

External Quality Assessment Scheme

## ***Francisella tularensis*, antibodies 1,2023**

### **Specimens**

Please find enclosed 3 human plasma samples S001, S002 and S003, each 0.5mL.

### **Caution**

Quality control specimens derived from human blood must be handled with the same care as patient samples, i.e. as potential transmitters of serious diseases. The specimens are found to be HBsAg, HCVAb and HIVAgAb negative when tested with licensed reagents, but no known test method can offer complete assurance that the specimens will not transmit these or other infectious diseases.

### **Background information**

The specimens are human one donor plasma samples.

### **Examinations**

*Francisella tularensis* Ab  
*Francisella tularensis* IgM  
*Francisella tularensis* IgG  
Clinical interpretation

### **Storage and use**

After arrival, the samples should be stored at +2...8°C, and used as soon as possible, preferably within a week. Samples are ready for use. Analyse as patient samples.

### **Result reporting**

Please enter the results and methods via LabScala (www.labscala.com). If you cannot find your instrument or reagent from the registry, please contact the EQA Coordinator. Report only the results of examinations/analytes that are in use in your laboratory. All reported examinations will be scored.

S001



S002



S003



2023-04-25

### **INSTRUCTIONS**

Product no. 5851  
LQ758023011-013/FI  
Subcontracting: Sample pretesting

If the kit is incomplete or contains damaged specimens, please report immediately to [info@labquality.fi](mailto:info@labquality.fi)

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The results should be reported no later than  
**May 18, 2023**

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The expected results of the round are published in LabScala in the View Reports section by May 22, 2023.

### **Inquiries**

EQA Coordinator  
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### **Labquality Oy**

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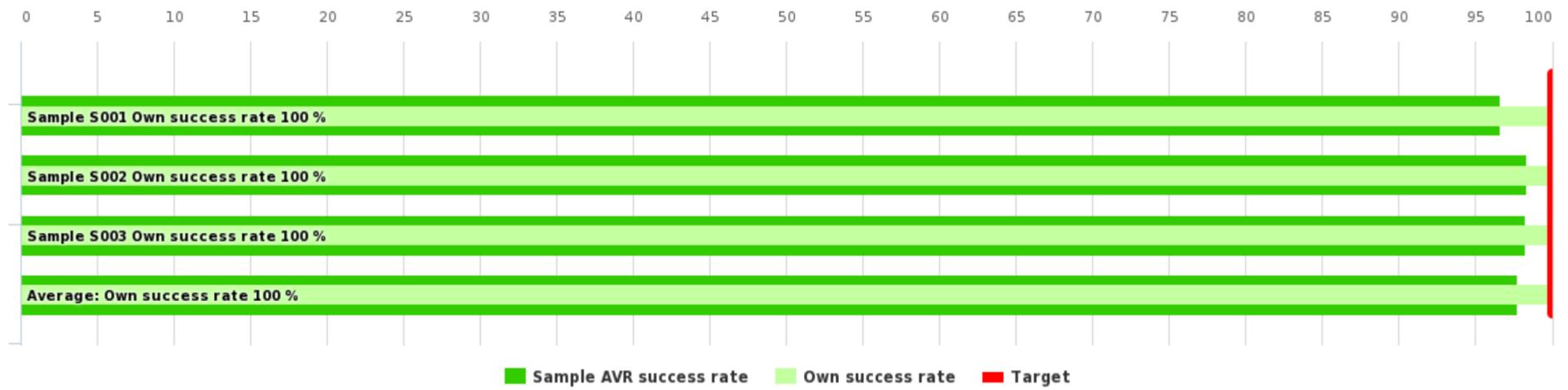


Client report

|   | No of participants | No of responded participants | Response percentage |
|---|--------------------|------------------------------|---------------------|
| Francisella tularensis, antibodies, April, 1-2022 | 17                 | 17                           | 100 %               |

Summary

Overall success rate by samples

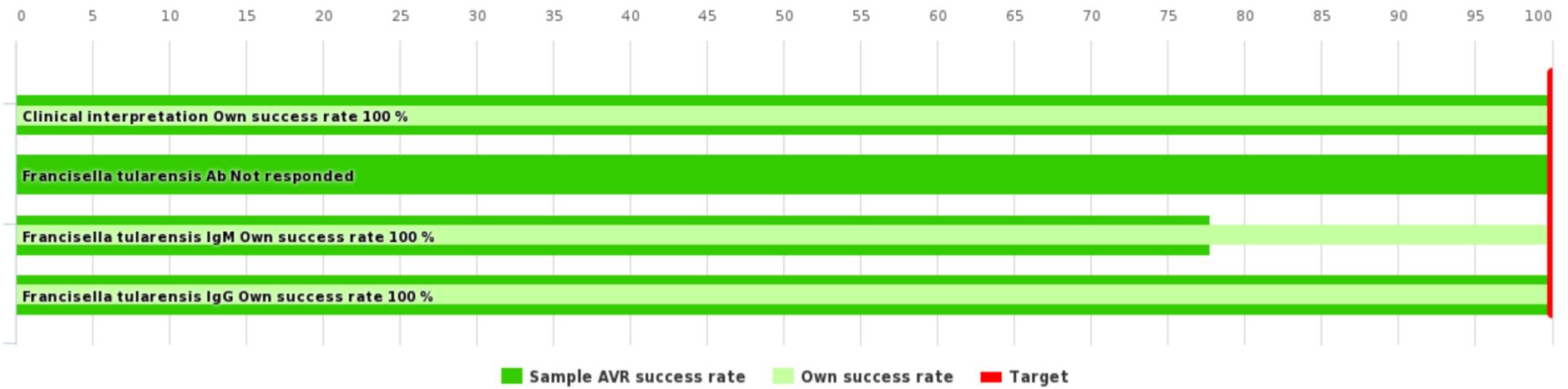


| Summary     | Own score | Max score | Own success rate | Difference | AVR success rate |
|-------------|-----------|-----------|------------------|------------|------------------|
| Sample S001 | 8         | 8         | 100 %            | 3.4 %      | 96.6 %           |
| Sample S002 | 8         | 8         | 100 %            | 1.6 %      | 98.4 %           |
| Sample S003 | 8         | 8         | 100 %            | 1.7 %      | 98.3 %           |
| Average:    |           |           | 100 %            | 2.2 %      | 97.8 %           |

| History           | Test nr. | Own success rate | Difference | AVR success rate |
|-------------------|----------|------------------|------------|------------------|
| History not found |          |                  |            |                  |

