

# **HKIMLSQAP**

# **Viral Nucleic Acid Testing**

# **2013**

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# The programme

The test:

- Quantitative HBV DNA viral load assay
- Report result in unit (IU/mL)

Aim:

- to assess the proficiency of laboratories in performing quantification of Hepatitis B Virus DNA

# Administration

- In collaboration with the Virology Division of Public Health Laboratory Services Branch, CHP, Department of Health.
- 2013 is the first dispatch of this programme.
- Once dispatch per annum.
- HOKLAS Accreditation (Proficiency Testing Providers) pending.

# Panel sample

- 4 (2 pairs) plasma samples
- Shipped in dry ice-filled container
- No need for reconstitution
- Ready to test after thawing



# Scoring policy

According to **United Kingdom National External Quality Assessment Service (UKNEQAS)** for microbiology.

“For **quantitative molecular** schemes, due to the variability of quantitative results in terms of absolute values between the assays, proficiency is assessed by comparing performance in terms of the reported difference in concentration between specimen pairs. This strategy is comparable to routine clinical practice where laboratories monitor the effectiveness of patient treatment therapy over time. Currently performance is considered adequate if laboratories report to within  $0.3 \log_{10}$  of the median difference in concentration between the specimen pair for HCV, HIV and HBV.”

# Overall results of the 2013 dispatch

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- Ten laboratories participated
- Eight laboratories scored full marks (4 out of 4)
- Two laboratories scored 2 out of 4.

# Source of error

Table 1: Reported and intended results of 2013 dispatch

Specimen Pair	Reported results		Intended result
	Range of reported differences in conc. between pair (log IU/mL)	Median of differences in conc. between pair (log IU/mL)	Intended range: Median $\pm$ 0.3 log IU/mL
2013VNAT01 / 2013VNAT02	0.72 – 1.16	1.01	0.71 – 1.31
2013VNAT03 / 2013VNAT04	1.64 – 2.53	2.16	1.86 – 2.46

Table 2: Reported results of individual specimens

Specimen	Overall reported results	
	Median of reported results (log IU/mL)	Range of reported results (log IU/mL)
2013VNAT01	6.54	4.48 – 6.73
2013VNAT02	5.54	3.76 – 5.74
2013VNAT03	6.18	4.38 – 6.46
2013VNAT04	4.08	1.85 – 4.48

# Other comment

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Current scoring policy emphasizes on the log difference between paired specimens. However, absolute value of HBV DNA viral load is equally important.

Absolute values of samples are provided in the report for reference.



# Problem solving

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Since all participants are using commercial assay kits, the best way to improve is to approach your assay kit supplier.

Especially, when your assay kit do not come with an evaluated DNA extraction kit.

# Acknowledgements

- Colleagues of HKIMLSQAP
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**Questions ?**