

Evaluation of EQA material on Yumizen G 200 – coagulation analyser: UK NEQAS for Blood Coagulation study.



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Main finding: The study has shown that UK National External Quality Assessment Scheme for Blood Coagulation (NEQAS BC) external quality assessment (EQA) lyophilised plasma samples can be tested on Yumizen G200 device.

BACKGROUND

- Yumizen G200 is a two channel analyser for *in vitro* testing (Fig.1)
- Uses citrated plasma
- Performs coagulation screening tests, clotting factor assays, D – Dimer and Antithrombin

AIMS

To determine the suitability of UK NEQAS BC lyophilised plasma samples for use with Yumizen G200.

METHODS

- UK NEQAS BC samples previously used in the laboratory EQA programme were selected
- For each tested parameter (PT/INR, APTT, Fibrinogen, Thrombin Time and DDimer) 5 aliquots of each of three samples (low, normal, high) were tested on the Yumizen G200 using reagents provided by the manufacturer.
- Obtained results were compared to the test specific medians established previously in UK NEQAS BC EQA surveys.

RESULTS

For INR, PT APTT, Clauss fibrinogen, thrombin time and D – Dimer mean results obtained on Yumizen G 200 were comparable to the test specific median values of UK NEQAS BC EQA samples attaining a range of coefficient of variation (CV%) 1.3 – 7.8. For more detailed results refer to table 1.

CONCLUSION

The study has demonstrated the suitability of UK NEQAS BC EQA lyophilised plasma samples for testing on YumizenG200.



Fig 1. Yumizen G200

Tested parameters and type of samples used	Yumizen G200 mean (CV%)	UK NEQAS samples median
INR	1.6 (1.8)	1.34
INR	2.5 (3.6)	2.3
INR	5.6 (3.2)	5.27
PT (ratio) (FV deficient plasma)	1.5 (2.3)	1.29
PT (ratio) (FX deficient plasma)	1.6 (1.3)	1.57
PT (ratio) (FVII deficient plasma)	1.8 (2.4)	1.84
APTT (ratio) (NP)	1.11 (3.3)	0.98
APTT (ratio) (FXI deficient plasma)	1.48 (4.8)	1.25
APTT (ratio) (VWF type 3)	2.19 (1.5)	1.91
Clauss fibrinogen g/l	2.02 (5.5)	1.87
Clauss fibrinogen g/l	2.52 (5.6)	2.4
Clauss fibrinogen g/l	3.94 (7.2)	3.9
DDimer (ug/ml FEU)	0.68 (7.8)	0.63
DDimer (ug/ml FEU)	0.4 (2.8)	0.39
TT (ratio) (NP)	0.98 (1.2)	1.01
TT (ratio) (Dabigatran x 28ng/ml)	> 6.4	4.87
TT (ratio) (UFH x 0.15 u/ml)	1.41 (3.0)	1.45
APTT (ratio) (Lupus pos.)	1.34(4.0)	DRVVT 1.74
APTT (ratio) (Lupus pos.)	1.85 (2.7)	DRVVT 2.84

Table 1. Obtained results.

(NP =normal plasma, UFH= unfractionated heparin, TT = thrombin time, VWF type 3 = Von Willebrand factor type 3)

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