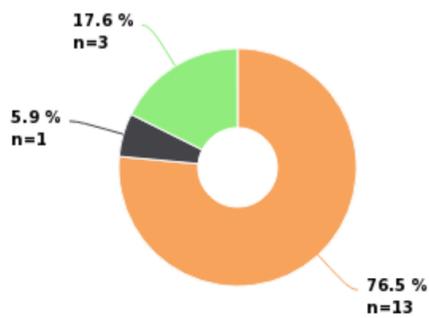
Sample S001

Sample S001 success rate



| Sample S001 results | Responded                  | Own score | Max score | Own success rate | Difference | AVR success rate | Count |
|---------------------|----------------------------|-----------|-----------|------------------|------------|------------------|-------|
|                     | Clinical interpretation    | 4         | 4         | 100 %            | 0 %        | 100 %            | 17    |
|                     | Francisella tularensis Ab  | -         | -         | -                | -          | 100 %            | 12    |
|                     | Francisella tularensis IgM | 2         | 2         | 100 %            | 22.2 %     | 77.8 %           | 9     |
|                     | Francisella tularensis IgG | 2         | 2         | 100 %            | 0 %        | 100 %            | 10    |
|                     | Total:                     | 8         | 8         | 100 %            | 3.4 %      | 96.6 %           | 48    |

Sample S001 Clinical interpretation



- Active or past infection
- Borderline interpretation
- Laboratory does not give clinical interpretation

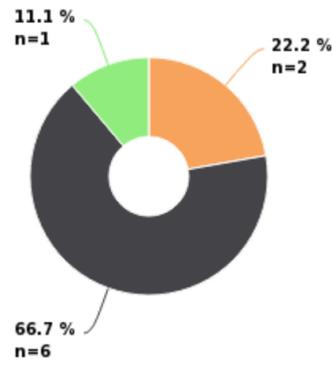
| Clinical interpretation | Interpretation  | Interpretation count | Own score | Max score | Own success rate | Difference | AVR success rate |
|-------------------------|---|----------------------|-----------|-----------|------------------|------------|------------------|
|                         | <input checked="" type="radio"/> Active or past infection | 13                   | 4         | 4         | 100 %            | 0 %        | 100 %            |
|                         | Borderline interpretation                                 | 1                    | -         | -         | -                | -          | 100 %            |
|                         | Laboratory does not give clinical interpretation          | 3                    | -         | -         | -                | -          | -                |
|                         | Total:  | 17                   | 4         | 4         | 100 %            | 0 %        | 100 %            |

Sample S001 Francisella tularensis Ab



Positive, antibody levels high  
Positive, antibody levels low

Sample S001 Francisella tularensis IgM



Negative  
Positive, antibody levels high  
Positive, antibody levels low

Sample S001 Francisella tularensis IgG



Negative  
Positive, antibody levels high  
Positive, antibody levels low

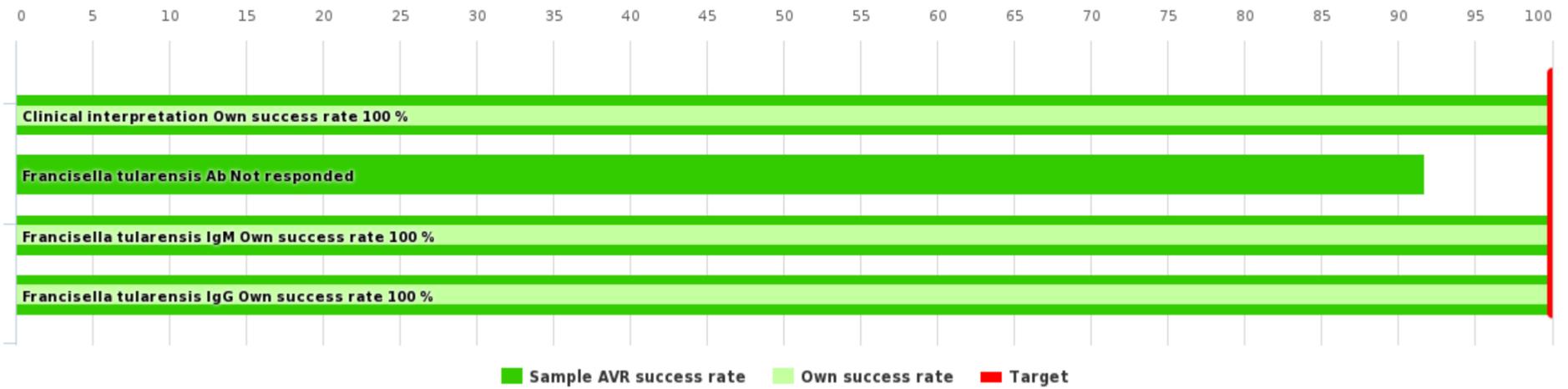
| Francisella tularensis Ab | Interpretation                 | Method   | Interpretation count | Method count | Own score | Max score | Own success rate | Difference | AVR success rate |
|---------------------------|--------------------------------|--|----------------------|--------------|-----------|-----------|------------------|------------|------------------|
|                           | Positive, antibody levels high |  | 7                    |              | -         |           |                  |            | 100 %            |
|                           |                                | In-house Standard agglutination method                     |                      | 1            |           |           |                  |            |                  |
|                           |                                | Vircell VIRAPID Tularemia Ab                               |                      | 6            |           |           |                  |            |                  |
|                           | Positive, antibody levels low  |  | 5                    |              | -         |           |                  |            | 100 %            |
|                           |                                | Becton Dickinson Francisella tularensis Agglutination test |                      | 1            |           |           |                  |            |                  |
|                           |                                | In-house Standard agglutination method                     |                      | 3            |           |           |                  |            |                  |
|                           |                                | Serazym Anti-Francisella tularensis Ab ELISA               |                      | 1            |           |           |                  |            |                  |
|                           | Total:                         |  | 12                   |              | -         | -         | -                | -          | 100 %            |

| Francisella tularensis IgM | Interpretation                 | Method  | Interpretation count | Method count | Own score | Max score | Own success rate | Difference | AVR success rate |
|----------------------------|--------------------------------|---|----------------------|--------------|-----------|-----------|------------------|------------|------------------|
|                            | Negative                       |   | 2                    |              | -         |           |                  |            | 0 %              |
|                            |                                | Serion ELISA classic Francisella tularensis IgM |                      | 1            |           |           |                  |            |                  |
|                            |                                | Vircell Tularemia VIRCLIA IgG+IgM Monotest      |                      | 1            |           |           |                  |            |                  |
|                            | Positive, antibody levels high |   | 6                    |              | 2         | 2         | 100 %            | 0 %        | 100 %            |
|                            |                                | Serion ELISA classic Francisella tularensis IgM |                      | 5            |           |           |                  |            |                  |
|                            |                                | Vircell Tularemia VIRCLIA IgG+IgM Monotest      |                      | 1            |           |           |                  |            |                  |
|                            | Positive, antibody levels low  |   | 1                    |              | -         |           |                  |            | 100 %            |
|                            |                                | Serion ELISA classic Francisella tularensis IgM |                      | 1            |           |           |                  |            |                  |
|                            | Total:                         |   | 9                    |              | 2         | 2         | 100 %            | 22.2 %     | 77.8 %           |

| Francisella tularensis IgG | Interpretation                 | Method  | Interpretation count | Method count | Own score | Max score | Own success rate | Difference | AVR success rate |
|----------------------------|--------------------------------|---|----------------------|--------------|-----------|-----------|------------------|------------|------------------|
|                            | Negative                       |   | 1                    |              | -         |           |                  |            | 100 %            |
|                            |                                | Serion ELISA classic Francisella tularensis IgG |                      | 1            |           |           |                  |            |                  |
|                            | Positive, antibody levels high |   | 8                    |              | 2         | 2         | 100 %            | 0 %        | 100 %            |
|                            |                                | Serion ELISA classic Francisella tularensis IgG |                      | 6            |           |           |                  |            |                  |
|                            |                                | Vircell Tularemia VIRCLIA IgG+IgM Monotest      |                      | 2            |           |           |                  |            |                  |
|                            | Positive, antibody levels low  |   | 1                    |              | -         |           |                  |            | 100 %            |
|                            |                                | Vircell Tularemia VIRCLIA IgG+IgM Monotest      |                      | 1            |           |           |                  |            |                  |
|                            | Total:                         |   | 10                   |              | 2         | 2         | 100 %            | 0 %        | 100 %            |

