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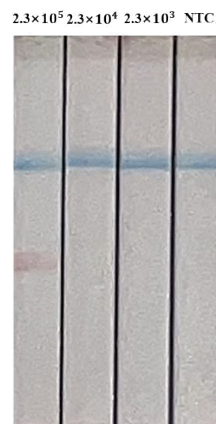


**Figure S1** The sensitivity of RPA-LFS at a concentration of 0.12nM

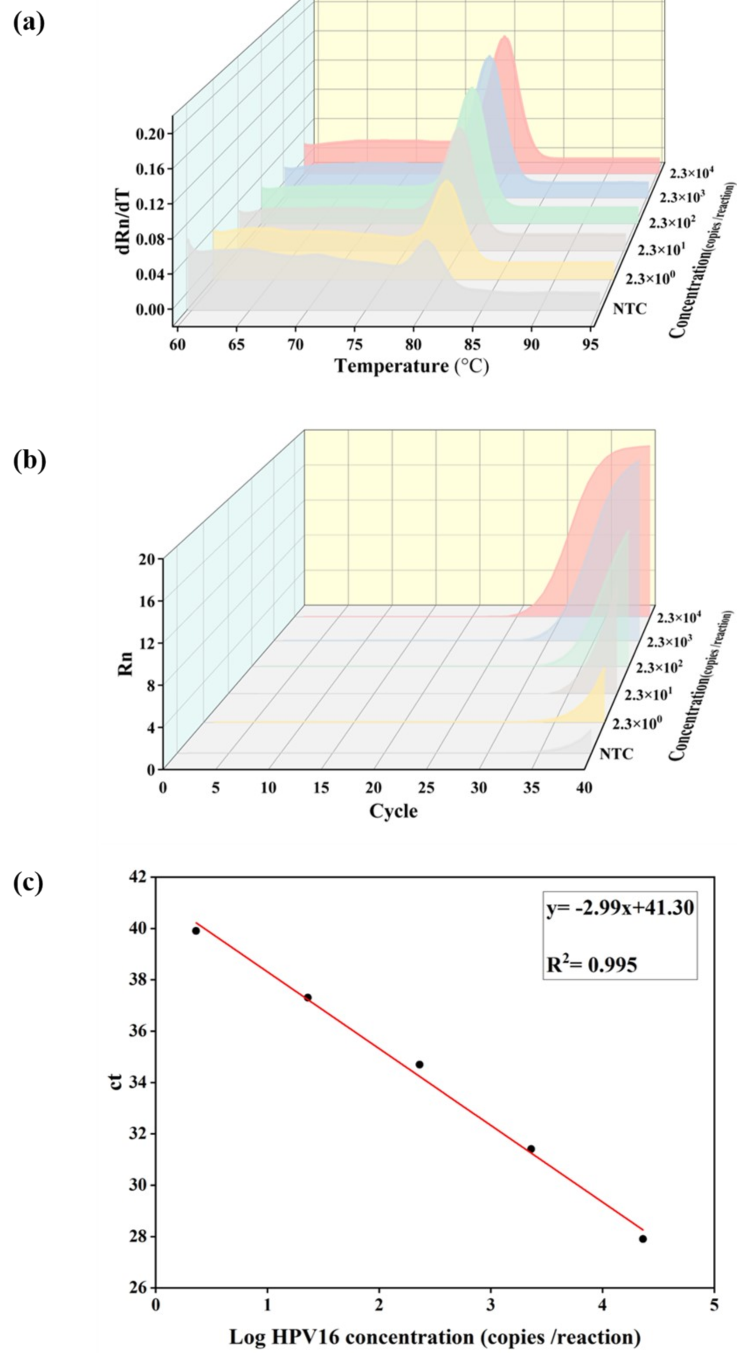


**Figure S2** Sensitivity of qPCR. (a) The amplification curve of qPCR for different amounts. (b) The melting curve of qPCR for different amounts. (c) The standard curve of qPCR.

**Table S1** Misalignments of RPA primer sequences

| Name | Primer Sequences (5’→3’) |
|---|---|
| L1-4F-3 | TCCTACACCTAGTGGTTCTATGGTTACCTCTG |
| L1-4F-2 | CCTACACCTAGTGGTTCTATGGTTACCTCTGA |
| L1-4F-1 | CTACACCTAGTGGTTCTATGGTTACCTCTGAT |
| L1-4+1 | ACACCTAGTGGTTCTATGGTTACCTCTGATGC |
| L1-4+2 | CACCTAGTGGTTCTATGGTTACCTCTGATGCC |
| L1-4+3 | ACCTAGTGGTTCTATGGTTACCTCTGATGCCC |
| L1-4R-3 | ACAAACCTATAAGTATCTTCTAGTGTGCCTCC |
| L1-4R-2 | CAAACCTATAAGTATCTTCTAGTGTGCCTCCT |
| L1-4R-1 | AAACCTATAAGTATCTTCTAGTGTGCCTCCTG |
| L1-4R+1 | ACCTATAAGTATCTTCTAGTGTGCCTCCTGGG |
| L1-4R+2 | CCTATAAGTATCTTCTAGTGTGCCTCCTGGGG |
| L1-4R+3 | CTATAAGTATCTTCTAGTGTGCCTCCTGGGGG |

**Table S2** qPCR procedure, primer sequences

<table>
<tr><td>Step</td><td>Temperature</td><td>Time</td><td>Data Collection</td><td>Cycle</td></tr>
<tr><td>Pre-denaturation</td><td>95</td><td>5 min</td><td>None</td><td>1</td></tr>
<tr><td rowspan="2">Amplification</td><td>95</td><td>20 sec</td><td>None</td><td rowspan="2">40</td></tr>
<tr><td>57</td><td>40 sec</td><td>Yes</td></tr>
<tr><td rowspan="2">Melt Curve</td><td>60</td><td rowspan="2">0.2°C /sec</td><td rowspan="2">Yes</td><td rowspan="2"></td></tr>
<tr><td>95</td></tr>
<tr><td>Name</td><td colspan="4">Sequence (5’ →3’)</td></tr>
<tr><td>Forward Primer</td><td colspan="4">CTACACCTAGTGGTTCTATGGTTACCTCTGAT</td></tr>
<tr><td>Reverse Primer</td><td colspan="4">AAACCTATAAGTATCTTCTAGTGTGCCTCCTG</td></tr>
</table>

PCR reactions included 1 μl (10 μM) of forward primer, 1 μl (10 μM) of reverse primer, 25 μl of 2×TransStart® FastPfu PCR SuperMix, 1 μl of template,0.5 μl of SYBR dye (100×) and 21.5 μl of water.