

External Quality Assessment Scheme

Salmonella culture Round 1, 2023

Specimens

Please find enclosed 2 lyophilized samples S001 and S002 and vials of rehydration fluid, each 0.5 mL.

Caution

Specimens simulate patient samples and they should be handled in the same way as corresponding specimens capable of transmitting infectious disease.

Examinations

Salmonella culture

Storage and use

After arrival, the samples should be stored at +2...8 °C.

1. Let the sample (blue-capped vial inside the foil package) and the rehydration fluid (vial with white cap) warm up to room temperature.
2. Aseptically remove the pellet with sterile forceps from the blue-capped vial and place it in the rehydration fluid vial (white cap). Alternatively, you may add the rehydration fluid (à 0.5 mL) directly into the blue-capped vial.
3. Crush the pellet with a sterile loop until the suspension is homogenous.
4. Incubate the vial for 30 minutes in +35...37 °C.
5. Check that the pellet has dissolved properly.
6. Mix well the contents of the vial and proceed immediately with the examination similar to a patient sample.

Result reporting

Please enter the results via LabScala (www.labscala.com). If you cannot find your interpretation or method from the list, please contact the EQA Coordinator. Report to the clinician part will be scored.

S001



S002



2023-03-28

INSTRUCTIONS

Product no. 5180
LQ761723011-012/US
UN3373

Subcontracting: Sample pretesting

If the kit is incomplete or contains damaged specimens, please report immediately to info@labquality.fi.

The results should be reported no later than
April 21, 2023.

The expected results of the round are published in LabScala in the View Reports section by April 26, 2023.

Inquiries

EQA Coordinator
Jaana Paakkanen
jaana.paakkanen@labquality.fi

Labquality Oy

Kumpulantie 15
FI-00520 HELSINKI
Finland

Tel. + 358 9 8566 8200
Fax + 358 9 8566 8280

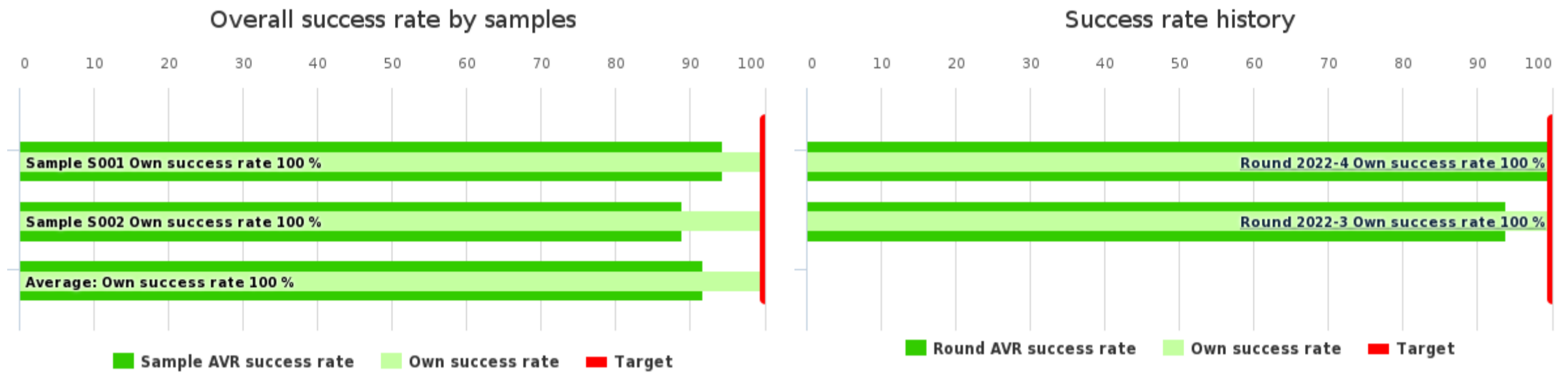
info@labquality.fi
www.labquality.com



Client report

	No of participants	No of responded participants	Response percentage
Salmonella culture, April, 1-2023	18	18	100 %

Summary

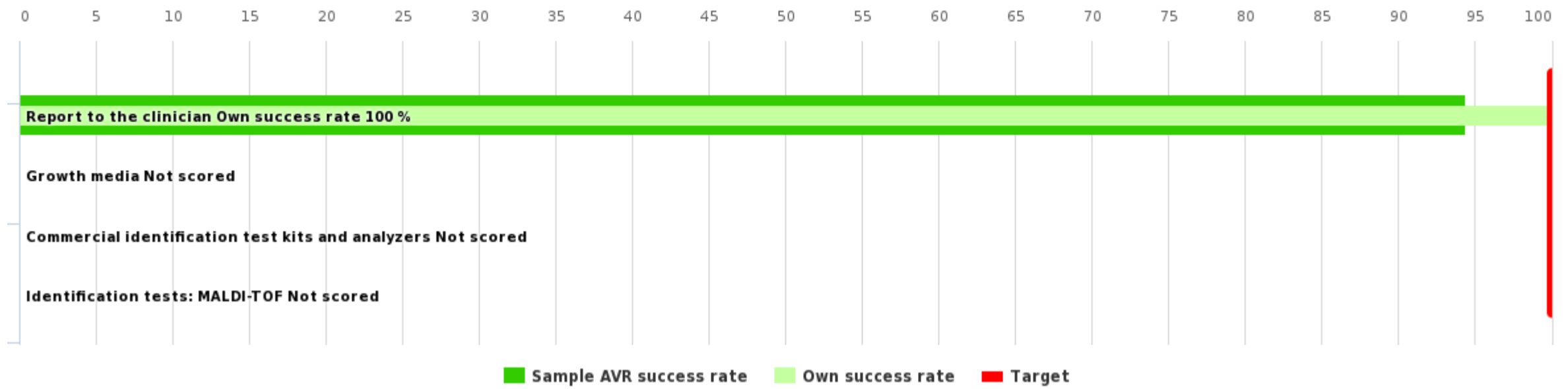


Summary	Own score	Max score	Own success rate	Difference	AVR success rate
Sample S001	4	4	100 %	5.6 %	94.4 %
Sample S002	4	4	100 %	11.1 %	88.9 %
Average:			100 %	8.3 %	91.7 %

