

Total HIV-1 DNA Quantitation Assay

Research Use Only

About the Assay

The Ultrabio Total HIV-1 DNA Quantitation Assay is a real-time PCR assay for the detection and quantitation of HIV-1 DNA in genomic DNA isolated from whole blood, PBMCs, DBS, tissues, CD4 and other cells. The assay includes a combination of primers and probes spanning a highly conserved HIV region to detect and quantify a broad range of HIV-1 Group M subtypes and CRFs, and Group N. The assay is designed to simultaneously quantify HIV-1 DNA and cell number in the same reaction with the result to be expressed as HIV-1 DNA copies/ 10^6 cells.

The Total HIV-1 DNA Quantitation assay provides accurate, sensitive, reliable and precise quantitation of low copies of HIV-1 DNA in the presence of potentially interfering high genomic DNA levels. The assay is easy to use and contains the extraction/PCR controls and the calibrators.

The HIV-1 DNA quantification provided by this assay has the potential to improve the understanding of the HIV-1 reservoir, from a research perspective. This test may not be validated and used as a laboratory developed test.

Quantification and Detection of HIV-1 DNA in VQA U1 cells/million PBMCs

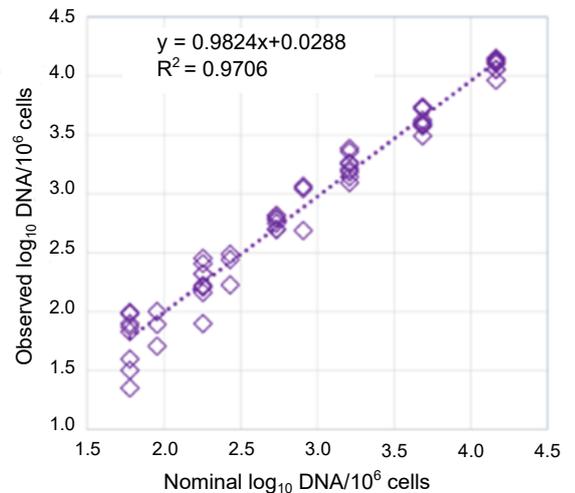


Figure 1: The strong correlation between the observed HIV-1 DNA copies/ 10^6 cells quantified using the Total HIV-1 DNA Quantitation Assay and the nominal numbers of the VQA U1 panel shows high accuracy of the assay.

Technical Information*

Sensitivity	LoD: 4 HIV-1 DNA copies/PCR reaction, or 16 HIV-1 DNA copies/ 10^6 cells
Linear Range	$10 \sim 10^6$ HIV-1 DNA copies/PCR reaction, or $40 \sim 10^6$ HIV-1 DNA copies/ 10^6 cells
Precision	CV (calculated from copy number) for 10 and 10^5 HIV-1 DNA copies/ 2.5×10^5 cells/PCR reaction is 37% and 14% respectively
Accuracy	Highly correlated ($R^2 = 0.97$; slope = 0.98; intercept = 0.03) with VQA U1 panel (Figure 1)
HIV-1 Subtype Detection	Group M subtypes and CRFs**, Group N
Sample Type	Genomic DNA extracted from whole blood, PBMCs, DBS, tissues, CD4 and other cells
Input Volume	Up to 20 μ l ($\sim 3 \mu$ g) extracted genomic DNA/PCR (50 μ L PCR reaction)

* Claims of the technical ability are for the reference and should not be considered as claims of diagnostic capability.

** The assay was optimized using the ABI Quantstudio qPCR instrument. Compatible with various qPCR instrument.

** HIV-1 subtype detection was assessed by testing the EQAPOL Viral Diversity panel. As a result of this study, all 47 strains of HIV-1 group M with different subtypes and CRFs were detected and quantified.

For more information on procuring our kit or for information regarding research collaboration, visit our website at www.ultrabiotكنولوجies.com.

You can also contact us by sending an email at info@ultrabiotكنولوجies.com or calling 1-206-588-9363.