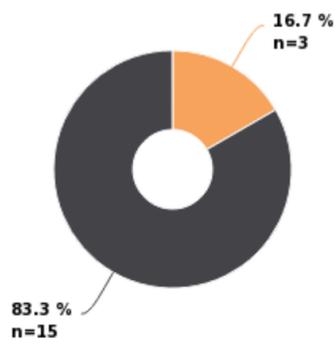
Sample S002

Sample S002 success rate



| Sample S002 results | Responded                  | Own score | Max score | Own success rate | Difference | AVR success rate | Count |
|---------------------|----------------------------|-----------|-----------|------------------|------------|------------------|-------|
|                     | Clinical interpretation    | 4         | 4         | 100 %            | 0 %        | 100 %            | 18    |
|                     | Francisella tularensis Ab  | -         | -         | -                | -          | 91.7 %           | 12    |
|                     | Francisella tularensis IgM | 2         | 2         | 100 %            | 0 %        | 100 %            | 9     |
|                     | Francisella tularensis IgG | 2         | 2         | 100 %            | 0 %        | 100 %            | 10    |
|                     | Total:                     | 8         | 8         | 100 %            | 1.6 %      | 98.4 %           | 49    |

Sample S002 Clinical interpretation



■ Laboratory does not give clinical interpretation  
■ No indication of infection

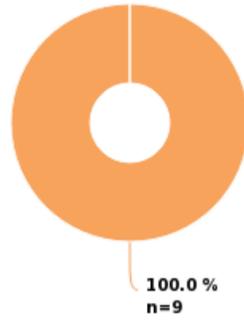
| Clinical interpretation | Interpretation  | Interpretation count | Own score | Max score | Own success rate | Difference | AVR success rate |
|-------------------------|---|----------------------|-----------|-----------|------------------|------------|------------------|
|                         | Laboratory does not give clinical interpretation            | 3                    | -         | -         | -                | -          | -                |
|                         | <input checked="" type="radio"/> No indication of infection | 15                   | 4         | 4         | 100 %            | 0 %        | 100 %            |
|                         | Total:  | 18                   | 4         | 4         | 100 %            | 0 %        | 100 %            |

Sample S002 Francisella tularensis Ab



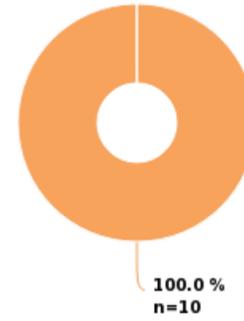
■ Negative  
■ Positive, antibody levels high

Sample S002 Francisella tularensis IgM



■ Negative

Sample S002 Francisella tularensis IgG



■ Negative

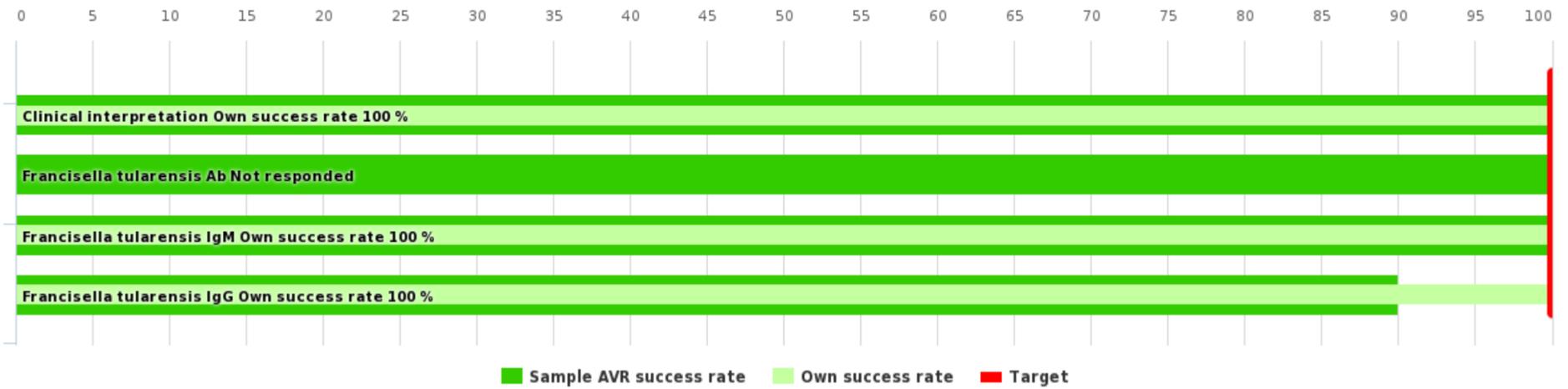
| Francisella tularensis Ab | Interpretation                 | Method   | Interpretation count | Method count | Own score | Max score | Own success rate | Difference | AVR success rate |
|---------------------------|--------------------------------|--|----------------------|--------------|-----------|-----------|------------------|------------|------------------|
|                           | Negative                       |  | 11                   |              | -         |           |                  |            | 100 %            |
|                           |                                | Becton Dickinson Francisella tularensis Agglutination test |                      | 1            |           |           |                  |            |                  |
|                           |                                | In-house Standard agglutination method                     |                      | 3            |           |           |                  |            |                  |
|                           |                                | Serazym Anti-Francisella tularensis Ab ELISA               |                      | 1            |           |           |                  |            |                  |
|                           |                                | Vircell VIRAPID Tularemia Ab                               |                      | 6            |           |           |                  |            |                  |
|                           | Positive, antibody levels high |  | 1                    |              | -         |           |                  |            | 0 %              |
|                           |                                | In-house Standard agglutination method                     |                      | 1            |           |           |                  |            |                  |
|                           | Total:                         |  | 12                   |              | -         | -         | -                | -          | 91.7 %           |