History	Test nr.	Own success rate	Difference	AVR success rate
Round 2022-4	1	100 %	0 %	100 %
Round 2022-3	1	100 %	6.3 %	93.8 %

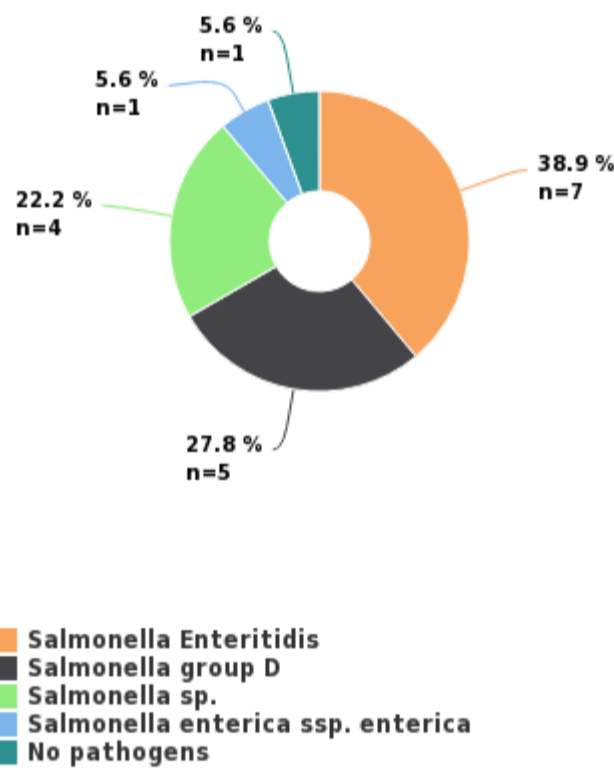
Sample S001 | Salmonella Enteritidis

Sample S001 success rate



Sample S001 results	Responded	Own score	Max score	Own success rate	Difference	AVR success rate	Count
	Report to the clinician	4	4	100 %	5.6 %	94.4 %	18
	Growth media	-	-	-	-	-	44
	Commercial identification test kits and analyzers	-	-	-	-	-	6
	Identification tests: MALDI-TOF	-	-	-	-	-	12
	Total:	4	4	100 %	5.6 %	94.4 %	80

Sample S001 Salmonella Enteritidis



LABORATORY SPECIFIC SCORING TABLE

Finding group	Finding	Further action	Own score	Max score	Own success rate	Difference	AVR success rate
Salmonella Enteritidis	Salmonella Enteritidis	Not referred for further action	4	4	100 %	5.6 %	94.4 %
Total:			4	4	100 %	5.6 %	94.4 %

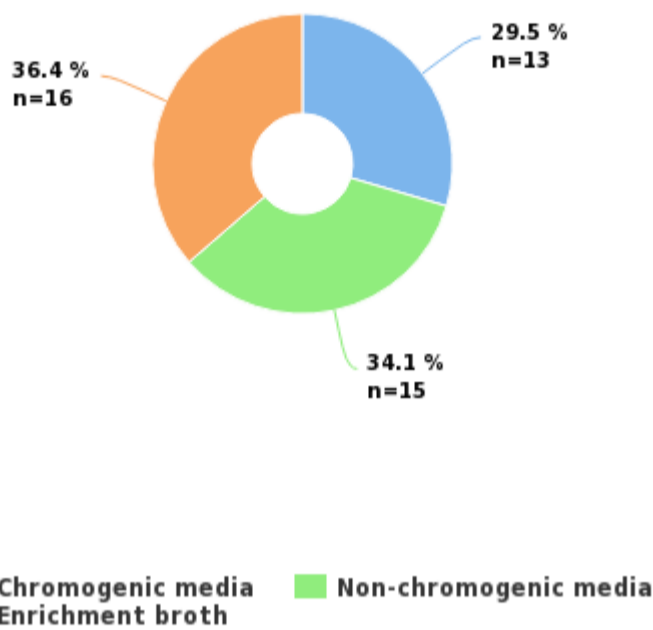
REPORT TO THE CLINICIAN

Finding group	Finding	Finding count	Referred	Not referred	AVR success rate
Salmonella Enteritidis		18			94.4 %
	Salmonella Enteritidis	7	1	6	
	Salmonella group D	5	4	1	
	Salmonella sp.	4	4		
	Salmonella enterica ssp. enterica	1	1		
	No pathogens	1		1	
Total:		18			94.4 %

SCORING SUMMARY

Finding group	Finding	Finding score	Max score
Salmonella Enteritidis			4
	Salmonella Enteritidis	4	4
	Salmonella group D	4	4
	Salmonella sp.	4	4
	Salmonella enterica ssp. enterica	4	4
	No pathogens	0	4
Total:			4

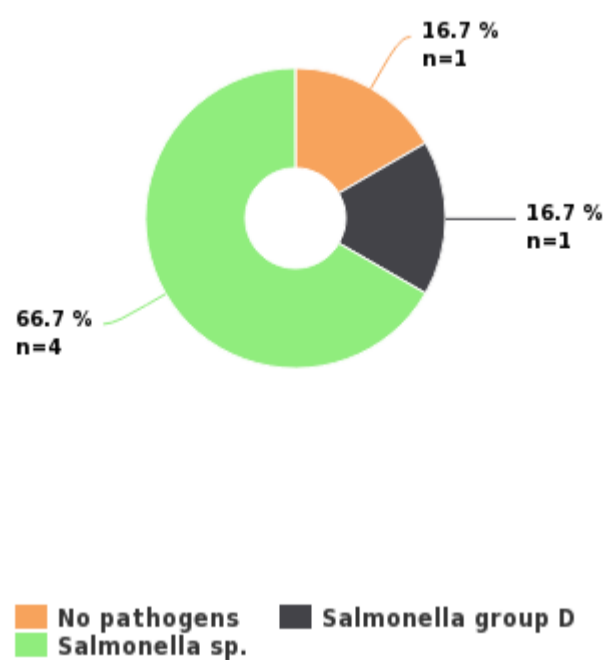
Sample S001 Growth media, Salmonella Enteritidis



