

Supplementary Material

1. The sensitivity of microfluidic real-time PCR system

Analytical sensitivity refers to the minimum concentration of DNA template in a sample that can be measured accurately with an assay. Typically, sensitivity is expressed as the limit of detection (LOD). In order to determine the LOD of our microfluidic real-time PCR system, artificial plasmid pUC-18 was tested in different concentration. The LOD is 0.005 pg/uL as shown in Figure S1.

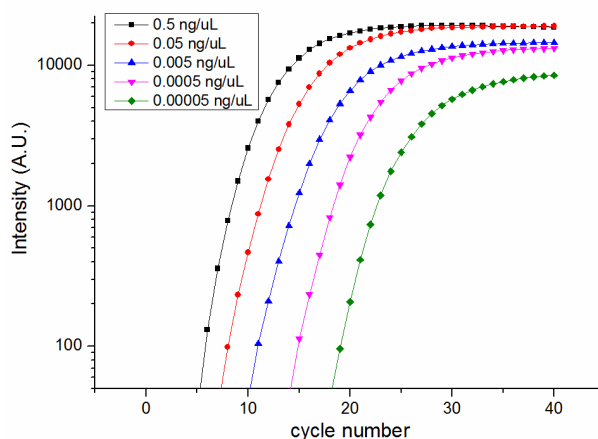


Figure S1. Amplification curve of PCR. The LOD is 0.005 pg/uL.

2. The PCR amplification efficiency of microfluidic real-time PCR system.

PCR amplification efficiency should be established by means of calibration curves, because such calibration provides a simple, rapid, and reproducible indication of the mean PCR efficiency. The calibration curve was shown as Figure S2. The slope of the calibration curve is -3.389, so the PCR amplification efficiency $E = 10^{-1/\text{slope}} - 1 = 0.973$ and R^2 is 0.984. This results means the performance of our microfluidic real-time PCR system is reliable.

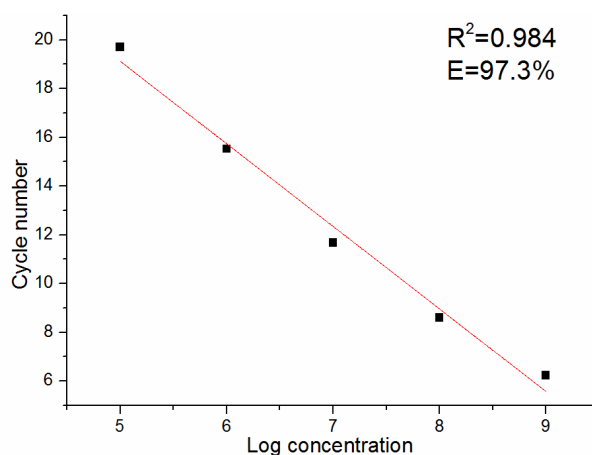


Figure S2. Calibration curve of PCR.
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