| Francisella tularensis IgM | Interpretation                            | Method   | Interpretation count | Method count | Own score | Max score | Own success rate | Difference | AVR success rate |
|----------------------------|---|--|----------------------|--------------|-----------|-----------|------------------|------------|------------------|
|                            | <input checked="" type="radio"/> Negative |  | 9                    |              | 2         | 2         | 100 %            | 0 %        | 100 %            |
|                            |   | <input checked="" type="radio"/> Serion ELISA classic Francisella tularensis IgM |                      | 7            |           |           |                  |            |                  |
|                            |   | Vircell Tularemia VIRCLIA IgG+IgM Monotest                                       |                      | 2            |           |           |                  |            |                  |
|                            | Total:                                    |  | 9                    |              | 2         | 2         | 100 %            | 0 %        | 100 %            |

| Francisella tularensis IgG | Interpretation                            | Method   | Interpretation count | Method count | Own score | Max score | Own success rate | Difference | AVR success rate |
|----------------------------|---|--|----------------------|--------------|-----------|-----------|------------------|------------|------------------|
|                            | <input checked="" type="radio"/> Negative |  | 10                   |              | 2         | 2         | 100 %            | 0 %        | 100 %            |
|                            |   | <input checked="" type="radio"/> Serion ELISA classic Francisella tularensis IgG |                      | 7            |           |           |                  |            |                  |
|                            |   | Vircell Tularemia VIRCLIA IgG+IgM Monotest                                       |                      | 3            |           |           |                  |            |                  |
|                            | Total:                                    |  | 10                   |              | 2         | 2         | 100 %            | 0 %        | 100 %            |

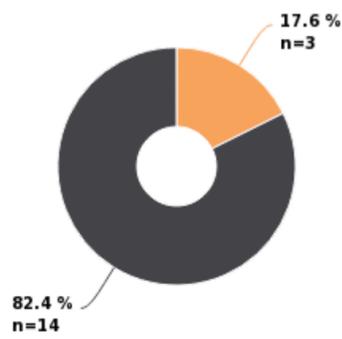
Sample S003

Sample S003 success rate



| Sample S003 results | Responded                  | Own score | Max score | Own success rate | Difference | AVR success rate | Count |
|---------------------|----------------------------|-----------|-----------|------------------|------------|------------------|-------|
|                     | Clinical interpretation    | 4         | 4         | 100 %            | 0 %        | 100 %            | 17    |
|                     | Francisella tularensis Ab  | -         | -         | -                | -          | 100 %            | 12    |
|                     | Francisella tularensis IgM | 2         | 2         | 100 %            | 0 %        | 100 %            | 9     |
|                     | Francisella tularensis IgG | 2         | 2         | 100 %            | 10 %       | 90 %             | 10    |
|                     | Total:                     | 8         | 8         | 100 %            | 1.7 %      | 98.3 %           | 48    |

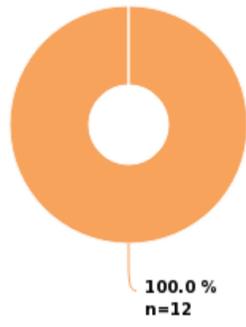
Sample S003 Clinical interpretation



■ Laboratory does not give clinical interpretation  
■ No indication of infection

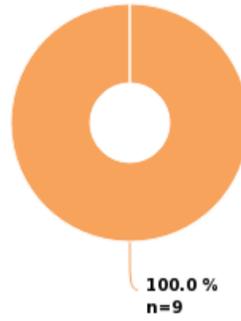
| Clinical interpretation | Interpretation  | Interpretation count | Own score | Max score | Own success rate | Difference | AVR success rate |
|-------------------------|---|----------------------|-----------|-----------|------------------|------------|------------------|
|                         | Laboratory does not give clinical interpretation            | 3                    | -         | -         | -                | -          | -                |
|                         | <input checked="" type="radio"/> No indication of infection | 14                   | 4         | 4         | 100 %            | 0 %        | 100 %            |
|                         | Total:  | 17                   | 4         | 4         | 100 %            | 0 %        | 100 %            |

Sample S003 Francisella tularensis Ab



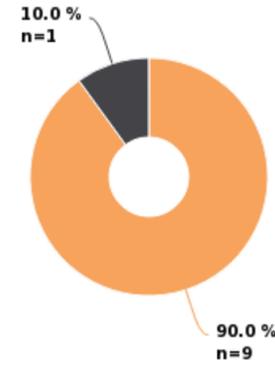
■ Negative

Sample S003 Francisella tularensis IgM



■ Negative

Sample S003 Francisella tularensis IgG



■ Negative  
■ Positive, antibody levels low

| Francisella tularensis Ab | Interpretation | Method   | Interpretation count | Method count | Own score | Max score | Own success rate | Difference | AVR success rate |
|---------------------------|----------------|--|----------------------|--------------|-----------|-----------|------------------|------------|------------------|
|                           | Negative       |  | 12                   |              | -         |           |                  |            | 100 %            |
|                           |                | Becton Dickinson Francisella tularensis Agglutination test |                      | 1            |           |           |                  |            |                  |
|                           |                | In-house Standard agglutination method                     |                      | 4            |           |           |                  |            |                  |
|                           |                | Serazym Anti-Francisella tularensis Ab ELISA               |                      | 1            |           |           |                  |            |                  |
|                           |                | Vircell VIRAPID Tularemia Ab                               |                      | 6            |           |           |                  |            |                  |
|                           | Total:         |  | 12                   |              | -         | -         | -                | -          | 100 %            |

| Francisella tularensis IgM | Interpretation                            | Method   | Interpretation count | Method count | Own score | Max score | Own success rate | Difference | AVR success rate |
|----------------------------|---|--|----------------------|--------------|-----------|-----------|------------------|------------|------------------|
|                            | <input checked="" type="radio"/> Negative |  | 9                    |              | 2         | 2         | 100 %            | 0 %        | 100 %            |
|                            |   | <input checked="" type="radio"/> Serion ELISA classic Francisella tularensis IgM |                      | 7            |           |           |                  |            |                  |
|                            |   | Vircell Tularemia VIRCLIA IgG+IgM Monotest                                       |                      | 2            |           |           |                  |            |                  |
|                            | Total:                                    |  | 9                    |              | 2         | 2         | 100 %            | 0 %        | 100 %            |

| Francisella tularensis IgG | Interpretation                            | Method   | Interpretation count | Method count | Own score | Max score | Own success rate | Difference | AVR success rate |
|----------------------------|---|--|----------------------|--------------|-----------|-----------|------------------|------------|------------------|
|                            | <input checked="" type="radio"/> Negative |  | 9                    |              | 2         | 2         | 100 %            | 0 %        | 100 %            |
|                            |   | <input checked="" type="radio"/> Serion ELISA classic Francisella tularensis IgG |                      | 6            |           |           |                  |            |                  |
|                            |   | Vircell Tularemia VIRCLIA IgG+IgM Monotest                                       |                      | 3            |           |           |                  |            |                  |
|                            | Positive, antibody levels low             |  | 1                    |              | -         |           |                  |            | 0 %              |
|                            |   | Serion ELISA classic Francisella tularensis IgG                                  |                      | 1            |           |           |                  |            |                  |
|                            | Total:                                    |  | 10                   |              | 2         | 2         | 100 %            | 10 %       | 90 %             |

**Report Info****PARTICIPANTS**

Altogether 17 laboratories from 9 countries participated in this EQA round.