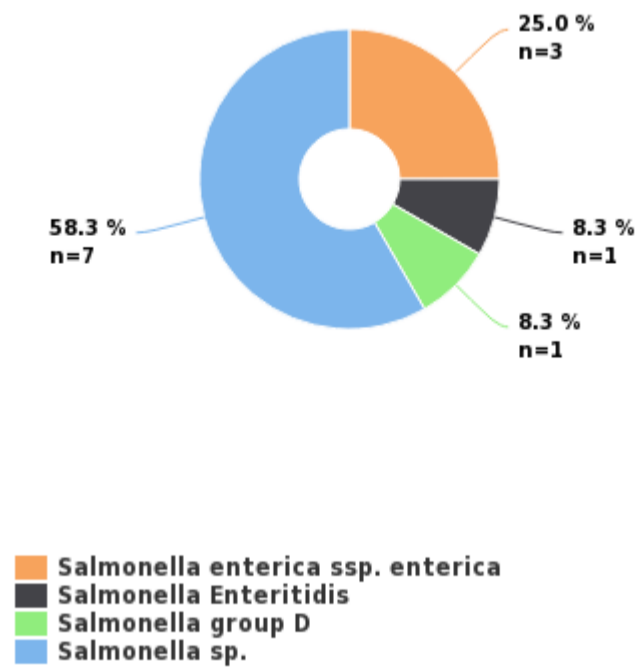
GROWTH MEDIA

Finding group	Result	Result count
Salmonella Enteritidis		44
	Chromogenic media	13
	Non-chromogenic media	15
	Enrichment broth	16
Total:		44

Sample S001 Commercial identification test kits and analyzers, Salmonella Enteritidis



Sample S001 Identification tests: MALDI-TOF, Salmonella Enteritidis



COMMERCIAL IDENTIFICATION TEST KITS AND ANALYZERS

Finding group	Method	Result	Profile number	Profile number count
Salmonella Enteritidis	API 20E (bioMerieux)	Salmonella sp.	6704552	1
	VITEK 2 (bioMerieux)	No pathogens	0425201140426201	1

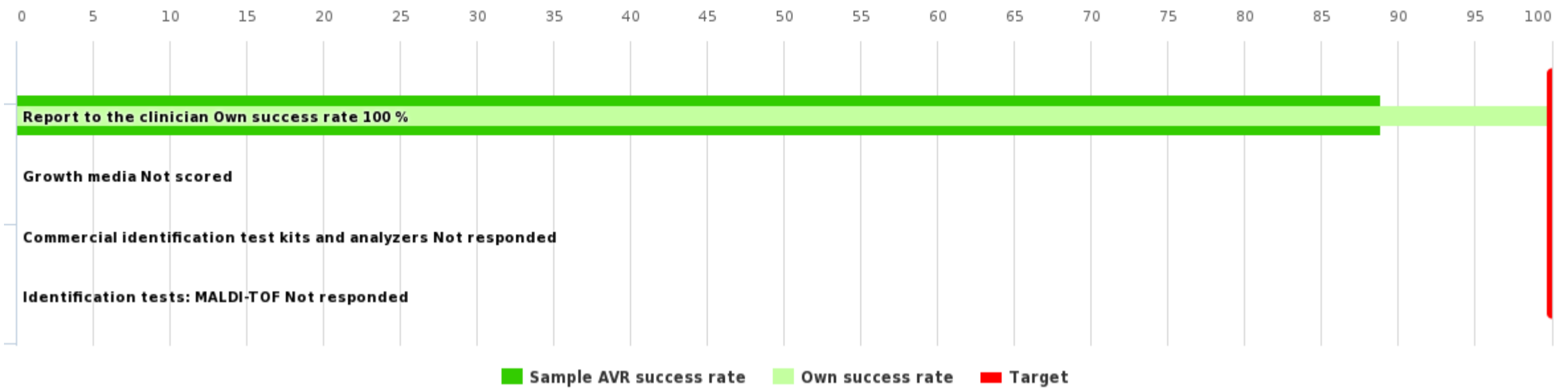
		Salmonella group D	N/A	1
	VITEK 2 Compact 30 (bioMérieux)	Salmonella sp.	00156110445566200	1
			0017610445566210	1
			N/A	1
Total:				6

IDENTIFICATION TESTS: MALDI-TOF

Finding group	Method	Result	Score / Probability %	Score / Probability % count
Salmonella Enteritidis	MALDI Biotyper (Bruker)	Salmonella Enteritidis	≥2	1
		Salmonella group D	≥2	1
		Salmonella sp.	☉ ≥2	7
	VITEK MS (bioMérieux)	Salmonella enterica ssp. enterica	99,9 %	3
Total:				12

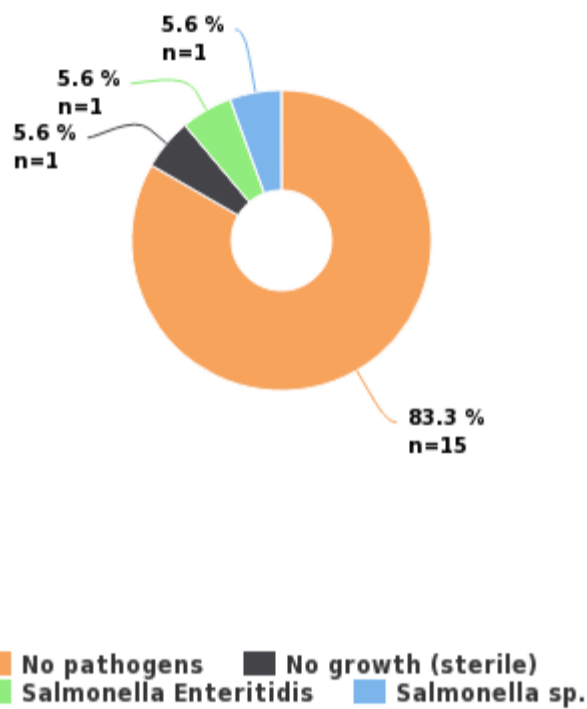
Sample S002 | Salmonella culture: Negative

