
| **O9** | - | - | / | - | - | / | / | - | **NA** |
| **O12** | - | - | / | - | - | / | / | - | **NA** |
| **O13** | - | - | / | - | - | / | / | - | **NA** |
| **O17** | - | - | / | - | - | / | / | - | **NA** |
| **O22** | - | - | / | - | - | / | / | - | **NA** |
| **O23** | - | - | / | - | - | / | / | - | **NA** |
| **O1** | + | + | + | + | - | - | / | - | **ND** |
| **O3** | + | + | + | + | + | -/- (IMS)* | / | - | **PPND** |
| **O8** | + | + | + | + | + | + | + | + | **PA** |
| **O10** | + | + | + | + | + | + | + | + | **PA** |
| **O16** | + | + | + | + | + | + | + | + | **PA** |
| **O20** | + | + | + | + | - | -/- (IMS)* | / | - | **ND** |
| **O21** | + | + | + | + | - | -/- (IMS)* | / | - | **ND** |
| **O24** | + | + | + | + | + | + | + | + | **PA** |
| **O2** | + | + | + | + | + | + | + | + | **PA** |
| **O5** | + | + | + | + | + | + | + | + | **PA** |
| **O7** | + | + | + | + | + | + | + | + | **PA** |
| **O11** | + | + | + | + | + | + | + | + | **PA** |
| **O14** | + | + | + | + | + | + | + | + | **PA** |
| **O15** | + | + | + | + | + | + | + | + | **PA** |
| **O18** | + | + | + | + | + | + | + | + | **PA** |
| **O19** | + | + | + | + | + | + | + | + | **PA** |

* Samples O3-O6-O20-O21: The Lab certified that the IMS were negative by running an IMS. But, despite many exchanges with them, the Lab. didn't provide additional test results, as well as the MDS reaction curves.

**Due to the observed unexpected data, and the impossibility to run further testing to explain the observed results, it was decided to exclude that Lab.**

**Laboratoy:** **P**

Aerobic mesophilic flora 1,4.10$^3$ CFU/g

| N°Sample | Reference method: ISO 16654 | | | | Alternative method 3M MDA 2 - *E. coli* O157 (including H7) | | | | Agree-ment |
|---|---|---|---|---|---|---|---|---|---|
| | CT SMAC | CHROMagar O157 | Confirmation | Final result | MDS result | CT SMAC | Latex | Final result | |
| **P4** | - | - | / | - | - | / | / | - | **NA** |
| **P6** | - | - | / | - | - | / | / | - | **NA** |
| **P9** | - | - | / | - | - | / | / | - | **NA** |
| **P12** | + | + | + | + | - | / | / | - | **ND** |
| **P13** | - | - | / | - | - | / | / | - | **NA** |
| **P17** | - | - | / | - | - | / | / | - | **NA** |
| **P22** | - | - | / | - | - | / | / | - | **NA** |
| **P23** | - | - | / | - | - | / | / | - | **NA** |
| **P1** | + | + | + | + | + | + | + | + | **PA** |
| **P3** | - | - | / | - | + | + | + | + | **PD** |
| **P8** | + | + | + | + | + | + | + | + | **PA** |
| **P10** | + | + | + | + | + | + | + | + | **PA** |
| **P16** | + | + | + | + | + | + | + | + | **PA** |
| **P20** | + | - | + | + | + | + | + | + | **PA** |
| **P21** | - | - | / | - | + | + | + | + | **PD** |
| **P24** | - | - | / | - | + | + | + | + | **PD** |
| **P2** | + | + | + | + | + | + | + | + | **PA** |
| **P5** | + | + | + | + | + | + | + | + | **PA** |
| **P7** | + | + | + | + | + | + | + | + | **PA** |
| **P11** | + | + | + | + | + | + | + | + | **PA** |
| **P14** | + | + | + | + | + | + | + | + | **PA** |
| **P15** | + | + | + | + | + | + | + | + | **PA** |
| **P18** | + | + | + | + | + | + | + | + | **PA** |
| **P19** | + | + | + | + | + | + | + | + | **PA** |

