

Round: FOB1/18 – Faecal Occult Blood

This EQA round was accomplished according to the document EQA plan 2018.

Contacts to the EQA provider and to the EQA coordinator should be found at www.sekk.cz in the section About us.

Note for participants from abroad

We are using comma as a decimal separator and dates in dd.mm.yyyy format.

Samples

We used liquid commercial samples in this round.

Assigned values (AV) and acceptable percent differences (D_{max})

The results of participants were evaluated in peer groups based on the manufacturer of the kit (code R) and assigned values were determined as robust means in these groups (i.e. consensus of participants). Only groups containing 5 or more participants are evaluated.

Acceptable percent difference (D_{max}) is usual: $D_{max} = 20\%$.

Supervisor's comment

There were 89 participants in this round (2 of them from Slovakia, 1 from Austria, and 1 from Italy).

Results of measurement obtained from the laboratory systems

Eiken (R = 208): This group profits from the fact that most members of this group are using homogeneous measuring systems (identical manufacturer of kit and equipment). Four participants declared the use of Roche instrument, and one declared Abbott. The average CV of both samples was 7,9 %.

Sentinel (R = 116): The users of this kits 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 very good (average CV of both samples was 8,5 %).

Results of measurement obtained from POCT systems

Orion (QuikRead, code R = 57): The reproducibility of the results in this group was worse compared to the 2 groups mentioned above (average CV of both samples was 26 %).

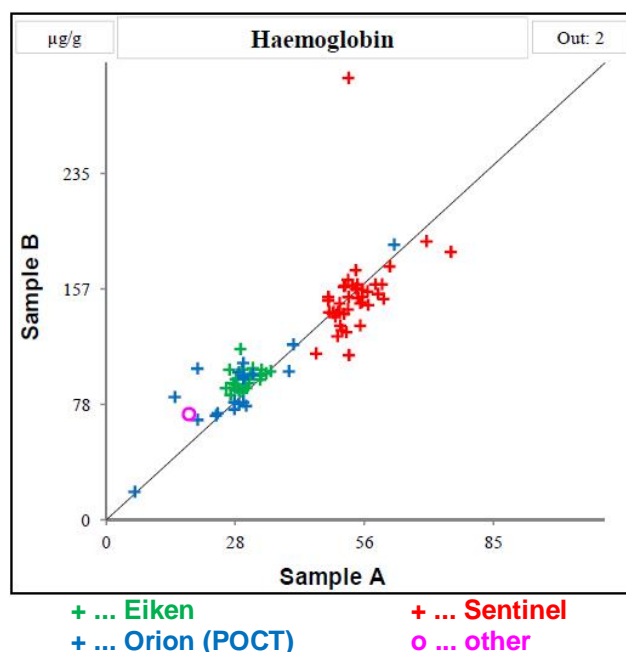
Eurolyser (R = 189): Only one participant used this system and but its results were quite remote - it seems that this participant did not convert its results to the unit $\mu\text{g/g}$.

In total we observed 2 participants in this round that made an error in the recalculation of the results to the unit $\mu\text{g/g}$ – we are sending individual comments to these participants.

The position of the results of the individual groups (based on the manufacturer of the kit) shows Youden plot that you can find on the right.

The graph shows a good reproducibility of the **Eiken** and **Sentinel** groups, but means of these groups differ. The difference (of means) of these two groups causes relatively unsatisfactory overall reproducibility (total CV of both samples is higher than 30 %).

The group **Orion** (POCT) shows a bit higher dispersion of the results. The graph shows that the results of most users of QuikRead are relatively good comparable to the results of Eiken group.



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The results of determination are expressed in the unit $\mu\text{g/g}$ (i.e. micrograms of hemoglobin per gram of feces) in this EQA programme.

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. Detailed 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 of the round.

Most participants reported results in the right unit! We found 2 participants in this round who apparently did not recalculate their results to the unit $\mu\text{g/g}$ - we are sending them individual comments.

Long term success rate

You can find in the following table the overview of the total success of the participants of this round over last 2 years. Individual 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.

<i>Success</i>		0 %	50 %	75 %	80 %	85 %	90 %	95 %	99 %	100 %
Number	absolute	7	14	16	0	0	0	0	0	50
	relative	8 %	16 %	18 %	-	-	-	-	-	57 %

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 fewer tests is not negligible. Namely to these participants we recommend:

- 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) type the result corresponding to the LoQ of your system (of course recalculated to the $\mu\text{g/g}$, e.g. for QuikRead 101 systems, where limit of quantification is 100 $\mu\text{g/L}$, it means to enter the result 20 $\mu\text{g/g}$ - these instructions you can find in the help of the web application Cibule).
- Carefully type both results and basic information concerning test (especially manufacturer of the kit).

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You can find the list of all supervisors including contacts at www.sekk.cz in the section EQA.

Final report excepting supplements is public (it is published as the part of the summary evaluation of the round at www.sekk.cz). Individual supplements are labelled with the code of the participant and are intended for private use of this participant.

Supplements

As a supplement of this report individual participants receive:

<i>Name of supplement</i>	<i>Remark</i>
Confirmation of attendance	Issued only to those participants that fulfilled the criteria.
Result sheet (quantitative results)	Issued only to those participants that reported quantitative results.
Complex statistics	Only for test with quantitative results and two samples.

Notes:

- Explanation of individual reports should be found at www.sekk.cz in the section EQA under the link Samples of reports.
- Summary evaluation of the results is available at www.sekk.cz.

The supplements are labelled with its name, code of the EQA round, and code of the participant.