**REPORT INFO**

The results are divided into groups according to the method stated by the laboratory and presented in laboratory-specific tables. Accepted results are marked with green color and laboratory's own result with a black radio button . In the scoring report you will find summaries of overall success rate and sample specific success rates (%). Sample specific interpretations are shown in pie diagrams as percentages and the total interpretation and methodic counts in the tables. If you have not reported any 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 round is scored based on test results and clinical interpretations when 60% or more of the participants report the expected result and when at least three results are reported.

The following general rules are applied:

Correct/expected test result 2/2 points  
False/deviating test result 0/2 points  
Correct/expected clinical interpretation 4/4 points  
False/deviating clinical interpretation 0/4 points

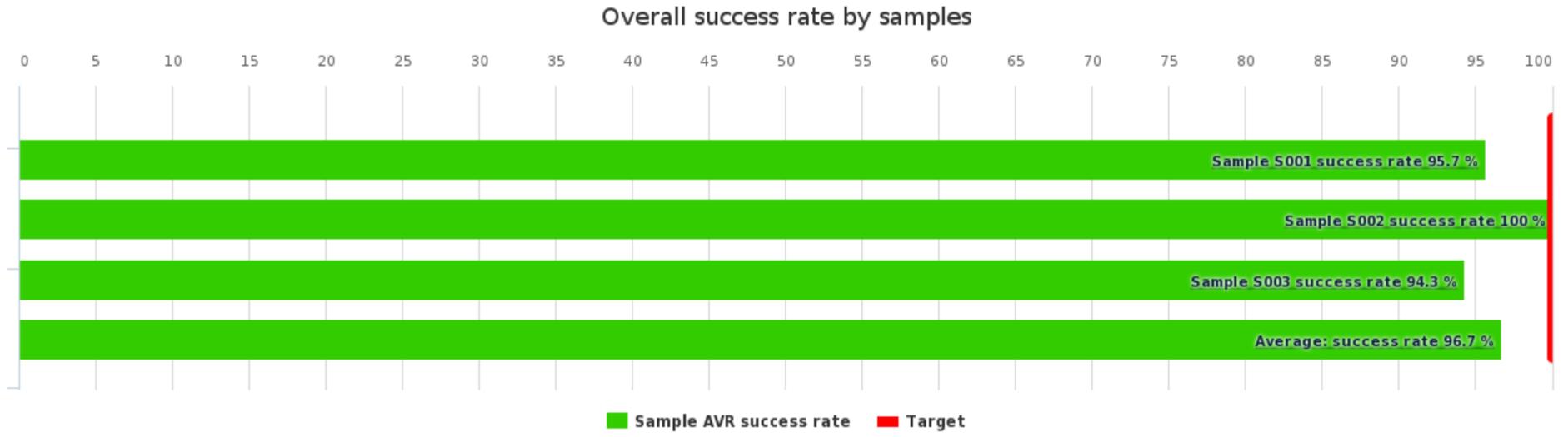
The performance of the laboratory is assessed by the Own success rate (%). The target is 100%. The examination-specific scores obtained by the laboratory in the round are converted to Own success rate per sample (scores/maximum scores\*100). The Laboratory's Own success rate is the average of the sample success rates.

The success rate for the entire round (AVR success rate) is calculated from the total number of scores given to the results per sample (all scores/maximum scores\*100). The AVG success rate of the entire round is the average of the sample success rates. The difference in the Laboratory's Own success rate (%) to the corresponding numbers for the entire round is shown in the table.

GLOBAL REPORT

|   | No of participants | No of responded participants | Response percentage |
|---|--------------------|------------------------------|---------------------|
| Francisella tularensis, antibodies, April, 1-2023 | 23                 | 22                           | 95.7 %              |

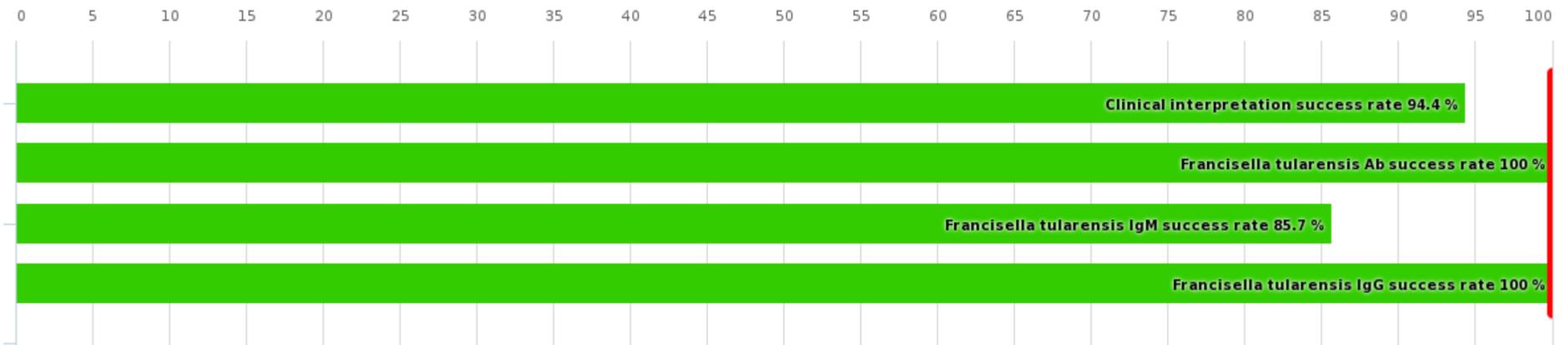
Summary



| Summary     | AVR success rate |
|-------------|------------------|
| Sample S001 | 95.7 %           |
| Sample S002 | 100 %            |
| Sample S003 | 94.3 %           |
| Average:    | 96.7 %           |

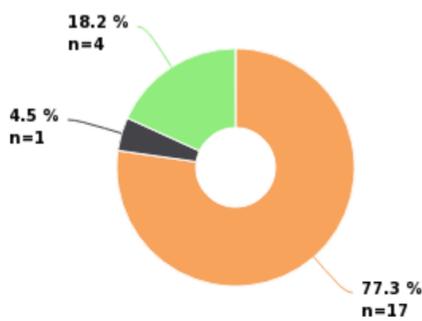
Sample S001

Sample S001 success rate



| Sample S001 results | Responded                  | AVR success rate | Count |
|---------------------|----------------------------|------------------|-------|
|                     | Clinical interpretation    | 94.4 %           | 22    |
|                     | Francisella tularensis Ab  | 100 %            | 19    |
|                     | Francisella tularensis IgM | 85.7 %           | 7     |
|                     | Francisella tularensis IgG | 100 %            | 8     |
|                     | Total:                     | 95.7 %           | 56    |

Sample S001 Clinical interpretation



- Active or past infection
- Borderline interpretation
- Laboratory does not give clinical interpretation

