

Parechovirus

Panel composition

This EQA panel for the detection of Parechovirus consisted of 08 samples containing various concentrations of Parechovirus, 1 sample positive for Enterovirus and 1 negative sample (VTM).

Material and methods

The QCMD panel was prepared using NucliSENS® easyMAG® (bioMérieux) for sample extraction with Specific B protocol (200/50).

Subsequently, the samples were analysed by real-time PCR using **Parechovirus r-gene®** (bioMérieux - ref.: 71-020) on Dx Real Time System (Bio-Rad).

Results and discussion

Panel code	QCMD Results			Parechovirus r-gene® Results
	Sample Content	Sample Type*	Dilution Factor	Ct (530 nm)
PeVRNA 2013-01	Parechovirus 3	Educational	1.0 x 10 ⁻⁷	Negative
PeVRNA 2013-02	Parechovirus 3	Core	1.0 x 10 ⁻⁴	36.18
PeVRNA 2013-03	Parechovirus 5	Core	1.0 x 10 ⁻⁴	33.48
PeVRNA 2013-04	Parechovirus 1	Core	1.0 x 10 ⁻⁵	34.37
PeVRNA 2013-05	Negative (VTM)	Core	-	Negative
PeVRNA 2013-06	Coxsackievirus A21	Core	1.0 x 10 ⁻³	Negative
PeVRNA 2013-07	Parechovirus 1	Educational	1.0 x 10 ⁻⁶	37.77
PeVRNA 2013-08	Parechovirus 1	Core	1.0 x 10 ⁻⁴	36.20
PeVRNA 2013-09	Parechovirus 3	Educational	1.0 x 10 ⁻⁶	Negative
PeVRNA 2013-10	Parechovirus 2	Core	1.0 x 10 ⁻⁵	35.96

* «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.

- The 5 “Core” Parechovirus-positive samples of Panel Parechovirus RNA 2013 are detected with Parechovirus r-gene®.
- The 2 “Core” negative samples, including a Coxsackievirus A21-positive sample, are undetected as expected with Parechovirus r-gene®.
- 1/3 “Educational” samples (i.e. challenging samples) are detected with Parechovirus r-gene®. The two missed educational samples correspond to very low positive samples (dilution factor of 10⁻⁶ and 10⁻⁷), infrequently detected.
- The results show the good sensitivity and specificity of the Parechovirus r-gene®- ref.: 71-020