



Maisons-Alfort laboratory for food safety

2014 Work Programme of the European Union Reference Laboratory for Coagulase Positive Staphylococci

Version 1 – 18 October 2013

INTRODUCTION

In May 2006, the Maisons-Alfort Laboratory for Food Safety of Anses (French agency for food, environmental and occupational health safety) has been nominated European Union Reference Laboratory for Coagulase Positive Staphylococci (EURL CPS), including *Staphylococcus aureus* and their toxins (see Regulation 776/2006).

The EURL CPS foresees to undertake the following actions in 2014, according to the actions planned at the 7th Workshop of the National Reference Laboratories (NRLs) (29-31 May 2013).

Most of these activities aim at implementing, from an analytical point of view, the EC Regulation 2073/2005 on microbiological criteria for foodstuffs, modified by the Regulation 1441/2007, which includes in particular:

- 5 process hygiene criteria on CPS, defining a quantitative limit in:
 - cheeses made from raw milk or from heat-treated milk, ripened cheeses, and unripened soft cheeses,
 - o milk/whey powder,
 - cooked crustaceans and molluscan shellfish.
- 1 food safety criterion on staphylococcal enterotoxins (SETs), requiring absence in 25 g in cheeses, milk/whey powder, to be tested when CPS enumeration is higher than 10⁵ cfu/g when testing the above mentioned criteria on CPS.

NB 1: In brackets under each item, the scheduled duration of the action is indicated: either annual (limited to 2014), either multi-annual (on-going programme on several years).

NB2: The activities are gathered according to the tasks allocated to EURLs, defined in EC Regulation 882/2004 on official controls (Article 32, paragraph 1 on EURLs for feed and food):

- Section 1: Dispatch of methods and proficiency testing trials for the NRLs,
- Section 2: Analytical development,
- Section 3: NRL training and support to the NRLs,
- Section 4: Technical and scientific assistance to the European Commission.

0. GENERAL ASPECTS

0.1 GENERAL COORDINATION (MUTI-ANNUAL)

General coordination by the EURL (management team, administrative department -SAG) of the NRL network (dispatch of circular letters and documents, coordination of the scientific and technical support to NRLs, ...).

Relations with DG SANCO, coordination of the scientific and technical advice to DG SANCO, management of annual contract with DG SANCO (annual budgets and work programmes, annual technical and financial reports).

In-house follow-up of EURL activities, expenses, support to laboratory units involved in EURL activities.

Missions:

1 mission at DG SANCO (Brussels, 1 day).

0.2 WORKSHOP OF THE NRLS (ANNUAL)

The EURL will organise the 8th Workshop of the NRLs in 2014, of general scope:

- to make a progress report on works undertaken by the EURL and the NRL network since the 2013 Workshop;
- to envisage the work programme for 2015 and later.

This workshop will take place in Maisons-Alfort, France. Three experts would be invited, as well as NRLs from accessing countries.

DISPATCH OF METHODS AND PROFICIENCY TESTING TRIALS

1.1 DETECTION/ENUMERATION OF COAGULASE POSITIVE STAPHYLOCOCCI IN FOOD

1.1.1 STUDY OF SAMPLE TYPES USED FOR INTER-LABORATORY PROFICIENCY TESTING TRIALS (MULTI-ANNUAL)

Duration: start: 2011- expected end: 2014

Objective

The EURL CPS (Unit EDB) is studying several food matrices to be used as samples for proficiency testing (PT) trials on CPS enumeration, as to cover the food types concerned by microbiological criteria. Indeed, NRL ability to implement the reference methods for CPS enumeration (EN ISO 6888-1, 2) may vary, depending on the type of food matrices analysed (sample preparation). Up to now, the EURL has investigated the following sample types: pasteurized milk, fresh dairy product (cheese), dried food (milk powder). The next matrix under investigation is cooked crustacean or molluscan shellfish for which a microbiological criterion is defined by EC Regulation 2073/2005 for CPS. This study aims at investigating the stability and homogeneity of artificially contaminated cooked crustacean and molluscan shellfish, prior to the PT trial that will take place in 2014 (see 1.1.4.).

