

TEST REPORT**INTERLABORATORY COMPARISON STUDY ON THE
DETECTION OF *SALMONELLA* spp. IN FOOD****organised by CRL-*Salmonella***

FOOD STUDY II - 2007

Laboratory code	
Laboratory name	
Address	
Country	
Date of arrival of the parcels	..... - ..... – 2007
Start time of storage at - 20 °C (capsules)	Date:..... Time:.....
Start time of storage at + 5 °C (meat)	Date:..... Time:.....
Parcels damaged?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Starting date testing	..... - ..... – 2007

Is your laboratory accredited or certified for the determination of <i>Salmonella</i> . If yes, according to which system (e.g. ISO 17025)? If no, are you planning to become accredited or certified in the near future?	Accredited : <input type="checkbox"/> No <input type="checkbox"/> Yes System : Planning : <input type="checkbox"/> Yes <input type="checkbox"/> No
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PRE-ENRICHMENT – Buffered Peptone Water (BPW) (I)**Medium information BPW**

What did you use to prepare the BPW?

- Individual ingredients
- Dehydrated medium
- Ready-to-use medium

In case of dehydrated or ready-to-use medium , give information on the manufacturer of BPW

Manufacturer & name medium

Code number

Batch number

Expire date

Specific data of composition of BPW medium. What is the concentration of the following compounds in 1000 ml water:

Enzymatic digest of casein

Sodium chloride

Disodium hydrogen phosphate dodecahydrate
($\text{Na}_2\text{HPO}_4 \cdot 12\text{H}_2\text{O}$)Potassium dihydrogen phosphate (KH_2PO_4)**Preparation of BPW**

Date of preparation

..... - - 2007

pH after preparation

....., measured at °C

pH at the day of use

....., measured at °C

Did you perform quality control of BPW?

- Yes
- No

PRE-ENRICHMENT – Buffered Peptone Water (BPW) (II)**Prewarming time and temperature of the BPW**

At the start	Date: - - 2007 time: h min temperature incubator: °C
At the end	Date: - - 2007 time: h min temperature incubator: °C

Incubation time and temperature for dissolving the capsules (45 min)

At the start	Date: - - 2007 time: h min temperature incubator: °C
At the end	time: h min temperature incubator: °C

Incubation time and temperature for pre-enrichment (18 ± 2) hrs after adding the meat

At the start	Date: - - 2007 time: h min temperature incubator: °C
At the end	Date: - - 2007 time: h min temperature incubator: °C

SELECTIVE ENRICHMENT - Rappaport Vassiliadis Soya medium (RVS) (I)**Medium information RVS**

What did you use to prepare the RVS?

- Individual ingredients
- Dehydrated medium
- Ready-to-use medium

In case of dehydrated or ready-to-use medium , give information on the manufacturer of RVS

Manufacturer & name medium

Code number

Batch number

Expire date

Specific data of composition of RVS medium. What is the concentration of the following compounds in 1000 ml water:

Enzymatic digest of Soya

Sodium chloride (NaCl)

Potassium dihydrogen phosphate (KH_2PO_4)Dipotassium hydrogen phosphate (K_2HPO_4)Magnesium chloride anhydrous (MgCl_2)Magnesium chloride hexahydrate
($\text{MgCl}_2 \cdot 6\text{H}_2\text{O}$)

Malachite green oxalate

Preparation of RVS

Date of preparation

..... - - 2007

pH after preparation

....., measured at °C

pH at the day of use

....., measured at °C

Did you perform quality control of RVS?

 Yes No

SELECTIVE ENRICHMENT - Rappaport Vassiliadis Soya medium (RVS) (II)

Incubation time and temperature for selective enrichment	
At the start of the first period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the end of the first period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the start of the second period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the end of the second period (24 h)	Date: - - 2007 time: h min temperature incubator: °C

SELECTIVE ENRICHMENT - Muller Kauffmann Tetra Thionate + novobiocin (MKTTn) (I)
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Medium information MKTTn

What did you use to prepare the MKTTn?
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<input type="checkbox"/> Individual ingredients

<input type="checkbox"/> Dehydrated medium
--

<input type="checkbox"/> Ready-to-use medium
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In case of dehydrated or ready-to-use medium , give information on the Manufacturer of MKTTn

Manufacturer & name medium	
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Code number	
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Batch number	
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Expire date	
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Specific data of composition of MKTTn medium. What is the concentration of the following compounds in 1000 ml water:

Meat extract	
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Enzymatic digest of casein	
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Sodium chloride (NaCl)	
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Calcium carbonate (CaCO ₃)	
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Sodium thiosulfate pentahydrate (Na ₂ S ₂ O ₃ ·5H ₂ O)	
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Ox bile for bacteriological use	
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Brilliant green	
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Iodine	
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Potassium iodide (KI)	
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Novobiocin	
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SELECTIVE ENRICHMENT - Muller Kauffmann Tetra Thionate + novobiocin (MKTTn) (II)

Preparation of MKTTn	
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Date of preparation - - 2007
pH after preparation, measured at °C
pH at the day of use, measured at °C
Did you perform quality control of MKTTn?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Incubation time and temperature for selective enrichment	
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At the start of the first period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the end of the first period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the start of the second period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the end of the second period (24 h)	Date: - - 2007 time: h min temperature incubator: °C

SELECTIVE ENRICHMENT - Modified Semi solid Rappaport Vassiliadis medium (MSRV) (I)

Medium information MSRV

What did you use to prepare the MSRV?

- | |
|---|
| <input type="checkbox"/> Individual ingredients |
| <input type="checkbox"/> Dehydrated medium |
| <input type="checkbox"/> Ready-to-use medium |

In case of dehydrated or ready-to-use medium , give information on the manufacturer of MSRV
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Manufacturer & name medium	
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Code number	
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Batch number	
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Expire date	
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Specific data of composition of MSRV medium. What is the concentration of the following compounds in 1000 ml water:
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Enzymatic digest of casein	
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Acid hydrolysate of casein	
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Sodium chloride (NaCl)	
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Potassium dihydrogen phosphate (KH ₂ PO ₄)	
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Magnesium chloride anhydrous (MgCl ₂)	
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Malachite green oxalate	
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Agar	
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Novobiocin	
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Preparation of MSRV

Date of preparation - - 2007
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pH after preparation, measured at °C
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pH at the day of use, measured at °C
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Did you perform quality control of MSRV?	<input type="checkbox"/> Yes <input type="checkbox"/> No
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SELECTIVE ENRICHMENT - Modified Semi solid Rappaport Vassiliadis medium (MSRV) (II)
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Incubation time and temperature for selective enrichment	
At the start of the first period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the end of the first period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the start of the second period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the end of the second period (24 h)	Date: - - 2007 time: h min temperature incubator: °C

OWN SELECTIVE ENRICHMENT - Selective medium, routinely used in your laboratory (I)**If you use more selective media, please give information on an annex.**

Medium:

Medium information

What did you use to prepare the medium?

- Individual ingredients
- Dehydrated medium
- Ready-to-use medium

In case of dehydrated or ready-to-use medium , give information on the manufacturer of the medium

Manufacturer & name medium

Code number

Batch number

Expire date

Specific data of composition of the medium. What is the concentration of the compounds in 1000 ml water:

Preparation of the medium

Date of preparation

..... - - 2007

pH after preparation

....., measured at °C

pH at the day of use

....., measured at °C

Did you perform quality control of the medium?

 Yes No

OWN SELECTIVE ENRICHMENT - Selective medium, routinely used in your laboratory (II)
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Further details concerning the medium	
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Volume of the medium per jar/tube in ml	
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Inoculation volume of BPW	
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Prescribed incubation temperature in °C	
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Incubation time and temperature for own selective enrichment	
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At the start of the first period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
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At the end of the first period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
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At the start of the second period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
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At the end of the second period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
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FIRST AND SECOND ISOLATION - Xylose Lysine Desoxycholate medium (XLD) (I)**Medium information XLD**

What did you use to prepare the XLD ?

- Individual ingredients
- Dehydrated medium
- Ready-to-use medium

In case of dehydrated or ready-to-use medium , give information on the manufacturer of XLD

Manufacturer & name medium

Code number

Batch number

Expire date

Specific data of composition of XLD medium. What is the concentration of the following compounds in 1000 ml water:

Xylose

L-lysine hydrochloride

Lactose

Sucrose

Sodium chloride (NaCl)

Yeast extract powder

Phenol red

Agar

Sodium desoxycholate

Sodium thiosulfate

Iron(III) ammonium citrate

FIRST AND SECOND ISOLATION - Xylose Lysine Desoxycholate medium (XLD) (II)**Preparation of XLD**

Date of preparation	..... - ..... - 2007
pH after preparation	....., measured at °C
pH at the day of use	....., measured at °C
Did you perform quality control of XLD ?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Incubation time and temperature for isolation

At the start of the first period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the end of the first period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the start of the second period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the end of the second period (24 h)	Date: - - 2007 time: h min temperature incubator: °C

FIRST AND SECOND ISOLATION – Second Isolation medium. (I)**Give information on the second isolation medium.**

Name of the medium

Prescribed incubation temperature in °C

Medium information of the second isolation medium

What did you use to prepare the second isolation medium?