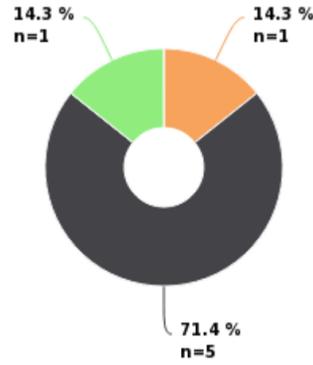
| Clinical interpretation | Interpretation                                   | Interpretation count | AVR success rate | Interpretation Score |
|-------------------------|--|----------------------|------------------|----------------------|
|                         | Active or past infection                         | 17                   | 100 %            | 4                    |
|                         | Borderline interpretation                        | 1                    | 0 %              | 0                    |
|                         | Laboratory does not give clinical interpretation | 4                    | -                | -                    |
|                         | Total:   | 22                   | 94.4 %           |                      |

Sample S001 Francisella tularensis Ab



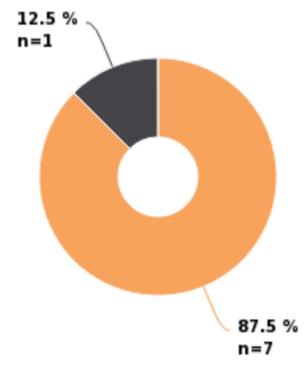
■ Positive, antibody levels high  
■ Positive, antibody levels low

Sample S001 Francisella tularensis IgM



■ Negative  
■ Positive, antibody levels high  
■ Positive, antibody levels low

Sample S001 Francisella tularensis IgG



■ Positive, antibody levels high  
■ Positive, antibody levels low

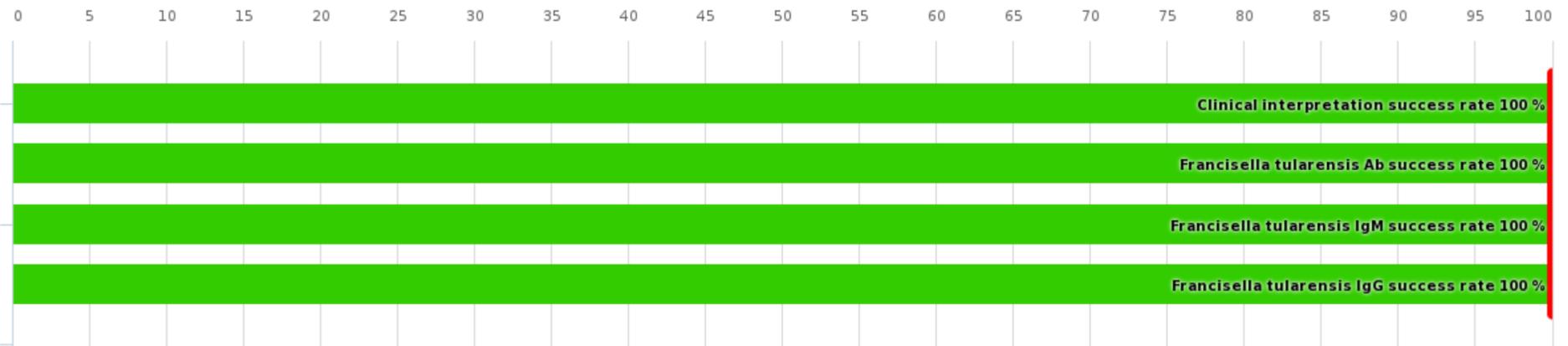
| Francisella tularensis Ab | Interpretation                 | Method   | Interpretation count | Method count | AVR success rate | Interpretation Score |
|---------------------------|--------------------------------|--|----------------------|--------------|------------------|----------------------|
|                           | Positive, antibody levels high |  | 12                   |              | 100 %            | 2                    |
|                           |                                | In-house Standard agglutination method                     |                      | 1            |                  |                      |
|                           |                                | Vircell Tularemia VIRCLIA IgG+IgM Monotest                 |                      | 5            |                  |                      |
|                           |                                | Vircell VIRAPID Tularemia Ab                               |                      | 6            |                  |                      |
|                           | Positive, antibody levels low  |  | 7                    |              | 100 %            | 2                    |
|                           |                                | Becton Dickinson Francisella tularensis Agglutination test |                      | 3            |                  |                      |
|                           |                                | In-house Standard agglutination method                     |                      | 2            |                  |                      |
|                           |                                | Serazym Anti-Francisella tularensis Ab ELISA               |                      | 2            |                  |                      |
|                           | Total:                         |  | 19                   |              | 100 %            |                      |

| Francisella tularensis IgM | Interpretation                 | Method  | Interpretation count | Method count | AVR success rate | Interpretation Score |
|----------------------------|--------------------------------|---|----------------------|--------------|------------------|----------------------|
|                            | Negative                       |   | 1                    |              | 0 %              | 0                    |
|                            |                                | Francisella tularensis IgM in-house IFA         |                      | 1            |                  |                      |
|                            | Positive, antibody levels high |   | 5                    |              | 100 %            | 2                    |
|                            |                                | Serion ELISA classic Francisella tularensis IgM |                      | 5            |                  |                      |
|                            | Positive, antibody levels low  |   | 1                    |              | 100 %            | 2                    |
|                            |                                | Serion ELISA classic Francisella tularensis IgM |                      | 1            |                  |                      |
|                            | Total:                         |   | 7                    |              | 85.7 %           |                      |

| Francisella tularensis IgG | Interpretation                 | Method  | Interpretation count | Method count | AVR success rate | Interpretation Score |
|----------------------------|--------------------------------|---|----------------------|--------------|------------------|----------------------|
|                            | Positive, antibody levels high |   | 7                    |              | 100 %            | 2                    |
|                            |                                | Serion ELISA classic Francisella tularensis IgG |                      | 6            |                  |                      |
|                            |                                | Vircell Tularemia VIRCLIA IgG+IgM Monotest      |                      | 1            |                  |                      |
|                            | Positive, antibody levels low  |   | 1                    |              | 100 %            | 2                    |
|                            |                                | Francisella tularensis IgG in-house IFA         |                      | 1            |                  |                      |
|                            | Total:                         |   | 8                    |              | 100 %            |                      |

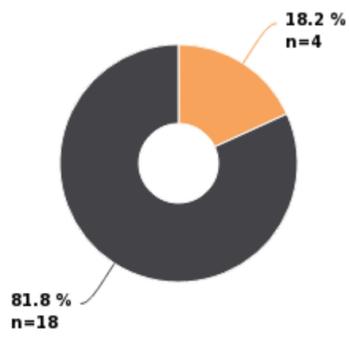
Sample S002

Sample S002 success rate



| Sample S002 results | Responded                  | AVR success rate | Count |
|---------------------|----------------------------|------------------|-------|
|                     | Clinical interpretation    | 100 %            | 22    |
|                     | Francisella tularensis Ab  | 100 %            | 19    |
|                     | Francisella tularensis IgM | 100 %            | 7     |
|                     | Francisella tularensis IgG | 100 %            | 8     |
|                     | Total:                     | 100 %            | 56    |