Sample S002 success rate



Sample S002 results	Responded	Own score	Max score	Own success rate	Difference	AVR success rate	Count
	Report to the clinician	4	4	100 %	11.1 %	88.9 %	18
	Growth media	-	-	-	-	-	44
	Commercial identification test kits and analyzers	-	-	-	-	-	2
	Identification tests: MALDI-TOF	-	-	-	-	-	1
Total:		4	4	100 %	11.1 %	88.9 %	65

Sample S002 Salmonella culture: Negative



LABORATORY SPECIFIC SCORING TABLE

Finding group	Finding	Further action	Own score	Max score	Own success rate	Difference	AVR success rate
Salmonella culture: Negative	No pathogens	Not referred for further action	4	4	100 %	11.1 %	88.9 %
Total:			4	4	100 %	11.1 %	88.9 %

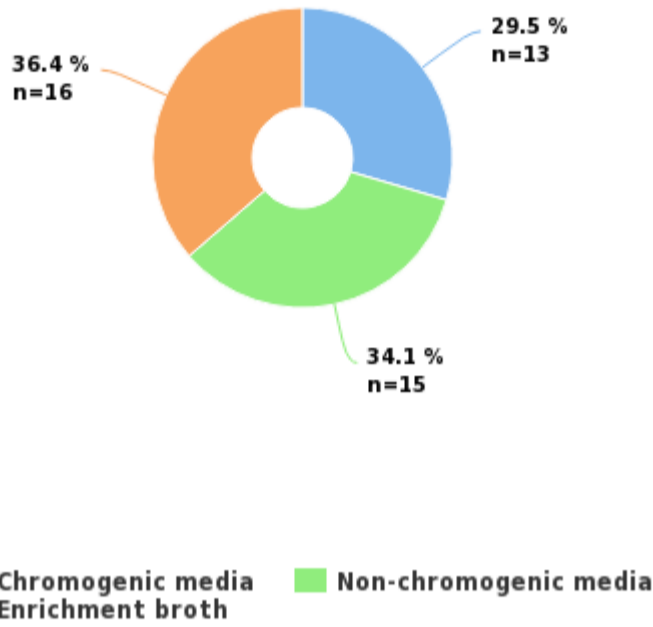
REPORT TO THE CLINICIAN

Finding group	Finding	Finding count	Referred	Not referred	AVR success rate
Salmonella culture: Negative	<input checked="" type="radio"/> No pathogens	15		<input checked="" type="radio"/> 15	88.9 %
	<input type="radio"/> No growth (sterile)	1		<input type="radio"/> 1	
	<input type="radio"/> Salmonella Enteritidis	1		<input type="radio"/> 1	
	<input type="radio"/> Salmonella sp.	1	1		
	Total:	18			88.9 %

SCORING SUMMARY

Finding group	Finding	Finding score	Max score
Salmonella culture: Negative			4
	No pathogens	4	4
	No growth (sterile)	4	4
	Salmonella Enteritidis	0	4
	Salmonella sp.	0	4
Total:			4

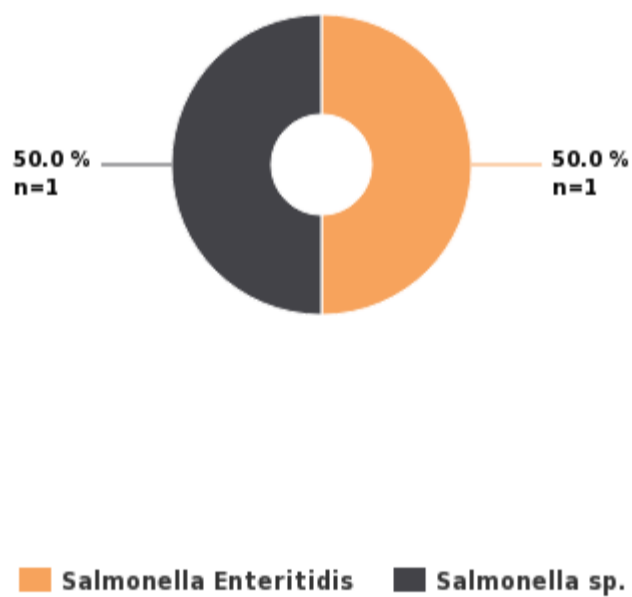
Sample S002 Growth media, Salmonella culture: Negative



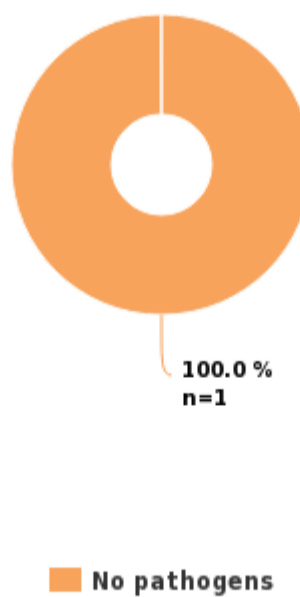
GROWTH MEDIA

Finding group	Result	Result count
Salmonella culture: Negative		44
	● Chromogenic media	13
	● Non-chromogenic media	15
	● Enrichment broth	16
Total:		44

Sample S002 Commercial identification test kits and analyzers, Salmonella culture: Negative



Sample S002 Identification tests: MALDI-TOF, Salmonella culture: Negative



COMMERCIAL IDENTIFICATION TEST KITS AND ANALYZERS

Finding group	Method	Result	Profile number	Profile number count
Salmonella culture: Negative	API 20E (bioMerieux)	Salmonella sp.	6704552	1
	VITEK 2 (bioMerieux)	Salmonella Enteritidis	0015610545566210	1
Total:				2

IDENTIFICATION TESTS: MALDI-TOF

Finding group	Method	Result	Score / Probability %	Score / Probability % count
Salmonella culture: Negative	MALDI Biotyper (Bruker)	No pathogens	≥2	1
Total:				1

Report Info**PARTICIPANTS**

Altogether 18 laboratories from 4 countries participated in this EQA round.