This project comprises two stages:

- Artificial contamination of individual samples of test portion size (i.e. 10 g), to be directly analysed by the NRLs: this work has been conducted in 2011.
- Global artificial contamination of sample material to be subsequently partitioned into several 13 g samples for each participant, in order to require each NRL to sub-sample itself the test portion. This second stage of the study started in 2012, initially with a single contamination level and using a bacteriostatic agent, and will be completed in 2014.

Expected output and time of delivery

In 2014, the EURL will complete the 2nd step of the study of cooked crustaceans and molluscan shellfish to be used as sample material for PT trials on CPS enumeration. The study will investigate homogeneity and stability of this sample material at various contamination levels, to be used for the future PT trials.

This project has to be extended to 2014, for 2 main technical reasons which arose in the course of the study in 2013:

- The homogeneity and stability studies have been conducted on cooked crustaceans but the EURL has to repeat some analyses to check their repeatability at different levels:
- The stability is currently not satisfactory (too limited). In order to extend this stability, the EURL has to repeat the tests to enlarge the stability period.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): b.

1.1.2 COMPARISON OF VARIOUS INOCULATION TECHNIQUES OF SOLID FOOD MATRICES FOR PT TRIALS (MULTI-ANNUAL)

Duration: started: 2011 – expected end: 2015

Objective

Solid food matrices are part of foodstuffs included in the microbiological criteria for CPS, in EC Regulation 2073/2005, thus it is necessary to organize PT trials on solid food matrices. The EURL CPS (Unit EDB) has already organized PT trials on such sample types, but the artificial contamination technique should be optimized, as (i) to be easily implemented by the EURL and the NRLs, (ii) to be repeatable as well as (iii) to ensure a satisfactory homogeneity and stability of CPS contamination.

In addition, the EURL has organized PT trials up to now without including sub-sampling of test portion: the possibility to include in future PT trials this initial step of the analysis, which can have a major impact on the validity of the analyses of solid matrices, will be tested.

Expected output and time of delivery

In 2013, the EURL CPS (Unit EDB), in collaboration with the EURL *Listeria monocytogenes*, conducted a bibliographic review and an enquiry to the NRLs to collect their experience as PT trial organisers at national level.

In 2014, the EURL CPS will continue the experimental study launched in 2013, to test and compare different inoculation techniques for contamination of solid food matrices, in-depth or in surface, so as to optimize the combination between the solid food matrix and the inoculation technique. In particular, the EURL will study the homogeneity and stability of these newly developed sample material.

If satisfactory results would be obtained, the outcome of this study would be used by the EURL CPS for future PT trials and could help NRLs for the organization of their interlaboratory PT trials at national level.

This project should be extended to 2015, since the study has been conducted until now on prawns, and it would be necessary to extend this study to other types of solid-food matrices, such as cheese, to assess whether the contamination technique selected would be applicable not only to one type of matrix.

Mission

Visit of one EURL scientist (Unit EDB) to the Swedish NRL (SLV, Uppsala). Further to an enquiry to the NRLs on this topic, this laboratory had indicated its willingness to collaborate with the EURL on this topic, and confirmed it at the last annual workshop. This laboratory has an important experience in preparing samples for PT trials, which would be fruitful to further conduct this project.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): b.

1.1.3 PT TRIAL

Objective

The inter-laboratory PT trials organised by the EURL for the NRLs aim at evaluating the ability of the NRLs to apply satisfactory the reference methods EN ISO 6888-1&2 prescribed by EC Regulation 2073/2005for CPS enumeration in food.

Expected output and time of delivery

In 2014, the EURL CPS (Unit EDB) will organize an inter-laboratory PT trial on CPS enumeration by one or both reference methods EN ISO 6888-1 & 2, using prawns as sample material.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): b.

1.2 DETECTION OF STAPHYLOCOCCAL ENTEROTOXINS IN FOOD

1.2.1 REVISION OF THE EUROPEAN SCREENING METHOD (MULTI-ANNUAL)

Duration: started: 2010 – expected end: 2014

Objective

The European screening method of the EURL CPS (ESM) is cited as reference method in the criterion 1.21 for staphylococcal enterotoxins (SEs) in cheeses, milk/whey powder, by EC Regulation 2073/2005 modified (Annex I, Chapter 1). This method is used for own checks and official controls in the EU Member States.

