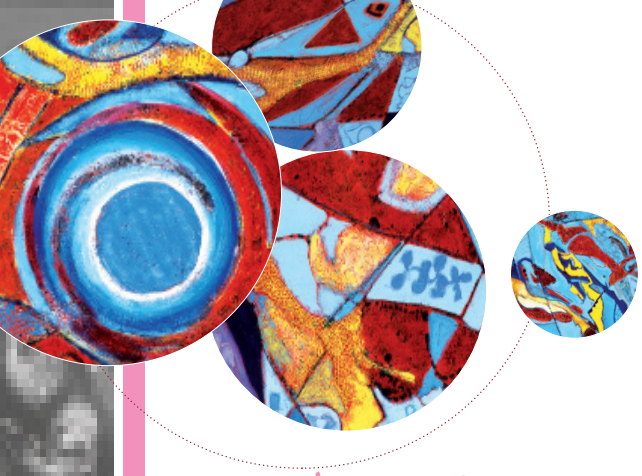

ARGENE

QCMD proficiency panels 2013

Adenovirus

Panel composition

This EQA panel for the detection of Adenoviruses consisted of 9 samples containing various concentrations of Human Adenovirus serotypes: 4 samples containing HAdV serotype 1, 2 samples containing HAdV serotype 5, 2 samples containing HAdV serotype 4, 1 sample containing HAdV serotype 14 and 1 negative sample.

Material and methods

The QCMD panel was prepared using NucliSENS® easyMAG® (bioMérieux) for sample extraction with the Specific B protocol (200/50).
Subsequently, the samples were analysed by real-time PCR using **AdV/hBoV r-gene®** (bioMérieux - ref.: 71-043) on ABI 7500 Fast (Applied Biosystems).

Results and discussion

	QCMD Results				AdV/hBoV r-gene® Results	
Panel code	Sample Content	Sample Type*	Copies/mL	Log_{10} Copies/mL	Ct AdV (530 nm)	Ct hBoV (560 nm)
ADV13-01	AdV serotype 14	Core	392,645	5.59	25.33	Negative
ADV13-02	AdV serotype 5	Educational	206	2.31	36.73	Negative
ADV13-03	AdV serotype 1	Core	11,776	4.07	31.12	Negative
ADV13-04	Negative	Core	Negative	NA	Negative	Negative
ADV13-05	AdV serotype 1	Core	3,334	3.52	32.72	Negative
ADV13-06	AdV serotype 4	Core	2,339	3.37	32.79	Negative
ADV13-07	AdV serotype 1	Core	3,221	3.51	33.08	Negative
ADV13-08	AdV serotype 5	Core	1,660	3.22	33.73	Negative
ADV13-09	AdV serotype 4	Core	22,182	4.35	29.54	Negative
ADV13-10	AdV serotype 1	Core	3,192	3.50	33.21	Negative

*«*The QCMD EQA panels contain a range of samples, designed to look at different aspects of assay performance. Panel members are designated 'core proficiency samples' on the basis of scientific information, clinical relevance and clinical experience (...). Laboratories are expected to correctly analyse and report the core proficiency samples in order to show acceptable proficiency.» QCMD 2013 general announcement*
Consequently, the educational samples are considered as challenging due to very low concentrations. They are clearly detection limits.

- **100% (8/8) "Core" Adenovirus-positive samples from Panel ADV 2013 are detected with AdV/hBoV r-gene® assay.**
- **The "Core" negative sample is undetected as expected with AdV/hBoV r-gene®.**
- **The "Educational" sample ADV13-02 (i.e. challenging sample) which is a very low viral load sample at 206 copies/mL, is also detected.**
- **The 4 Adenovirus serotypes included in this panel, AdV 1, 4, 5 and 14 are correctly detected.**
- **These results show the good sensitivity and specificity of AdV/hBoV r-gene® assay - ref.: 71-043.**

Sensitivity of ADV/HBOV r-gene®

Analytical sensitivity of the **AdV/hBoV r-gene®** assay (bioMérieux) has been evaluated through a limit dilution method with cell cultures positive for Adenovirus Type 5. The results indicate a :

- 95% probability of detecting Adenovirus Type 3 in a nasopharyngeal sample containing 800 copies / mL
- 5% probability of detecting Adenovirus Type 3 in a nasopharyngeal sample 5 copies / mL
- 95% probability of detecting Bocavirus Type 1 in a nasopharyngeal sample 900 copies / mL
- 5% probability of detecting Bocavirus Type 1 in a nasopharyngeal sample 10 copies / mL

"The data presented in this document illustrates the performance of the AdV/hBoV r-gene® assay when testing the ADENOVIRUS DNA EQA 2013 QCMD panel. The results are not representative of the QCMD EQA program report and full details on the QCMD EQA program can be obtained from the QCMD website (www.qcmd.org)".

BIOMÉRIEUX

AdV/hBoV r-gene®