REPORT INFO

On the front page you can see summaries of overall success rate and sample specific success rates which have been calculated from the scores. The reported results and the scores are presented in the same report but in separate tables.

In general, the expected results are marked with green color. Accepted results may also be indicated with yellow color. Laboratory's own results are indicated with a black radio button . In the participant specific report there is also a laboratory specific scoring table for each sample, where you can find your own result and the scores given.

If you have not reported results you will get a note: "You have not responded in time, only global report is available".

For information on report interpretation and performance evaluation, please see the "EQAS Interpretation guidelines" in LabScala User instructions. In case you have any questions regarding the reports, please contact the EQA Coordinator.

SCORING

The results in the "Report to the clinician" part can be scored when at least 60% of the participants have reported the correct/expected result and when there are at least three reported results.

The report includes a sample specific scoring summary.

Laboratory's scores have been converted to percentage (own success rate, % from maximum scores) with a target at 100%. Own success rate is compared with the success rate of all results.

The following general rules are applied:

4 points is reached by reporting the expected result

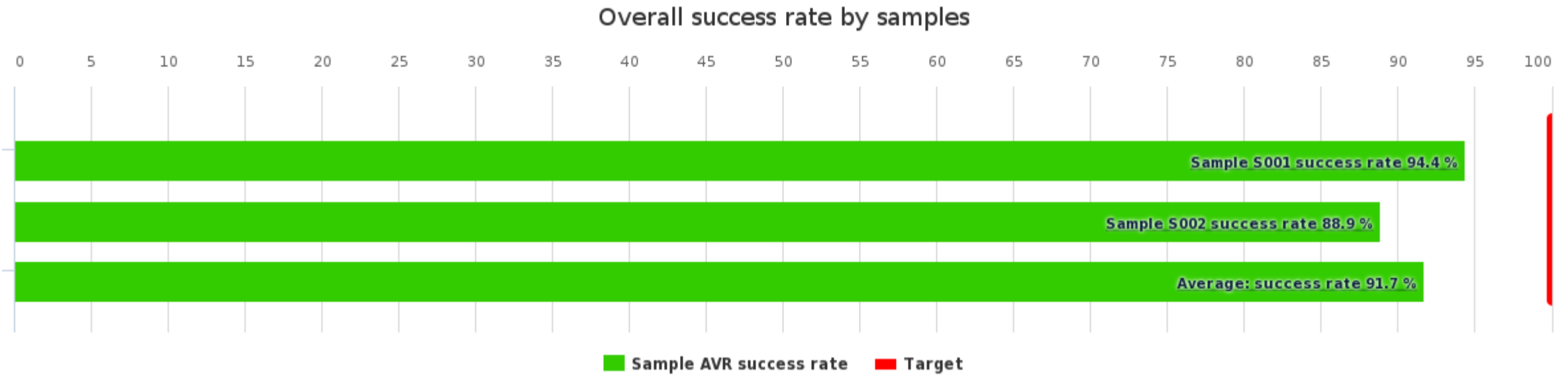
1-3 points is given to results that are partly correct/insufficient regarding the expected finding

0 points is given for an incorrect/false result

GLOBAL REPORT

	No of participants	No of responded participants	Response percentage
Salmonella culture, April, 1-2023	18	18	100 %

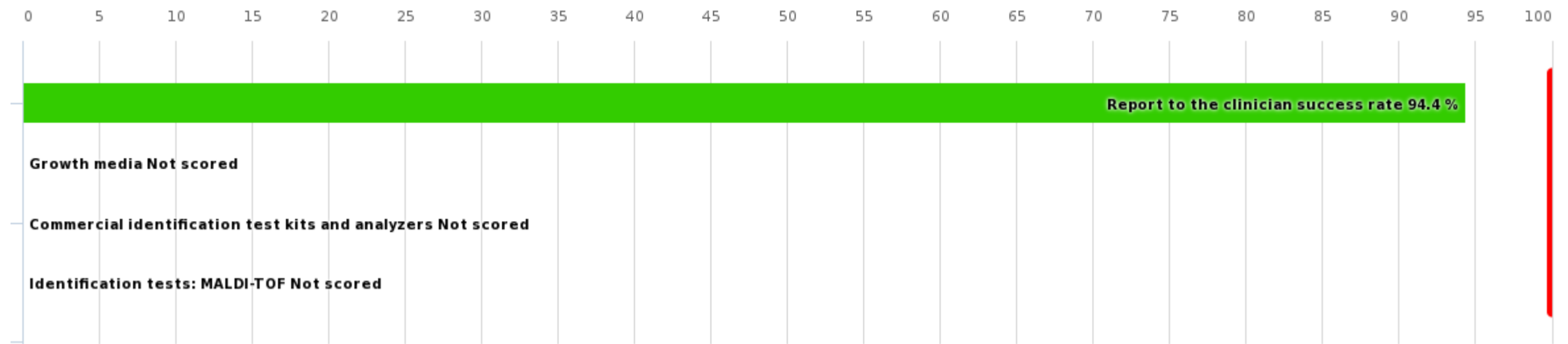
Summary



Summary	AVR success rate
Sample S001	94.4 %
Sample S002	88.9 %
Average:	91.7 %

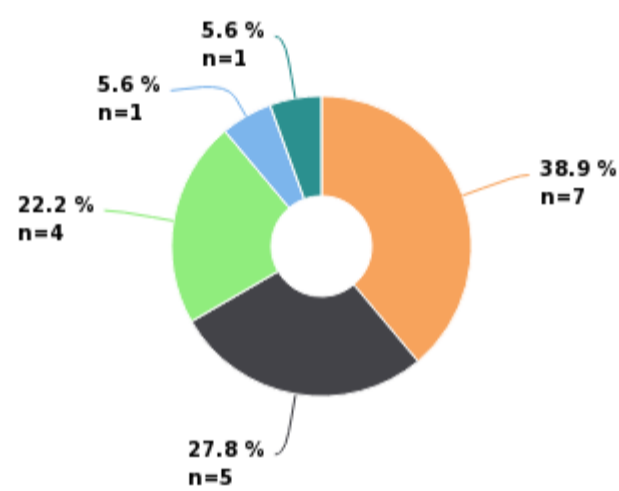
Sample S001 | Salmonella Enteritidis

Sample S001 success rate



Sample S001 results	Responded	AVR success rate	Count
	Report to the clinician	94.4 %	18
	Growth media	-	44
	Commercial identification test kits and analyzers	-	6
	Identification tests: MALDI-TOF	-	12
	Total:	94.4 %	80