This method includes an initial step of SE extraction/concentration by dialysis-concentration, followed by a detection step. Currently, this detection step needs to be based on an immuno-enzymatic reaction, and it is not feasible to ask NRLs, official food control laboratories or own check laboratories to prepare in-house test kits. Thus the use of

commercial ELISA kits is necessary for the detection step in routine analyses for own checks or official controls.

Expected output and time of delivery

Since the results of the 2nd method validation interlaboratory study, organized by R-Biopharm (manufacturer of Ridascreen SET total) under EURL supervision, were satisfactory, the EURL has prepared in 2013 a new version of the ESM (Method Anses Maisons-Alfort CAT-BAC 06) leaving the choice, for the detection step, between the 2 validated kits: Vidas SET 2 (bioMérieux) and Ridascreen SET Total.

The EURL CPS (Team CAT-BAC) will maintain ESM and update it during the development and validation of the Standard method (draft EN ISO 19020) for SE detection in food. When the Standard method will be published, it is intended to withdraw ESM and DG SANCO would replace the reference to ESM by a reference to EN ISO 19020 in EC Regulation 2073/2005.

Validation studies on the method to be standardized, within the frame of the CEN Mandate M/381, will be undertaken on 2 matrices (dairy product, meat product).

This project needs to be extended to 2014 since it is necessary to maintain and update EMS as long as the Standard method EN ISO 19020 is not published.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): a & c.

1.2.2 PT TRIAL

Objective

The inter-laboratory PT trials organised by the EURL for the NRLs aim at evaluating the ability of the NRLs to apply satisfactory the EURL CPS European Screening Method (ESM) prescribed by EC Regulation 2073/2005for SE detection.

Expected output and time of delivery

The EURL CPS (Team CAT-BAC) will organize a PT trial in 2014 on SE detection in a food matrix reported to be involved in staphylococcal food-borne outbreaks in Europe (mixed dish, vegetable product or pastry), using the applicable ESM version (Method Anses Maisons-Alfort CAT-BAC 06).

The data obtained in this PT trial will also be used to complete the validation of the draft Standard method EN ISO 19020 on a matrix not included in the inter-lab study of the CEN Mandate (see 1.2.1). This use of the data generated by the PT trial will not require any additional budget.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): b & c.

1.3 CPS STRAIN CHARACTERIZATION AND TYPING

1.3.1 DISPATCH OF STRAINS (MULTI-ANNUAL)

Upon request of NRLs and for implementing methods for detection of *se* genes in CPS strains and for sub-typing of CPS strains, the EURL CPS (Unit CEB) would send them CPS field strains from its collection.

Sub-contracting:

Transportation of strains to the NRLs will be sub-contracted.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): b.

1.3.2 ANALYSES FOR NRLS (MULTI-ANNUAL)

Objective

In the frame of NRL involvement in the investigation of national staphylococcal food-borne outbreaks (SFBOs), NRLs may need to confirm the food implicated by (i) detecting *se* genes in CPS strains, (ii) CPS sub-typing by PFGE or *spa*-typing, in addition to the SE detection in the same food. Several NRLs have not the capacity to perform these methods, thus their need to request EURL to perform these analyses.

Expected output and time of delivery

Upon request of the NRLs, the EURL CPS (Unit CEB) would perform in 2014 the detection of se genes by PCR or sub-typing of CPS strains sent by the concerned NRLs.

Subcontracting:

Sequencing for strain characterisation.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): e

ANALYTICAL DEVELOPMENT

2.1 DETECTION/ENUMERATION OF COAGULASE POSITIVE STAPHYLOCOCCI IN FOOD

2.1.1 MEASUREMENT UNCERTAINTY: IMPACT OF SUB-SAMPLING OF THE TEST PORTIONS (MULTI-ANNUAL)

Duration: started: 2010 – expected end: 2016

Objective

To conduct analyses for own checks and official controls related to the quantitative criteria on CPS defined in EC Regulation 2073/2005 modified (criteria 2.2.3, 2.2.4, 2.2.5, 2.2.7 & 2.4.1 in Annex I, Chapter 2), it is important to know and to control the measurement uncertainty (MU) associated to the analytical results. For example, the analytical result found may comply with the limit settled in the microbiological criterion whereas the true result (lying in the uncertainty range) may not comply: in that case, a wrong interpretation of the result may be taken if ignoring MU. A correct interpretation of analytical results, in terms of conformity with regulatory limits, thus requires the knowledge of MU associated to these results as well as the limitation of this uncertainty as far as possible.

