

Protocol of the 17th EURL-*Salmonella* Interlaboratory Comparison Study (November 2012) on serotyping and phage typing of *Salmonella* strains, for the NRL-*Salmonella* laboratories

Introduction

The European Union Reference Laboratory (EURL) - *Salmonella* organises the seventeenth interlaboratory comparison study on the typing of *Salmonella* strains amongst the National Reference Laboratories for *Salmonella* (NRLs-*Salmonella*).

The main objective of this typing study is to test the performance of the participating laboratories for serotyping and phage typing of *Salmonella* spp.

The study will take place in week 45 and onwards (starting on 5 November 2012). The timetable can be found on the last page of this protocol.

New to former studies is the fact that all data have to be reported through an electronic result form. The link for this will be sent to you by email, and will also become available at the EURL-*Salmonella* website. Submission of data has to be finalised on **7 December 2012** at the latest.

The data on phage typing will be forwarded by the EURL-*Salmonella* to the Health Protection Agency (HPA, London, United Kingdom) for further analyses.

Transportation of the *Salmonella* strains to the laboratories

The strains for the serotyping part and the phage typing part of the study will be transported in a separate parcel. The strains will be sent as Biological Substance Category B (UN 3373) with a door-to-door courier to your laboratory.

Serotyping

A total number of 20 *Salmonella* strains (coded S1 - S20) have to be serotyped.

An additional *Salmonella* strain (S-21), being a non-*S. enterica* subsp. *enterica* strain, is also included in the package and serotyping of this strain is optional.

The method routinely performed in your laboratory has to be used in the study. Each laboratory is allowed to send strains for serotyping to another reference laboratory in their country, if this is part of the normal routine procedure.

As explained at the EURL-*Salmonella* Workshop 2012, please note to be very careful in following the exact instructions of the various manufacturers of the different sera available.

The results for each strain have to be reported with the formula for the O-antigens and H-antigens and the serovar names according to the White-Kauffman-le Minor scheme of 2007 (<http://www.pasteur.fr/ip/portal/action/WebdriveActionEvent/oid/01s-000036-089>). Laboratories have to report only those results, on which the identification of serovar names is based.

Definite conclusions can only be based on agglutination with mono-specific antisera. Otherwise it is better to identify the strains by giving the antigenic formula as far as detected.

The evaluation of the serotyping results will be performed by the EURL-*Salmonella* according to Table 1.

Table 1 Evaluation of serotyping results

Results	Evaluation	Abbreviation
Auto-agglutination or Incomplete set of antisera (outside range of antisera)	Not typable	NT
Partly typable due to incomplete set of antisera or Part of the formula (for the name of the serovar) or No name serovar	Partly correct	+/-
Wrong serovar or Mixed sera formula	Incorrect	-

At the EURL-*Salmonella* workshop in Bilthoven in May 2007, the EURL-*Salmonella* made a proposal for the level of 'good performance' that the NRLs need to achieve during an interlaboratory comparison study on serotyping. Penalty points are given for strains that are typed incorrectly. A distinction is made between the five most important *Salmonella* serovars (as indicated in EU legislation) and all other strains:

- **4 penalty points:** Incorrect typing of *S. Enteritidis*, *S. Typhimurium* (including the monophasic one), *S. Hadar*, *S. Infantis* or *S. Virchow*
or assigning the name of one of these five serovars to another strain.
- **1 penalty point:** Incorrect typing of all other *Salmonella* serovars.

For each NRL-*Salmonella* the total number of penalty points is determined. The NRL meets the criterion of 'good performance' if it has fewer than four penalty points.

A follow-up study will be organised for NRLs with four penalty points or more. All NRLs of the EU Member States not meeting the criterion of 'good performance' have to participate in this follow-up study.

Phage typing

A total number of 20 *Salmonella* strains have to be phage typed:

- 10 strains of *S. Enteritidis* coded E1 - E10
- 10 strains of *S. Typhimurium* coded T1 - T10

The evaluation of the phage typing results will be done in collaboration with the *Salmonella* Reference Service of the HPA, London, UK.

Reporting of the results

This is the first EURL-*Salmonella* study for which all data have to be reported through an electronic result form. The link, also to become available on the EURL-*Salmonella* website, and password for this form will be sent by email to the participants in week 45, along with a short guidance on handling this electronic form. Submission of data has to be finalised on **7 December 2012** (23:59 h CET) at the latest. Mind that the electronic result form is no longer accessible after this deadline! In case you foresee problems with the deadline, please contact us beforehand.

If you have questions or remarks about this study, or in case with problems using the electronic result form, please contact:

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Timetable of the 17th interlaboratory comparison study (2012) on serotyping and phage typing of *Salmonella* spp. for NRLs-*Salmonella*

Week	Date	Topic
43	22-26 October	Mailing of the protocol 2012 to the NRLs.
45	5-9 November	Mailing of the parcels to the participants as diagnostic specimens by door-to-door courier service. After arrival at the laboratory the strains need to be sub-cultured and stored until the performance of the typing. If you did not receive the parcel by 9 November , please contact the EURL- <i>Salmonella</i> .
45	5-9 November	Sending the link and the password for the electronic results form to the participants by email.
46	12-16 November	Starting with the identification of the strains.
49	7 December	Deadline for completing the electronic submission of results: 7 December 2012 (23:59 h CET) After this deadline the electronic submission form will be closed.
50	10-16 December	Data check at the EURL- <i>Salmonella</i> .
	January 2013	Reporting of individual laboratory results.
	January 2013	Interim Summary Report.
	Summer 2013	Final report.