**Laboratoy:** **Q**

Aerobic mesophilic flora 2,1.10³ CFU/g

| N° Sample | Reference method: ISO 16654 | | | | Alternative method 3M MDA 2 - *E. coli* O157 (including H7) | | | | Agree-ment |
|---|---|---|---|---|---|---|---|---|---|
| | CT SMAC | CHROMagar O157 | Confirmation | Final result | MDS result | CT SMAC | Latex | Final result | |
| **Q4** | + | - | + (- ADRIA) * | + (-)* | - | - | / | - | **NA** |
| **Q6** | + | - | + (- ADRIA) * | + (-)* | - | - | / | - | **NA** |
| **Q9** | - | - | - | - | - | - | / | - | **NA** |
| **Q12** | + | + | + (- ADRIA) * | + (-)* | - | - | / | - | **NA** |
| **Q13** | - | - | - | - | - | - | / | - | **NA** |
| **Q17** | + | + | + (- ADRIA) * | + (-)* | - | - | / | - | **NA** |
| **Q22** | - | - | - | - | - | - | / | - | **NA** |
| **Q23** | - | - | - | - | - | - | / | - | **NA** |
| **Q1** | + | + | + | + | + | + | + | + | **PA** |
| **Q3** | - | - | - | - | + | + | + | + | **PD** |
| **Q8** | + | + | + | + | + | + | + | + | **PA** |
| **Q10** | + | + | + | + | + | + | + | + | **PA** |
| **Q16** | + | + | + | + | - | - | / | - | **ND** |
| **Q20** | + | + | + | + | + | + | + | + | **PA** |
| **Q21** | + | + | + | + | + | + | + | + | **PA** |
| **Q24** | + | + | + | + | + | + | + | + | **PA** |
| **Q2** | + | + | + | + | + | + | + | + | **PA** |
| **Q5** | + | + | + | + | + | + | + | + | **PA** |
| **Q7** | + | + | + | + | + | + | + | + | **PA** |
| **Q11** | + | + | + | + | + | + | + | + | **PA** |
| **Q14** | + | + | + | + | + | + | + | + | **PA** |
| **Q15** | + | + | + | + | + | + | + | + | **PA** |
| **Q18** | + | + | + | + | + | + | + | + | **PA** |
| **Q19** | + | + | + | + | + | + | + | + | **PA** |

* Additional testing done in ADRIA provided negative reaction test.

**Laboratoy: R (ADRIA)**

Aerobic mesophilic flora 1,5.10$^3$ CFU/g

| N°Sample | Reference method: ISO 16654 | | | | Alternative method 3M MDA 2 - *E. coli* O157 (including H7) | | | | Agreement |
|---|---|---|---|---|---|---|---|---|---|
| | CT SMAC | CHROMagar O157 | Confirmation | Final result | MDS result | CT SMAC | Latex | Final result | |
| **R4** | st | - | / | - | - | st | / | - | **NA** |
| **R6** | - | - | / | - | - | - | / | - | **NA** |
| **R9** | st | - | / | - | - | st | / | - | **NA** |
| **R12** | st | - | / | - | - | - | / | - | **NA** |
| **R13** | st | - | / | - | - | st | / | - | **NA** |
| **R17** | - | - | / | - | - | st | / | - | **NA** |
| **R22** | st | - | / | - | - | st | / | - | **NA** |
| **R23** | - | - | / | - | - | - | / | - | **NA** |
| **R1** | st | - | / | - | + | + | + | + | **PD** |
| **R3** | st | - | / | - | + | + | + | + | **PD** |
| **R8** | + | + | + | + | + | + | + | + | **PA** |
| **R10** | - | - | / | - | + | + | + | + | **PD** |
| **R16** | + | + | + | + | + | + | + | + | **PA** |
| **R20** | + | + | + | + | + | + | + | + | **PA** |
| **R21** | + | + | + | + | + | + | + | + | **PA** |
| **R24** | st | st | / | - | + | + | + | + | **PD** |
| **R2** | + | + | + | + | + | + | + | + | **PA** |
| **R5** | + | + | + | + | + | + | + | + | **PA** |
| **R7** | + | + | + | + | + | + | + | + | **PA** |
| **R11** | + | + | + | + | + | + | + | + | **PA** |
| **R14** | + | + | + | + | + | + | + | + | **PA** |
| **R15** | + | + | + | + | + | + | + | + | **PA** |
| **R18** | + | + | + | + | + | + | + | + | **PA** |
| **R19** | + | + | + | + | + | + | + | + | **PA** |

st: sterile