In the series of Standards EN ISO 6887-2 to 5 on the preparation of test samples for microbiological analyses of different types of food matrices, it is not specified how to sub-sample the test portion within the laboratory sample (sample that is sent to the laboratory). This stage is however recognized as a major source of MU, in particular for solid matrices characterized by heterogeneous bacterial contaminations, such as matured cheeses.

The purpose of this study is to harmonize the procedure of sub-sampling of the test portion within solid matrices, such as cheeses, thus (i) reducing the overall MU, and (ii) better ensuring that the contamination of a sample is correctly reflected in the test portion taken and analyzed.

The outcome of this study would be transferred to ISO/TC 34/SC 9

- (i) To provide data for the revision of ISO/TS 19036 (MU estimation for quantitative determinations), and to quantify the MU part linked to sub-sampling of test portions for solid matrices,
- (ii) To revise EN ISO 6887 series to better define the procedure of test portion subsampling in solid matrices.

Expected output and time of delivery

After having studied the heterogeneity of CPS and SE contamination in cheese samples and its impact on MU and on the representativeness of the analytical results, the EURL CPS (Unit EDB) will begin in 2014 another experimental study on sub-sampling in which various test portion sizes will be tested. The types of matrices studied will depend on samples made available, characterized by large weight and levels of natural contamination as high as possible. Consequently any type of matrices with these characteristics will be used.

This study would allow selecting the most pertinent test portion size, in order to obtain a satisfactory MU associated with the chosen sub-sampling technique. The outcome of this study will be transferred to ISO/TC 34/SC 9 to include more detailed guidance on test portion size in EN ISO 6887-1 under revision.

This study requires the analysis of naturally contaminated samples from various origins, and could be conducted in collaboration with some NRLs.

In 2015, the EURL CPS (Unit EDB, in collaboration with the Team CAT-BAC) would complete the investigation study launched in 2011 on the heterogeneity of CPS and SE contamination in cheese samples. Following the study performed in 2013 on soft uncooked paste "Bleu de Gex", the EURL CPS would continue in 2015 the experimental study on sub-sampling the test portion, with two different pressed uncooked paste cheeses (i.e. "Tome au marc" and "Morbier"), investigating in particular the inter-batch variability.

There is a need to expand the expected end of the project to 2016. Indeed, further to the need of several NRLs expressed at the 2013 annual workshop, and as to provide ISO/TC 34/SC 9 data to include more detailed rules on size of test portion in EN ISO 6887-1 under revision, a new study will be launched in 2014 (influence of test portion size), which implies a delay to complete the other study on impact of sub-sampling of test portion, given CPS and SE distribution in food.

Sub-contracting:

The transportation of samples from NRLs to the EURL will be sub-contracted.

Capital equipment:

1 centrifuge

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): a & c.

2.2 DETECTION OF STAPHYLOCOCCAL ENTEROTOXINS IN FOOD

2.2.1 CONFIRMATORY ELISA METHOD (MULTI-ANNUAL)

Duration: started: 2008 – expected end: 2014

Objective

Positive results obtained with the European Screening Method used for own checks and official controls (see 1.2.1) require to be confirmed. The confirmatory method for the identification and quantification of SE types (SEA to SEE) in food has been up to now an inhouse ELISA-based technique developed by the EURL CPS, which could not be transferred to NRLs, by lack of sufficient availability of suitable antibodies.

The purpose of this work was to develop a confirmatory ELISA method which could be transferred to the NRLs, enabling them to confirm positive results obtained by official control laboratories in their respective countries, in particular in the frame of investigation of staphylococcal foodborne outbreaks (SFBOs) or for official controls.

This method will be also required for the development of certified reference materials to assign a certified value (see 2.2.2).

