

Varicella-Zoster Virus

Panel composition

This EQA panel for the detection of Varicella-Zoster Virus (VZV) consisted of 8 samples containing various concentrations and strains of VZV, 1 sample of HSV1 and 1 negative sample.

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 the VZV-specific premix of **HSV1 HSV2 VZV R-gene®** (bioMérieux - ref.: 69-004B) on Dx Real Time System (Bio-Rad).

Results and discussion

Panel code	Sample Content	QCMD Results			HSV1 HSV2 VZV R-gene® Results	
		Sample Type*	Copies/mL	Log ₁₀ Copies/mL	Log ₁₀ Copies/mL	Delta Log ₁₀ Copies/mL
VZVDNA 13-01	VZV (Ellen)	Core	2,249	3.35	3.61	0.26
VZVDNA 13-02	VZV (9/84)	Educational	61	1.79	1.69	-0.1
VZVDNA 13-03	HSV-1	Core	Negative	Negative	Negative	NA
VZVDNA 13-04	VZV (OKA)	Core	25,586	4.41	4.52	0.11
VZVDNA 13-05	VZV (63/1444)	Core	2,576	3.41	3.47	0.06
VZVDNA 13-06	VZV (OKA)	Core	1,140	3.06	3.34	0.28
VZVDNA 13-07	VZV (9/84)	Core	783	2.89	2.84	-0.05
VZVDNA 13-08	VZV (63/1444)	Educational	226	2.35	2.34	-0.01
VZVDNA 13-09	VZV Negative	Core	Negative	Negative	Negative	NA
VZVDNA 13-10	VZV (Ellen)	Educational	118	2.07	2.09	0.02

* «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” positive VZV samples of VZV 2013 Panel are detected with HSV1 HSV2 VZV R-gene®.
- The 2 “Core” negative samples, including one HSV1 positive sample, are undetected as expected using the VZV premix of HSV1 HSV2 VZV R-gene® kit.
- The 3 “Educational” samples (i.e. challenging samples), containing viral loads from 61 to 226 copies/mL are detected.
- In term of quantification, the maximum delta Log₁₀(Copies/mL) observed between QCMD and Argene quantification is 0.28, demonstrating the good homogeneity between both methods.
- The results show the good sensitivity and specificity of the HSV1 HSV2 VZV R-gene® (ref.: 69-004B).