Sample S001 Salmonella Enteritidis



- Salmonella Enteritidis
- Salmonella group D
- Salmonella sp.
- Salmonella enterica ssp. enterica
- No pathogens

REPORT TO THE CLINICIAN

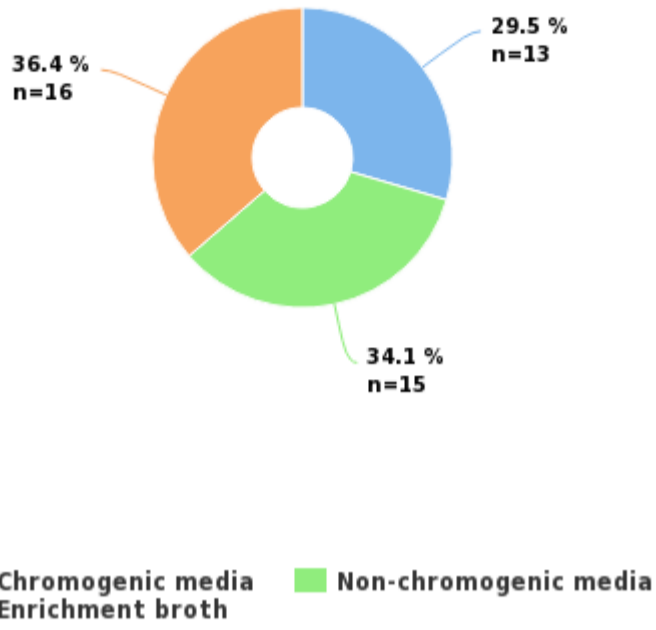
Finding group	Finding	Finding count	Referred	Not referred	AVR success rate
Salmonella Enteritidis		18			94.4 %
	Salmonella Enteritidis	7	1	6	
	Salmonella group D	5	4	1	
	Salmonella sp.	4	4		
	Salmonella enterica ssp. enterica	1	1		
	No pathogens	1		1	
Total:		18			94.4 %

SCORING SUMMARY

Finding group	Finding	Finding score	Max score
Salmonella Enteritidis			4
	Salmonella Enteritidis	4	4
	Salmonella group D	4	4
	Salmonella sp.	4	4
	Salmonella enterica ssp. enterica	4	4
	No pathogens	0	4

Total:			4
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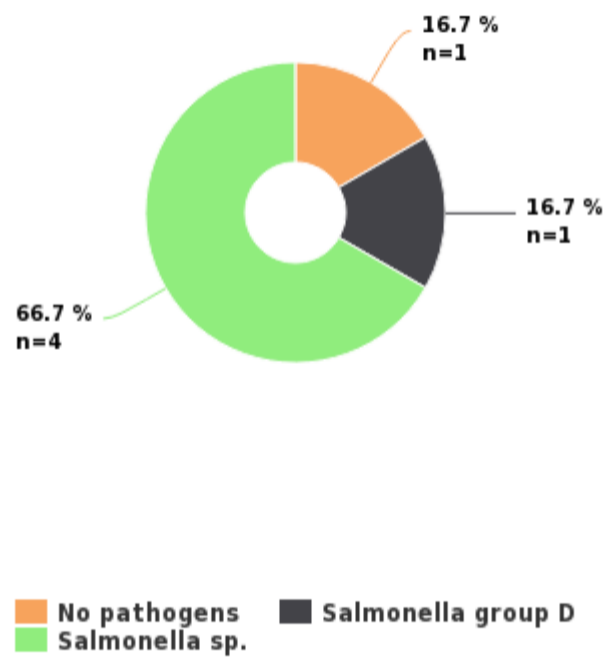
Sample S001 Growth media, Salmonella Enteritidis



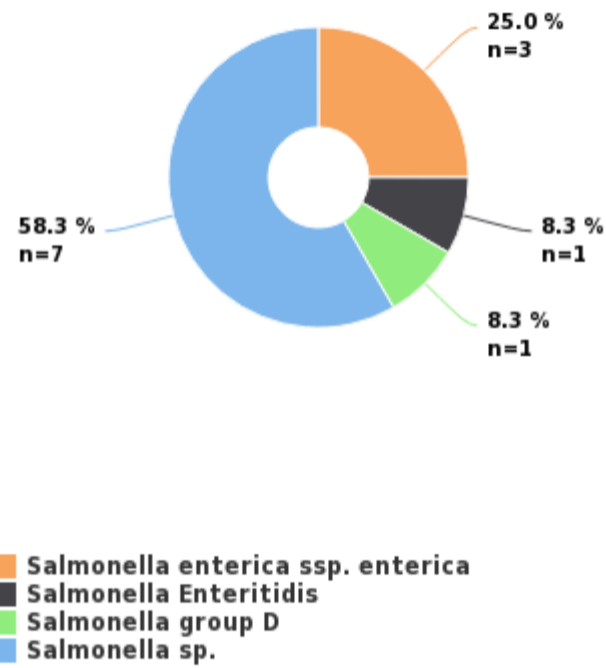
GROWTH MEDIA

Finding group	Result	Result count
Salmonella Enteritidis		44
	Chromogenic media	13
	Non-chromogenic media	15
	Enrichment broth	16
Total:		44

