FOB1/22: Faecal Occult Blood

This EQA round was accomplished according to the document ***EQA Plan 2022***.

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

Samples

We used liquid commercial samples in this round.

Supervisor's comment

There were 200 participants in this round, 3 of them from Slovakia and 6 from Slovenia.

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**.

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). Three participants declared the use of Roche instrument. The average CV was 7,3 %.

Sentinel (code R = 116): The users of this kit are using wide range of measuring systems (Abbott, Beckman Coulter, Roche, Siemens and other). Despite this fact the level of reproducibility in this group is good (average CV was 8,6 %). We asked the participants what type of the calibrator they used. We received these answers:

Not specified	-
FOB Gold Calibrator (Routine)	53
FOB Gold Calibrator Wide	1

One participant reported the use of the "Wide" calibrator and his results were significantly lower (approximately -60 %), and therefore we did not evaluate them.

Measurement results obtained from **the POCT systems**

The general instructions included a special section for each below mentioned POCT system with instructions for performing the measurements - the question is whether all participants actually followed these instructions.

We recommend all users of POCT systems to strictly follow the instructions given in the general instructions in the next EQA round, including the recalculation of results!

Aidian (Orion) (QuikRead, code R = 57): The results were more scattered than the results of the laboratory systems (average CV of both samples was 20 %), but they were assessable.

BodiTech (iChroma, code R = 200): Most participants reported 200 µg/g (measurement range limit) as the result of the sample A. The results of the sample B were very scattered (CV = 29 %) and thus **impossible to evaluate**.

SD BIOSENSOR (Standard F, code R = 124): The results were very scattered (the average CV of both samples was 26 %) and thus **impossible to evaluate**.

The position of the results of the above mentioned groups shows the plot on the right.

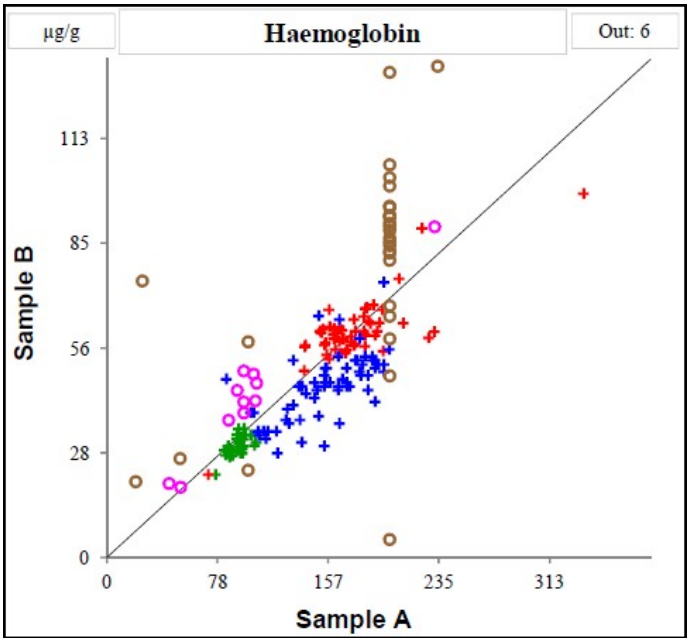
The graph demonstrates the following facts:

1. Very good reproducibility of the results in the Eiken and Sentinel groups.
2. 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).
3. There are 6 results out of the graph - these are mostly the results of the participants who did not convert the results to the unit µg/g or swapped samples.

Key to the graph

Laboratory systems: + ... Eiken
+ ... Sentinel

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



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Unit of the results

The results are expressed in **the unit µg/g (i.e. µg of haemoglobin per gram of faeces)** in the FOB scheme.
The unit **µg/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 µg/L to µg/g were included in the documentation of the round.

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 (0 % … no success; 50 % … success from 1 to 50 %; 75 % … success from 51 to 75 % etc.). Next 2 lines contain both absolute and relative number of participants that reached the success from the header**.**

	Success	***0 %***	***50 %***	***75 %***	***80 %***	***85 %***	***90 %***	***95 %***	***99 %***	***100 %***
Count	absolute	9	34	34	0	0	0	0	0	79
	relative	5,8 %	22 %	22 %	-	-	-	-	-	51 %
Note: You can find your individual success over last 2 years in your result sheet.										

Overall success of most participants of this round over last 2 years is 75 % or better.
But the portion of those who succeeded in 50 % or less tests is not negligible. Namely to these participants we recommend:

- Do not forget to recalculate results to the unit prescribed, **which is µg/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 µg/g, e.g. for QuikRead go systems, where limit of quantification is 75 µg/L, it means to enter the result 15 µg/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 participants receive:

Name of the supplement	***Remark***
Confirmation of attendance	Issued only to those participants who sent us the results.
Result sheet (quantitative results)	Issued only to those participants who sent us the results.
Complex statistics	Only for tests with quantitative results and two samples.

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

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.