

FOB1/26: Faecal Occult Blood

This EQA round was accomplished according to the document *EQA Plan 2026*.

Typing conventions: We are using comma as a decimal separator and dates in day.month.year format.

Samples

We used commercial samples in this round.

Supervisor's comment

There were 209 participants in this round, 5 of them from Slovenia and 4 from Slovakia.

Unit of the results

The results are expressed in **the unit $\mu\text{g/g}$ (i.e. μg of haemoglobin per gram of faeces)** in the FOB scheme.

The unit $\mu\text{g/g}$ is particularly important for the determination of the test positivity (i.e. comparison with the cut-off value) - it is therefore clinically relevant. The instructions on how to recalculate the measurement result from the unit $\mu\text{g/L}$ to $\mu\text{g/g}$ were included in the documentation which the participants receive together with the samples.

Assigned values

Assigned values were determined as robust means in the groups based on the manufacturer of the kit (code R). Only the results in the groups containing 5 or more participants are evaluated. Therefore, the key information we need from participants in this round is the manufacturer of the kit. If you cannot find your manufacturer in the list, you must describe it in words. In this round, we excluded 4 participants from the processing who did not describe their manufacturer.

The criterion (D_{max}) is set to 25 % according to the recommendation of the Ministry of Health (document https://www.mzcr.cz/wp-content/uploads/2023/08/Vestnik-MZ_11-2023.pdf, page 134).

Measurement results obtained from the laboratory systems

Eiken (code R = 208): Most members of this group are using homogeneous measuring systems (identical manufacturer of the kit and equipment, only 2 participants declared the use of Roche instrument).

Sentinel (code R = 116): The users of this kit are using wide range of measuring systems (Abbott, Beckman Coulter, Roche, Siemens and other). We asked what calibrator they used and obtained these answers:

FOB Gold Calibrator Routine	45
FOB Gold Calibrator Wide	15

The participants who reported using the "Wide" calibrator reported the lowest results of all participants.

Measurement results obtained from the POCT systems

We remind all users of POCT systems to strictly follow the instructions given in the general instructions (you receive this document together with the samples), inclusive of the recalculation of the results to the unit $\mu\text{g/g}$!

We are observing a gradual improvement in results for all POCT systems (you can compare this round with older rounds available on the website).

The position of the results of the individual groups (manufacturers of the kits) shows the chart on the right.

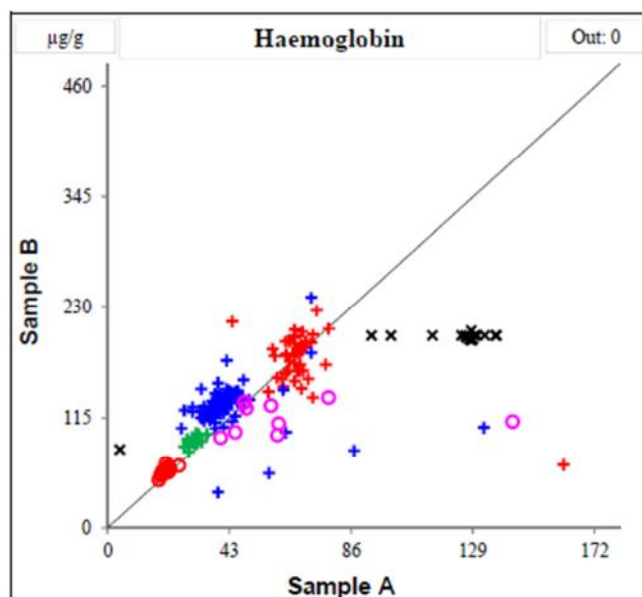
The graph demonstrates the following facts:

1. The averages of the measurement results in the individual groups differ significantly (that is why we evaluate the results within individual groups in this programme).
2. Very good reproducibility of the results in the Eiken and Sentinel Wide groups.
3. BodiTech systems reported the concentration "> 200 $\mu\text{g/g}$ " in the sample B.

Groups in the graph

Laboratory systems: + ... Eiken
+ ... Sentinel (Routine)
o ... Sentinel (Wide)

POCT systems: + ... Aidian (Orion)
o ... SD BIOSENSOR
x ... BodiTech



FOB1/26: Faecal Occult Blood**Long term success rate**

You can find the overview of the total success of the participants of this round over last 2 years in the following table. Particular ranges of success are defined in the column headers (percentage of the tests on which the participant reported the correct result). Next 2 lines contain both absolute and relative number of participants who reached the success from the header.

<i>Success</i>		<i>0 %</i>	<i>1 - 74 %</i>	<i>75 - 79 %</i>	<i>80 - 89 %</i>	<i>90 - 94 %</i>	<i>95 - 99 %</i>	<i>100 %</i>
Success in words		unsatisfactory		acceptable	good	very good	excellent	
Count	absolute	6	26	28	0	0	0	142
	relative	3 %	13 %	14 %	-	-	-	70 %

Note: You can find your individual success over last 2 years in your result sheet.

Most of the participants of this round show an overall success rate of 75 % or greater over the past 2 years. Almost one-fifth of the participants shows success rate below 75 % which is bad result. We recommend namely to these participants:

- Do not forget to recalculate results to the unit prescribed, **which is $\mu\text{g/g}$** .
- In case of “negative” result (i.e. the result out of the measurement range, below the LoQ) enter the result equal to the LoQ of your system (of course recalculated to the $\mu\text{g/g}$, e.g. for QuikRead go systems, where limit of quantification is 50 $\mu\text{g/L}$, it means to enter the result 10 $\mu\text{g/g}$). The instructions on how to report the results that are out of the measurement range you can find in the help of the web application Cibule.
- Carefully report both results and basic information about the test (especially the manufacturer of the kit).
- Strictly follow the instructions received from the manufacturer / supplier of your measuring system.

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Supplements

As a supplement to this report individual participant who reported the results gain:

<i>Name</i>	<i>Description</i>
Confirmation of attendance Result sheet	The conditions for issuing the relevant document specified in the EQA Plan must be met.
Summary overviews of quantitative results	These documents include a graphical overview of the results in the form of the complex statistics (this includes for each test a Youden plot or histograms, an overview of the P-score for 2 years history, an overview of the results with uncertainties and summary statistics in graphical form).

The supplements are identified by their name, EQA round identification and participant code and are intended for the needs of the participant.

If you reported the results in this round, you can find your individual evaluation (reports) in the **Cibule** application (<https://www.eqa.cz/cibule>). After login, select **EQA Results - View** in the menu and then click the **Reports** button for the particular round.

Additional information

The final report, with the exception of the supplements, is public. Further information is freely available to the participants and other professionals at www.sekk.cz, in particular:

- The summary of the results of this round, including this final report.
- The criteria (D_{\max}) for a quantitative results assessment.
- The document **EQA Plan** (contains information that applies both to this round and also the EQA in general).
- Explanation of the content of the particular supplements mentioned above.
- Contact to the EQA provider and the EQA coordinator and the list of all supervisors, including contacts.