Expected output and time of delivery

The EURL has completed in 2012 the development of the quantitative ELISA method for SEA to SEE types (Method Anses Maisons-Alfort CAT-BAC 16).

In 2014, the EURL (Team CAT-BAC) will continue to test different batches of the reagents necessary for the implementation by NRLs of the quantitative ELISA method.

This project has to be extended for the following reason: the experimental study has been delayed due to the leave of the EURL technician upon contract, which has been only partly replaced in 2013.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): a, c & e

2.2.2 DEVELOPMENT OF CERTIFIED REFERENCE MATERIALS IN COLLABORATION WITH JRC/IRMM (MULTI-ANNUAL)

Duration: started: 2011 – expected end: 2015

Objective

The need of certified reference materials (CRMs) for SEs in food is one of the priorities of the EURL CPS and a major need for the NRLs. This need has been also acknowledged by a letter from DG SANCO to EC/JRC/IRMM, dated 21/04/2010.

JRC/IRMM (Geel, BE), in collaboration with the EURL CPS (Team CAT-BAC), has started in 2011 the project to develop CRMs on SE in a lyophilized cheese matrix.

Expected output and time of delivery

Two batches of cheeses contaminated by SEA at two levels were prepared by JRC/IRMM. The homogeneity and short-term stability measurements were to be performed in 2013 using the qualitative method (ESM).

Long-term stability study will be carried out in 2014 by the EURL CPS (CAT-BAC team) on 3 cheese batches (blank and SEA at 2 levels), before IRMM organizes the certification inter-lab trial.

This project has to be extended for the following reason: short-term stability study has been delayed due to the leave of the EURL technician upon contract, which has been only partly replaced in 2013. Thus the further steps are delayed: long-term stability study in 2014 and certification trial in 2015.

Mission:

1 mission at IRMM (Geel, BE, 2 days).

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): c.

2.3 CHARACTERIZATION AND TYPING OF CPS STRAINS, EPIDEMIOSURVEILLANCE

2.3.1 VALIDATION OF THE MULTIPLEX PCR METHOD FOR SE GENES DETECTION (MULTI-ANNUAL)

Duration: started: 2011 – expected end: 2015

Objective

For the investigation of staphylococcal food-borne outbreaks, it is often necessary to confirm the food implicated by the detection of *se* genes in CPS strains, in addition to SE detection in the same food.

The EURL CPS (Unit CEB) has been developing a multiplex real-time (RT) PCR scheme for the detection of 13 se genes.

Expected output and time of delivery

In 2013, the EURL (Unit CEB) has evaluated the RT-PCR scheme developed in 2011/12 against a limited strain panel (63 strains), this work was carried out in collaboration with the UK-NRL (PHE). This evaluation was performed in comparison to the EURL conventional PCR method. This study pointed out several discrepancies of RT-PCR method, in comparison to the conventional PCR method.

Based on these results, EURL will conduct in 2014 further investigation, particularly by sequencing the *se* genes and PCR products involved in the discrepant results. EURL may redesign primers and/or probes and further evaluate the method with the new setting.

Several NRLs have volunteered to collaborate with the EURL for this study: NRL-BE (IPH), NRL-IE (DSL), NRL-NL (NVWA), NRL-SE (SLV), NRL-UK (HPA).

This study has to be extended until 2015 for the following reasons. In 2013, EURL obtained unexpected discrepant results between the RT-PCR method under evaluation, in comparison with the conventional PCR method. It thus requires the redesign of certain probes and additional evaluation of the method with the new design. In addition, the specificity study has to be extended to a larger strain panel.

Subcontracting:

discordant genes sequencing and transportation of strains.

Mission:

1 visit to a collaborating NRL.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): c.

NRL TRAINING AND SUPPORT TO THE NRLS

3.1 DETECTION OF STAPHYLOCOCCAL ENTEROTOXINS IN FOOD

3.1.1 EUROPEAN SCREENING METHOD

Duration: 2014

Objective, expected output and time of delivery

In 2014, the EURL CPS (Team CAT-BAC) intends to organize for NRLs one (or several) training session(s) on SE detection, according to the revised ESM method (Method Anses Maisons-Alfort CAT BAC 06), depending on NRL needs and in particular in case of unsatisfactory results obtained by certain NRLs during the 2013 PT trial (see 1.2.1).