- Individual ingredients
- Dehydrated medium
- Ready-to-use medium

In case of dehydrated or ready-to-use medium , give information on the manufacturer of the second isolation medium

Manufacturer & name medium

Code number

Batch number

Expire date

Specific data of composition of the second isolation medium. What is the concentration of the compounds in 1000 ml water:

FIRST AND SECOND ISOLATION – Second Isolation medium. (II)**Preparation of the second isolation medium**

Date of preparation	..... - ..... - 2007
pH after preparation	....., measured at °C
pH at the day of use	....., measured at °C
Did you perform quality control ?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Incubation time and temperature for isolation

At the start of the first period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the end of the first period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the start of the second period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the end of the second period (24 h)	Date: - - 2007 time: h min temperature incubator: °C

FIRST AND SECOND ISOLATION – Own Isolation medium routinely used in your lab. (I)
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If you use more selective media, please give information on an annex.
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Name of the medium	
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Prescribed incubation temperature in °C	
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Medium information of your own medium
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What did you use to prepare your own medium ?

<input type="checkbox"/> Individual ingredients

<input type="checkbox"/> Dehydrated medium
--

<input type="checkbox"/> Ready-to-use medium
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In case of dehydrated or ready-to-use medium , give information on the manufacturer of your own medium

Manufacturer & name medium	
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Code number	
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Batch number	
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Expire date	
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Specific data of composition of your own medium. What is the concentration of the compounds in 1000 ml water:
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FIRST AND SECOND ISOLATION – Own Isolation medium routinely used in your lab. (II)

Preparation of your own medium	
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Date of preparation - - 2007
pH after preparation, measured at °C
pH at the day of use, measured at °C
Did you perform quality control ?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Incubation time and temperature for isolation	
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At the start of the first period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the end of the first period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the start of the second period (24 h)	Date: - - 2007 time: h min temperature incubator: °C
At the end of the second period (24 h)	Date: - - 2007 time: h min temperature incubator: °C

CONFIRMATION – Nutrient agar (I)

Did you streak the colonies on Nutrient agar before starting confirmation?

Yes If yes give further information on nutrient agar below No

Medium information Nutrient agar

What did you use to prepare the nutrient agar ?

- Individual ingredients
- Dehydrated medium
- Ready-to-use medium

In case of dehydrated or ready-to-use medium , give information on the manufacturer of the nutrient agar

Manufacturer & name medium	
Code number	
Batch number	
Expire date	

Specific data of composition of nutrient agar medium. What is the concentration of the compounds in 1000 ml water:

Preparation of the nutrient agar

Date of preparation	..... - ..... - 2007
pH after preparation	....., measured at °C
pH at the day of use	....., measured at °C
Did you perform quality control of agar ?	<input type="checkbox"/> Yes <input type="checkbox"/> No

BIOCHEMICAL CONFIRMATION

Manufacturer of the TSI agar

Manufacturer & name medium	
Code number	
Batch number	
Expire date	
pH of the medium:.....	Measured at.....°C Date - 2007

Manufacturer of the urea agar

Manufacturer & name medium	
Code number	
Batch number	
Expire date	
pH of the medium:.....	Measured at.....°C Date - 2007

Manufacturer of the l-Lysine decarboxylation medium

Manufacturer & name medium	
Code number	
Batch number	
Expire date	
pH of the broth:.....	Measured at.....°C Date - 2007

Manufacturer of other confirmation tests -

Manufacturer & name medium	
Code number	
Batch number	
Expire date	
pH of the medium :.....	Measured at.....°C Date - 2007

DETECTION BY PCR

General questions

Is the PCR used commercially available?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If yes, name of PCR, manufacturer and batch used in the study:		
Is the PCR validated? If yes, for which matrix/matrices and by whom?	<input type="checkbox"/> Yes Matrices :..... Validated by :..... <input type="checkbox"/> No	
How much samples did you test for <i>Salmonella</i> using this PCR in 2006?		
At what moment did you start with the extraction/detection?	<input type="checkbox"/> before pre-enrichment in BPW <input type="checkbox"/> after pre-enrichment in BPW	
Volume of pre-enrichment broth used for extraction	.....
Volume of DNA-sample obtained from extraction	.....
Volume of DNA-sample added to PCR-mixture	.....