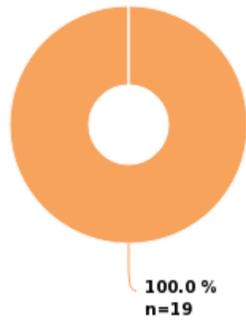
Sample S002 Clinical interpretation



■ Laboratory does not give clinical interpretation  
■ No indication of infection

| Clinical interpretation | Interpretation                                   | Interpretation count | AVR success rate | Interpretation Score |
|-------------------------|--|----------------------|------------------|----------------------|
|                         | Laboratory does not give clinical interpretation | 4                    | -                | -                    |
|                         | No indication of infection                       | 18                   | 100 %            | 4                    |
|                         | Total:   | 22                   | 100 %            |                      |

Sample S002 Francisella tularensis Ab



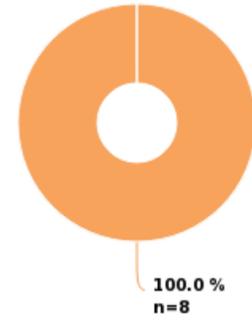
■ Negative

Sample S002 Francisella tularensis IgM



■ Negative

Sample S002 Francisella tularensis IgG



■ Negative

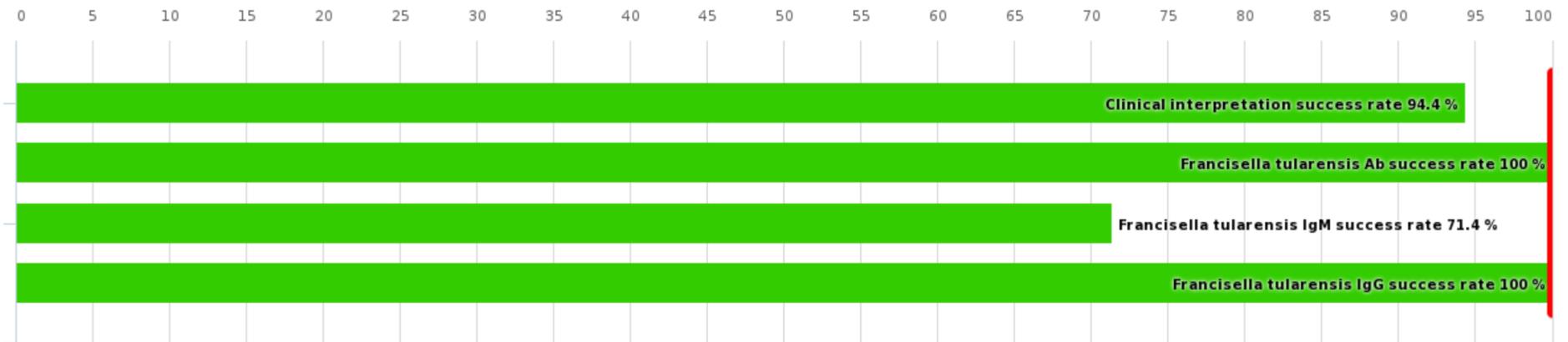
| Francisella tularensis Ab | Interpretation | Method   | Interpretation count | Method count | AVR success rate | Interpretation Score |
|---------------------------|----------------|--|----------------------|--------------|------------------|----------------------|
|                           | Negative       |  | 19                   |              | 100 %            | 2                    |
|                           |                | Becton Dickinson Francisella tularensis Agglutination test |                      | 2            |                  |                      |
|                           |                | In-house Standard agglutination method                     |                      | 4            |                  |                      |
|                           |                | Serazym Anti-Francisella tularensis Ab ELISA               |                      | 2            |                  |                      |
|                           |                | Vircell Tularemia VIRCLIA IgG+IgM Monotest                 |                      | 5            |                  |                      |
|                           |                | Vircell VIRAPID Tularemia Ab                               |                      | 6            |                  |                      |
|                           | Total:         |  | 19                   |              | 100 %            |                      |

| Francisella tularensis IgM | Interpretation | Method  | Interpretation count | Method count | AVR success rate | Interpretation Score |
|----------------------------|----------------|---|----------------------|--------------|------------------|----------------------|
|                            | Negative       |   | 7                    |              | 100 %            | 2                    |
|                            |                | Francisella tularensis IgM in-house IFA         |                      | 1            |                  |                      |
|                            |                | Serion ELISA classic Francisella tularensis IgM |                      | 6            |                  |                      |
|                            | Total:         |   | 7                    |              | 100 %            |                      |

| Francisella tularensis IgG | Interpretation | Method  | Interpretation count | Method count | AVR success rate | Interpretation Score |
|----------------------------|----------------|---|----------------------|--------------|------------------|----------------------|
|                            | Negative       |   | 8                    |              | 100 %            | 2                    |
|                            |                | Francisella tularensis IgG in-house IFA         |                      | 1            |                  |                      |
|                            |                | Serion ELISA classic Francisella tularensis IgG |                      | 6            |                  |                      |
|                            |                | Vircell Tularemia VIRCLIA IgG+IgM Monotest      |                      | 1            |                  |                      |
|                            | Total:         |   | 8                    |              | 100 %            |                      |

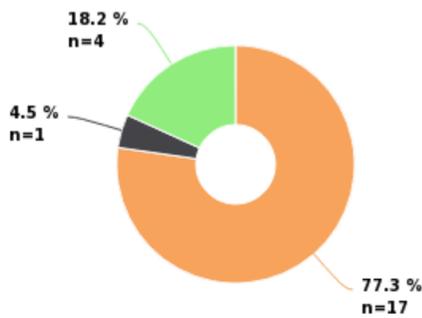
Sample S003

Sample S003 success rate



| Sample S003 results | Responded                  | AVR success rate | Count |
|---------------------|----------------------------|------------------|-------|
|                     | Clinical interpretation    | 94.4 %           | 22    |
|                     | Francisella tularensis Ab  | 100 %            | 19    |
|                     | Francisella tularensis IgM | 71.4 %           | 7     |
|                     | Francisella tularensis IgG | 100 %            | 8     |
|                     | Total:                     | 94.3 %           | 56    |

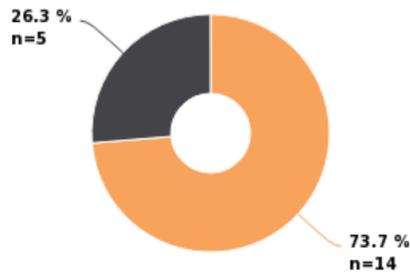
Sample S003 Clinical interpretation



- Active or past infection
- Borderline interpretation
- Laboratory does not give clinical interpretation

| Clinical interpretation | Interpretation                                   | Interpretation count | AVR success rate | Interpretation Score |
|-------------------------|--|----------------------|------------------|----------------------|
|                         | Active or past infection                         | 17                   | 100 %            | 4                    |
|                         | Borderline interpretation                        | 1                    | 0 %              | 0                    |
|                         | Laboratory does not give clinical interpretation | 4                    | -                | -                    |
|                         | Total:   | 22                   | 94.4 %           |                      |