Training:

Travel and stay expenses of at maximum 3 trainees.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): d

3.1.2 QUANTITATIVE ELISA METHOD

3.1.2.1 SUPPORT TO THE NRLS (MULTI-ANNUAL)

Objective: see 2.2.1.

Expected output and time of delivery

Upon request and for the NRLs which have not yet been trained to the EURL CPS quantitative ELISA method (method Anses Maisons-Alfort CAT-BAC 16) (see 1.2.2), the EURL will provide scientific and technical assistance to the NRLs, especially to perform confirmation analysis of screening positive results obtained by the NRLs with ESM, in the frame of (i) official controls performed according to the SE criterion of EC Regulation 2073/2005 modified, or (ii) in case of SFPOs, upon request of the concerned NRLs.

Mission:

One mission is scheduled for a NRL which would need assistance for on-site implementation of the confirmatory method.

3.1.2.2 NRL TRAINING

Duration: 2014

Objective, expected output and time of delivery

In 2014, the EURL CPS (Team CAT-BAC) intends to organise for NRLs one (or several) training sessions on SE confirmation, according to the EURL CPS quantitative ELISA method (see 1.2.2), depending on NRL needs.

In particular, training of NRLs would enable to qualify them to participate to the inter-lab study for the characterization of certified reference materials (see 2.2.2).

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): d

3.2 CPS STRAIN CHARACTERIZATION

3.2.1 TECHNICAL ASSISTANCE TO NRLS (MULTI-ANNUAL)

EURL CPS (Unit CEB) would ensure scientific and technical assistance on characterization of CPS strains, for NRLs upon request.

Subcontracting:

Transportation of strains.

3.2.2 TRAINING

Duration: 2014

Objective, expected output and time of delivery

In 2014, the EURL CPS (Unit CEB) will organize a training session for the NRLs dedicated to detection of *se* genes in CPS strains by conventional and real-time PCR.

Subcontracting:

sequencing of se genes for training material.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): d

4 TECHNICAL AND SCIENTIFIC ASSISTANCE TO THE EUROPEAN COMMISSION

4.1 DG SANCO ACTIVITIES (MULTI-ANNUAL)

Upon request of the services of DG SANCO in charge of food hygiene, participation of the EURL CPS, for the analytical aspects, to the update of EC Regulation 2073/2005 on microbiological criteria related to CPS and SEs, and any new question which may arise during the year.

Mission: 1 meeting in Brussels (1 day).

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): d

4.2 PARTICIPATION TO CEN/ISO STANDARDIZATION ACTIVITIES (MULTI-ANNUAL)

On behalf of the EURL CPS and as EC representative:

- Follow-up by the EURL CPS manager (Bertrand LOMBARD) of the activities of ISO/TC 34/SC 9¹ & CEN/TC 275/WG 6² for general aspects related to the standardization of reference methods in food microbiology, which concern in particular CPS and SE analysis (1 jointed plenary meeting –budget EURL Listeria monocytogenes);
- In particular, participation of the EURL CPS manager (Bertrand LOMBARD) to the works
 of two working groups of ISO/TC 34/SC 9 of specific interest for the EURL activities and
 for DG SANCO: WG 2 "Statistics" and WG 3 "Method Validation"
 - Missions: 1 meeting of WG 2 (Europe, TBD) and 2 meetings of WG 3 (Europe, TBD).
- Leadership by a EURL CPS scientist (Alexandra CAUQUIL) of the WG 13 of ISO/TC 34/SC 9, in charge of preparing an amendment to EN ISO 6888-1 (CPS enumeration, Baird Parker agar), to include an optional confirmatory test (no meeting outside Paris area).
- Leadership by a EURL CPS scientist (Jacques-Antoine HENNEKINNE) of the TAG 12 on SE detection of CEN/TC 275/WG 6, also project Leader for the validation of the method to be standardized (costs covered by CEN Mandate M/381, no cost in the EURL CPS budget).

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): d

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¹ Sub-Committee 9 « Microbiology » of Technical Committee 34 « Food products »

² Working Group 6 « Microbial Contaminants » of Technical Committee 275 « Food analysis – Horizontal methods »