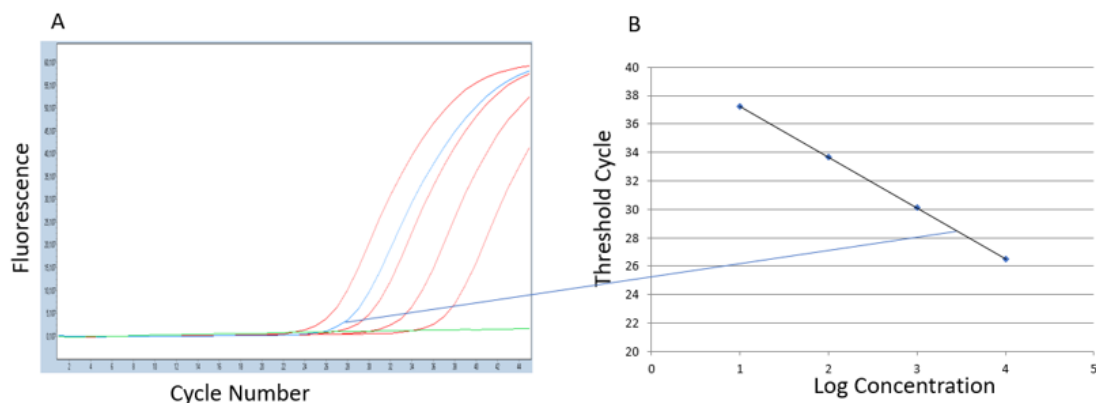


Quantitative evaluation with *ampliCube* HEV 2.0 Quant: Calculation of viral load

Standard curve

The standard curve is formed by measuring the three standards and the positive control (standard 2) and recording them with their correspondingly defined concentrations in the device-specific software of the real-time cycler. With the help of the standard curve, the concentrations of positive patient samples can be calculated in IU/ μ l extract.



A Amplification curve of standards with concentrations of 10^1 , 10^2 , 10^3 and 10^4 IU/ μ l (red), a positive HEV sample (blue) and a negative HEV sample (green)

B Respective conversion into the standard curve and sample analysis

Calculation of the pathogen concentration in the sample material (IU/ml)

For the final calculation of the pathogen concentration in the sample material (IU/ml sample), the volume of the tested purified material and the factor for the concentration (dependent of the elution volume) must be taken into account.

The viral load is calculated using the following formula:

$$\text{Viral load (Sample) [IU/ml]} = \frac{\text{Volume (Eluate) } [\mu\text{l}] \cdot \text{Viral load (Eluate) [IU/\mu l]}}{\text{Volume (Sample) [ml]}}$$

Example:

Volume (Sample)* = 400 μ l sample volume, used for extraction

Volume (Eluate)* = 50 μ l elution volume from extraction

Viral load (Eluate)** = 1000 IU/ μ l, calculated via standard curve

$$\text{Viral load (Sample) [IU/ml]} = \frac{50 \mu\text{l} \cdot 1000 \text{ IU}/\mu\text{l}}{0.400 \text{ ml}} = 125\,000 \text{ IU/ml}$$

* values in accordance with the recommendations for the extraction (see IFU)

** example