Sample S001 Commercial identification test kits and analyzers, Salmonella Enteritidis



Sample S001 Identification tests: MALDI-TOF, Salmonella Enteritidis



COMMERCIAL IDENTIFICATION TEST KITS AND ANALYZERS

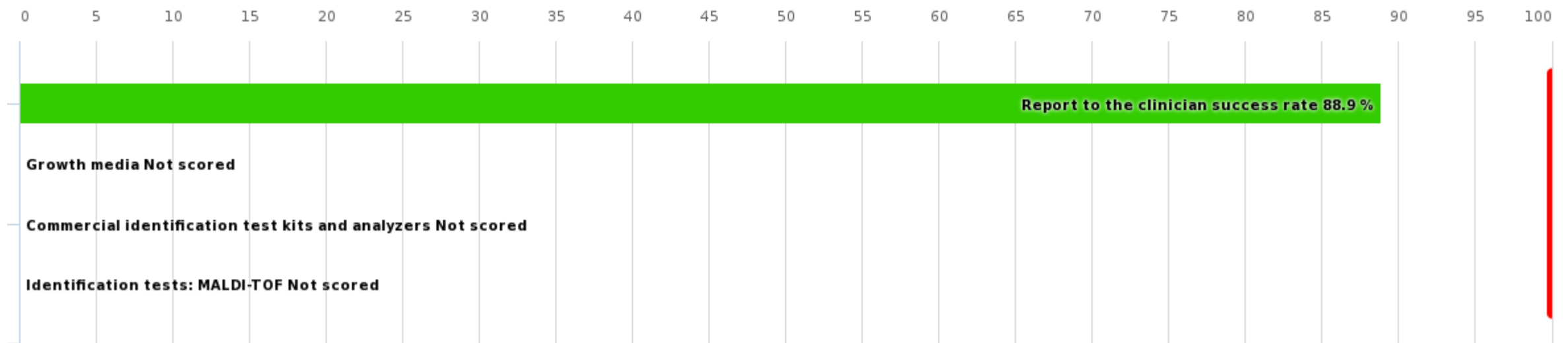
Finding group	Method	Result	Profile number	Profile number count	
Salmonella Enteritidis	API 20E (bioMerieux)	Salmonella sp.	6704552	1	
	VITEK 2 (bioMerieux)	No pathogens	0425201140426201	1	
		Salmonella group D	N/A	1	
		Salmonella sp.	00156110445566200	1	
	VITEK 2 Compact 30 (bioMerieux)			0017610445566210	1
				N/A	1
Total:				6	

IDENTIFICATION TESTS: MALDI-TOF

Finding group	Method	Result	Score / Probability %	Score / Probability % count
Salmonella Enteritidis	MALDI Biotyper (Bruker)	Salmonella Enteritidis	≥2	1
		Salmonella group D	≥2	1
		Salmonella sp.	≥2	7
	VITEK MS (bioMérieux)	Salmonella enterica ssp. enterica	99,9 %	3
Total:				12

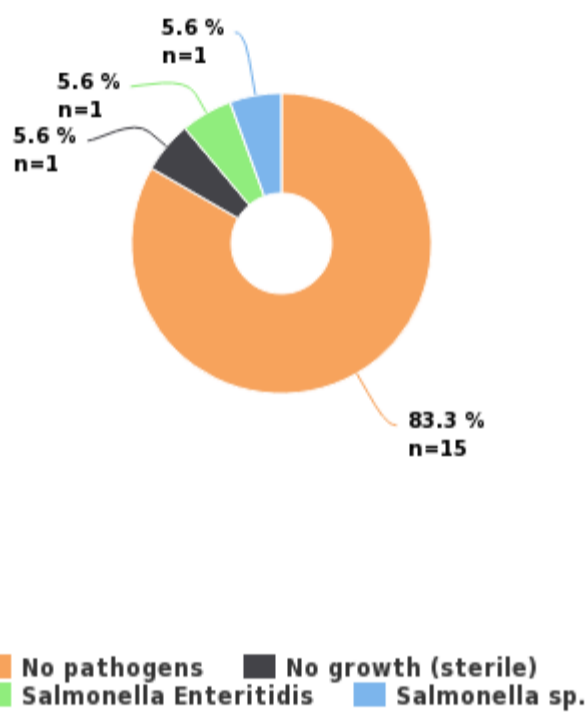
Sample S002 | Salmonella culture: Negative

Sample S002 success rate



Sample S002 results	Responded	AVR success rate	Count
	Report to the clinician	88.9 %	18
	Growth media	-	44
	Commercial identification test kits and analyzers	-	2
	Identification tests: MALDI-TOF	-	1
	Total:	88.9 %	65

Sample S002 Salmonella culture: Negative



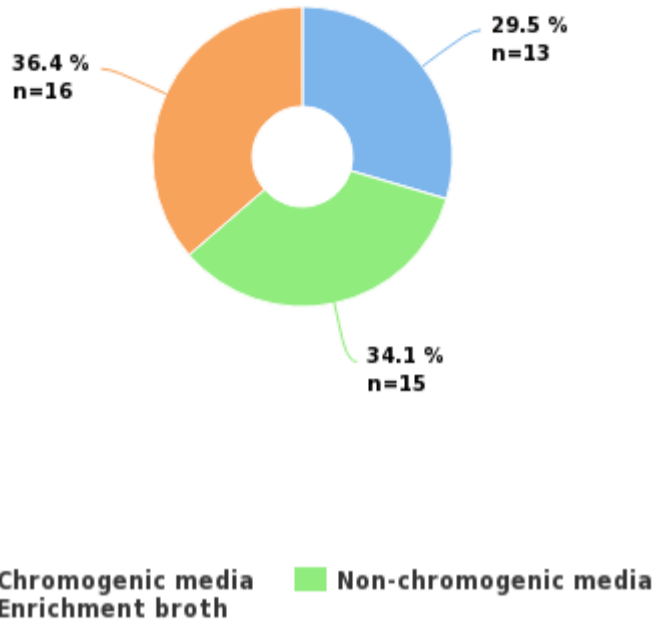
REPORT TO THE CLINICIAN

Finding group	Finding	Finding count	Referred	Not referred	AVR success rate
Salmonella culture: Negative		18			88.9 %
	No pathogens	15		15	
	No growth (sterile)	1		1	
	Salmonella Enteritidis	1		1	
	Salmonella sp.	1	1		
Total:		18			88.9 %