Sample S003 Francisella tularensis Ab



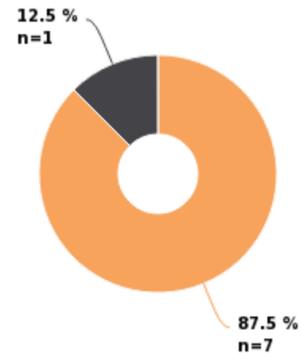
Positive, antibody levels high  
Positive, antibody levels low

Sample S003 Francisella tularensis IgM



Negative  
Positive, antibody levels high

Sample S003 Francisella tularensis IgG



Positive, antibody levels high  
Positive, antibody levels low

| Francisella tularensis Ab | Interpretation                 | Method   | Interpretation count | Method count | AVR success rate | Interpretation Score |
|---------------------------|--------------------------------|--|----------------------|--------------|------------------|----------------------|
|                           | Positive, antibody levels high |  | 14                   |              | 100 %            | 2                    |
|                           |                                | In-house Standard agglutination method                     |                      | 2            |                  |                      |
|                           |                                | Serazym Anti-Francisella tularensis Ab ELISA               |                      | 1            |                  |                      |
|                           |                                | Vircell Tularemia VIRCLIA IgG+IgM Monotest                 |                      | 5            |                  |                      |
|                           |                                | Vircell VIRAPID Tularemia Ab                               |                      | 6            |                  |                      |
|                           | Positive, antibody levels low  |  | 5                    |              | 100 %            | 2                    |
|                           |                                | Becton Dickinson Francisella tularensis Agglutination test |                      | 2            |                  |                      |
|                           |                                | In-house Standard agglutination method                     |                      | 2            |                  |                      |
|                           |                                | Serazym Anti-Francisella tularensis Ab ELISA               |                      | 1            |                  |                      |
|                           | Total:                         |  | 19                   |              | 100 %            |                      |

| Francisella tularensis IgM | Interpretation                 | Method  | Interpretation count | Method count | AVR success rate | Interpretation Score |
|----------------------------|--------------------------------|---|----------------------|--------------|------------------|----------------------|
|                            | Negative                       |   | 2                    |              | 0 %              | 0                    |
|                            |                                | Francisella tularensis IgM in-house IFA         |                      | 1            |                  |                      |
|                            |                                | Serion ELISA classic Francisella tularensis IgM |                      | 1            |                  |                      |
|                            | Positive, antibody levels high |   | 5                    |              | 100 %            | 2                    |
|                            |                                | Serion ELISA classic Francisella tularensis IgM |                      | 5            |                  |                      |
|                            | Total:                         |   | 7                    |              | 71.4 %           |                      |

| Francisella tularensis IgG | Interpretation                 | Method  | Interpretation count | Method count | AVR success rate | Interpretation Score |
|----------------------------|--------------------------------|---|----------------------|--------------|------------------|----------------------|
|                            | Positive, antibody levels high |   | 7                    |              | 100 %            | 2                    |
|                            |                                | Serion ELISA classic Francisella tularensis IgG |                      | 6            |                  |                      |
|                            |                                | Vircell Tularemia VIRCLIA IgG+IgM Monotest      |                      | 1            |                  |                      |
|                            | Positive, antibody levels low  |   | 1                    |              | 100 %            | 2                    |
|                            |                                | Francisella tularensis IgG in-house IFA         |                      | 1            |                  |                      |
|                            | Total:                         |   | 8                    |              | 100 %            |                      |

**Report Info****PARTICIPANTS**

Altogether 23 laboratories from 11 countries participated in this EQA round.

**REPORT INFO**

The results are divided into groups according to the method stated by the laboratory and presented in laboratory-specific tables. Accepted results are marked with green color and laboratory's own result with a black radio button . In the scoring report you will find summaries of overall success rate and sample specific success rates (%). Sample specific interpretations are shown in pie diagrams as percentages and the total interpretation and methodic counts in the tables. If you have not reported any 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 round is scored based on test results and clinical interpretations when 60% or more of the participants report the expected result and when at least three results are reported.

The following general rules are applied:

Correct/expected test result 2/2 points  
False/deviating test result 0/2 points  
Correct/expected clinical interpretation 4/4 points  
False/deviating clinical interpretation 0/4 points

The performance of the laboratory is assessed by the Own success rate (%). The target is 100%. The examination-specific scores obtained by the laboratory in the round are converted to Own success rate per sample (scores/maximum scores\*100). The Laboratory's Own success rate is the average of the sample success rates.

The success rate for the entire round (AVR success rate) is calculated from the total number of scores given to the results per sample (all scores/maximum scores\*100). The AVG success rate of the entire round is the average of the sample success rates. The difference in the Laboratory's Own success rate (%) to the corresponding numbers for the entire round is shown in the table.

External Quality Assessment Scheme

## ***Francisella tularensis*, antibodies** **Round 1, 2023**

### **Specimens**

Samples of this EQA round were human plasma or serum, each of which originated from a single separate donor. Based on the pre-testing and the results obtained in the round, the samples were homogeneous, stable and suitable for the external quality assessment scheme. The materials were sent without any temperature control packaging.

The accepted results were as follows:

|  |                            |
|--|----------------------------|
| Sample S001 (LQ758023011)                    |                            |
| <i>Francisella tularensis</i> antibodies     | positive                   |
| <i>Francisella tularensis</i> IgM antibodies | positive                   |
| <i>Francisella tularensis</i> IgG antibodies | positive                   |
| Clinical interpretation                      | Active or past infection   |
| Sample S002 (LQ758023012)                    |                            |
| <i>Francisella tularensis</i> antibodies     | negative                   |
| <i>Francisella tularensis</i> IgM antibodies | negative                   |
| <i>Francisella tularensis</i> IgG antibodies | negative                   |
| Clinical interpretation                      | No indication of infection |
| Sample S003 (LQ758023013)                    |                            |
| <i>Francisella tularensis</i> antibodies     | positive                   |
| <i>Francisella tularensis</i> IgM antibodies | positive                   |
| <i>Francisella tularensis</i> IgG antibodies | positive                   |
| Clinical interpretation                      | Active or past infection   |

### **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**

The samples S001 and S003 were expected to be positive but there was a lot of variation in the reported results.

The specimen S002 was negative for *Francisella tularensis*-antibodies. All participants reported this sample as negative.

### **Exceptions in scoring**

No exceptions.

### **End of report**

2023-06-30

### **FINAL REPORT**

Product no. 5851

Subcontracting: Sample pretesting

|                  |            |
|------------------|------------|
| Samples sent     | 2023-04-25 |
| Round closed     | 2023-05-24 |
| Expected results | 2023-05-30 |
| Final report     | 2023-06-30 |

### **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**

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