Composition of PCR-mixture

Compound	Volume per sample	Manufacturer and batch of specific compound

Name of thermocycler	
Write down the number of cycles	
What kind of detection system is used	

Table 1: Results of isolation using **RVS** (dish numbers 1-25)

sample no.	RVS 24 hours						RVS 48 hours					
	XLD		Second isolation medium		Own isolation medium		XLD		Second isolation medium		Own isolation medium	
	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Col^a = number of colonies used for confirmation
 Sal^b = number of colonies confirmed as *Salmonella*

Table 1 (continued): Results of isolation using **RVS** (dish numbers C1-C12)

sample no.	RVS 24 hours						RVS 48 hours					
	XLD		Second isolation medium		Own isolation medium		XLD		Second isolation medium		Own isolation medium	
	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b
C1												
C2												
C3												
C4												
C5												
C6												
C7												
C8												
C9												
C10												
C11												
C12												

Col^a = number of colonies used for confirmationSal^b = number of colonies confirmed as *Salmonella*

Table 2: Results of isolation using MKTTn (dish numbers 1-25)

sample no.	MKTTn 24 hours						MKTTn 48 hours					
	XLD		Second isolation medium		Own isolation medium		XLD		Second isolation medium		Own isolation medium	
	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b
1												
2												
3												
4												
5												
6												
7												
8												
9												
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11												
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14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Col^a = number of colonies used for confirmation
 Sal^b = number of colonies confirmed as *Salmonella*

Table 2 (continued): Results of isolation using **MKTTn** (dish numbers C1-C12)

sample no.	MKTTn 24 hours						MKTTn 48 hours					
	XLD		Second isolation medium		Own isolation medium		XLD		Second isolation medium		Own isolation medium	
	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b
C1												
C2												
C3												
C4												
C5												
C6												
C7												
C8												
C9												
C10												
C11												
C12												

Col^a = number of colonies used for confirmationSal^b = number of colonies confirmed as *Salmonella*

Table 3: Results of isolation using **MSRV** (dish numbers 1-25)

sample no.	MSRV 24 hours						MSRV 48 hours					
	XLD		Second isolation medium		Own isolation medium		XLD		Second isolation medium		Own isolation medium	
	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b
1												
2												
3												
4												
5												
6												
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22												
23												
24												
25												

Col^a = number of colonies used for confirmation
 Sal^b = number of colonies confirmed as *Salmonella*

Table 3 (continued): Results of isolation using **MSRV** (dish numbers C1-C12)

sample no.	MSRV 24 hours						MSRV 48 hours					
	XLD		Second isolation medium		Own isolation medium		XLD		Second isolation medium		Own isolation medium	
	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b
C1												
C2												
C3												
C4												
C5												
C6												
C7												
C8												
C9												
C10												
C11												
C12												

Col^a = number of colonies used for confirmation
 Sal^b = number of colonies confirmed as *Salmonella*

Table 4: Results of isolation using own selective enrichment (dish numbers 1-25)

sample no.	Own selective enrichment 24 hours						Own selective enrichment 48 hours					
	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
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20												
21												
22												
23												
24												
25												

Col^a = number of colonies used for confirmation
 Sal^b = number of colonies confirmed as *Salmonella*

Table 4 (continued): Results of isolation using own selective enrichment (dish numbers C1-C12)

sample no.	Own selective enrichment 24 hours						Own selective enrichment 48 hours					
	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b	Col ^a	Sal ^b
C1												
C2												
C3												
C4												
C5												
C6												
C7												
C8												
C9												
C10												
C11												
C12												

Col^a = number of colonies used for confirmationSal^b = number of colonies confirmed as *Salmonella*

Table 5: Results of detection using PCR (dish numbers 1-25)

sample no.	PCR + or -		
		no.	
1		C1	
2		C2	
3		C3	
4		C4	
5		C5	
6		C6	
7		C7	
8		C8	
9		C9	
10		C10	
11		C11	
12		C12	
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			

Comment(s) on operational details that might have influenced the test results:

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Name of person (s) carrying out the second food interlaboratory Comparison study (2007).	
Is the person(s) carrying out the second food interlaboratory Comparison study (2007) working in the laboratory of NRL mentioned on page 1 ?	<input type="checkbox"/> Yes <input type="checkbox"/> No give more information of the laboratory carrying out the study : Laboratory name Address Is this laboratory accredited or certified for the determination of <i>Salmonella</i> . <input type="checkbox"/> Yes <input type="checkbox"/> No
Date and signature	

Name of person in charge :. When not NRL (see page 1) mention also the name of the laboratory.	
Date and signature	

Please send the completed test report before 7 December by email (fax or normal mail) to CRL-*Salmonella*. If the test report is e-mailed or faxed to the CRL it is not longer necessary to sent the original test report as well, unless it is not legible (to be indicated by CRL-*Salmonella*).

Use the address below:

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