Supplementary Material (ESI) for Lab on a Chip
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Table 1. The statistical analysis result of the digital LAMP

X_{dil}	Observed value			Average value	STDEV	Expected value	Average value of $-\ln(1-f_0)$	STDEV
	1	2	3					
0.00001	525	492	468	495	28.6	511	0.53	0.041
0.000005	270	282	219	257	33.5	291	0.24	0.035
0.000001	64	89	72	75	12.8	65	0.06	0.011
0.0000001	16	12	8	12	4	7	0.01	0.003

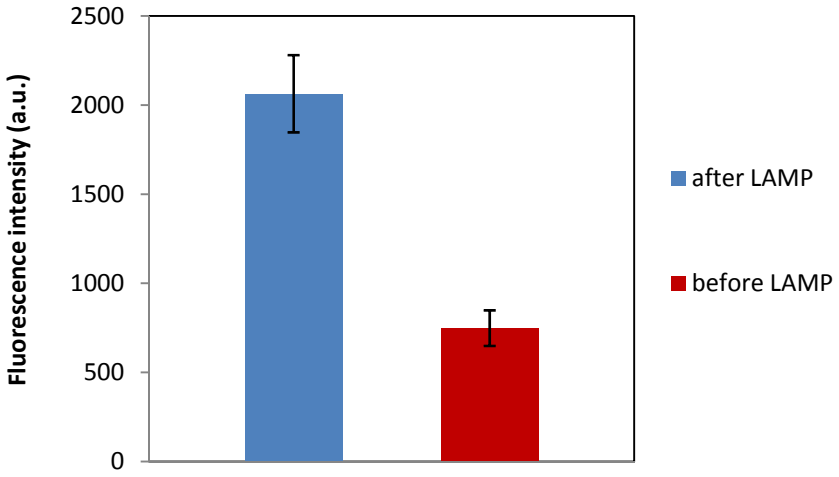

Figure S1. Comparison results of fluorescent intensity before and after LAMP. The average fluorescent intensity before LAMP was 748±100, and the average fluorescent intensity after LAMP was 2064±216; a threshold value (the fluorescent intensity equals to 1500) was used to discriminate against background.

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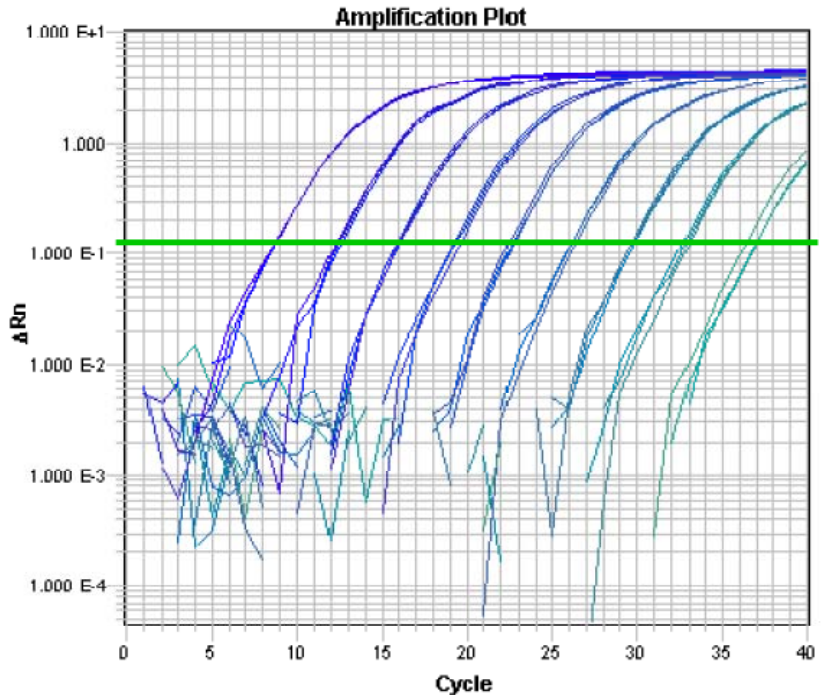

Figure S2. The real-time PCR amplification plots of the pMD 18-T-HA β–actin DNA. A ten-fold serial dilution of β–actin DNA ranging from 10^8 to 10^0 copies per μL were prepared to perform the real-time PCR. Each concentration was repeated three times and the amplification was displayed from left to right.

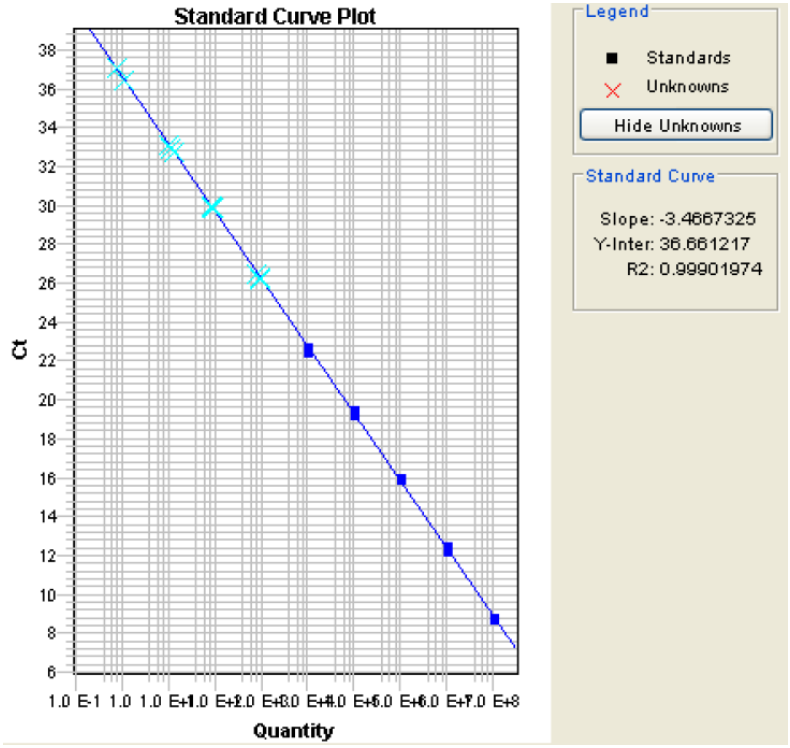

Figure S3. The calculation of the DNA template concentration (copies per μL). The real-time PCR measurements were carried out using an ideally prepared standard curve (R^2=0.999). For the lowest four dilutions measured, we determined the DNA template concentration (copies per μL) by the regressive equation. A stock solution of $c_0 = (1.09 \pm 0.18) \times 10^8$ copies per μL was obtained.