SCORING SUMMARY

Finding group	Finding	Finding score	Max score
Salmonella culture: Negative			4
	No pathogens	4	4
	No growth (sterile)	4	4
	Salmonella Enteritidis	0	4
	Salmonella sp.	0	4
Total:			4

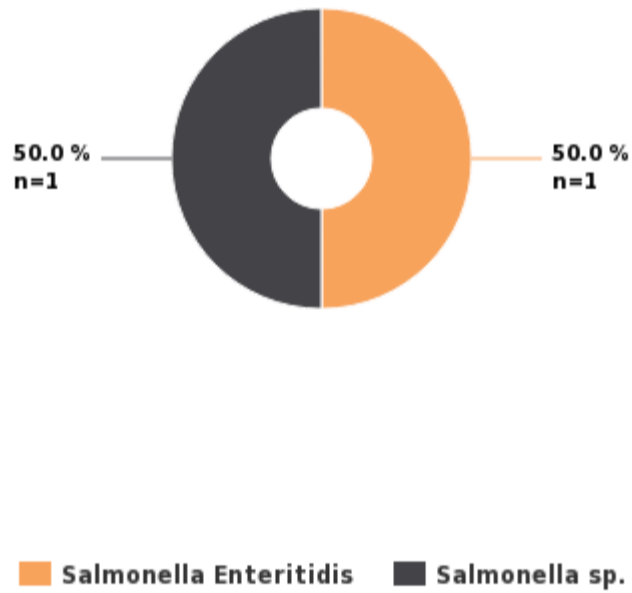
Sample S002 Growth media, Salmonella culture: Negative



GROWTH MEDIA

Finding group	Result	Result count
Salmonella culture: Negative		44
	Chromogenic media	13
	Non-chromogenic media	15
	Enrichment broth	16
Total:		44

Sample S002 Commercial identification test kits and analyzers, Salmonella culture: Negative



Sample S002 Identification tests: MALDI-TOF, Salmonella culture: Negative



COMMERCIAL IDENTIFICATION TEST KITS AND ANALYZERS

Finding group	Method	Result	Profile number	Profile number count
Salmonella culture: Negative	API 20E (bioMerieux)	Salmonella sp.	6704552	1
	VITEK 2 (bioMerieux)	Salmonella Enteritidis	0015610545566210	1
Total:				2

IDENTIFICATION TESTS: MALDI-TOF

Finding group	Method	Result	Score / Probability %	Score / Probability % count
Salmonella culture: Negative	MALDI Biotyper (Bruker)	No pathogens	≥2	1
Total:				1

Report Info**PARTICIPANTS**

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1-3 points is given to results that are partly correct/insufficient regarding the expected finding

0 points is given for an incorrect/false result

External Quality Assessment Scheme

Salmonella culture Round 1, 2023

Specimens

The round included two lyophilized samples. The sample lots were tested in an accredited Finnish reference laboratory and the results were consistent with the certificates provided by the sample manufacturer. Based on the quality controls conducted by the sample material manufacturer, pre-testing and the results obtained in the round, the sample lots are to be considered as homogeneous, stable and suitable for external quality assessment. The materials were sent without temperature control packaging.

The use of samples only for external quality assessment. The consent of Labquality must be requested for the use of the microbial strains contained in the samples for other purposes.

The content of the samples was as follows:

Sample S001 (LQ761723011)
Salmonella Enteritidis GL0092
Klebsiella pneumoniae GL0097

Sample S002 (LQ761723012)
Plesiomonas shigelloides GL0344
Enterococcus faecalis GL0038

Report info

Please see the description of the data analysis on the last page of the laboratory-specific reports and global reports. It is important to read the Final report first, because it contains important information of the samples and results in each round.

Comments – Expert

Sample S001 was *Salmonella* culture positive. This sample contained *Salmonella* Enteritidis as a pathogen and *Klebsiella pneumoniae* as a normal inhabitant of intestinal microbiota. All 18 laboratories participating in this Salmonella culture EQA, reported results for this round. The expected result was *Salmonella* Enteritidis, group D *Salmonella*, *Salmonella* sp. or *Salmonella enterica* ssp. *enterica*. All but one laboratory (17/18, 94%) reported the expected result. One laboratory had probably mixed the samples and reported 'no pathogens' from this sample.

Sample S002 was *Salmonella* culture negative. This sample contained *Plesiomonas shigelloides* as a pathogen and *Enterococcus faecalis* as a normal inhabitant of intestinal microbiota. Of the laboratories participating in this round 89% (16/18) reported the expected *Salmonella* culture negative result. Fifteen laboratories reported 'no pathogens' and one laboratory 'no growth (sterile)'. One participant falsely reported *Salmonella* Enteritidis serotype and another participant *Salmonella* sp. from this sample, which indicates to mixed samples.

Exceptions in scoring

No exceptions.

End of report

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2023-05-09

FINAL REPORT

Product no. 5180

Subcontracting: Sample pretesting

Samples sent	2023-03-28
Round closed	2023-04-21
Expected results	2023-04-26
Final report	2023-05-09

Request for correction

Typing errors in laboratory's result forms are on laboratory's responsibility. Labquality accepts responsibility only for result processing. Requests must be notified by writing within three weeks from the date of this letter.

Authorized by

EQA Coordinator
Jaana Paakkanen
jaana.paakkanen@labquality.fi

Expert

PhD, Molecular microbiologist,
Marianne Gunell,
Turku University Hospital,
Laboratory Division

Labquality Oy

Kumpulantie 15
FI-00520 HELSINKI
Finland

Tel. + 358 9 8566 8200

Fax + 358 9 8566 8280

info@labquality.fi
www.labquality.com

