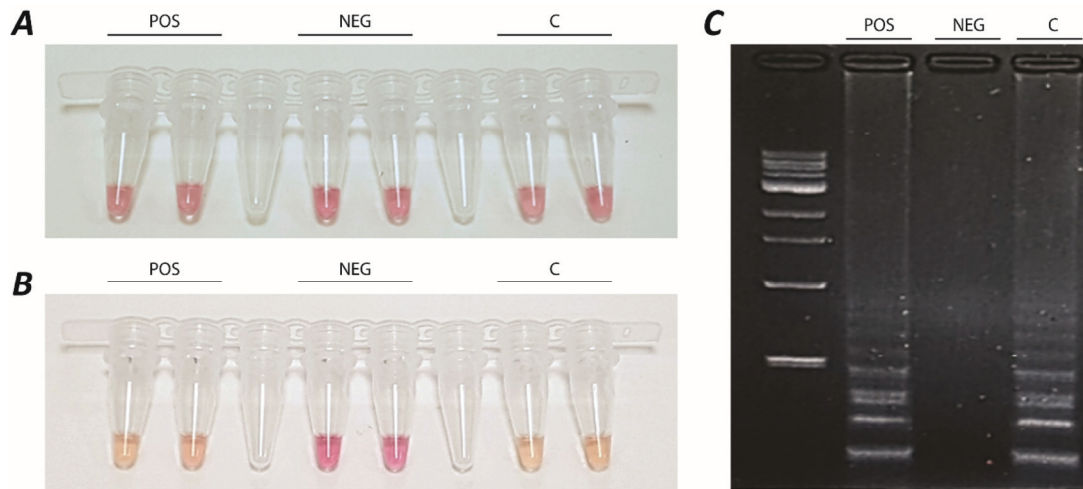
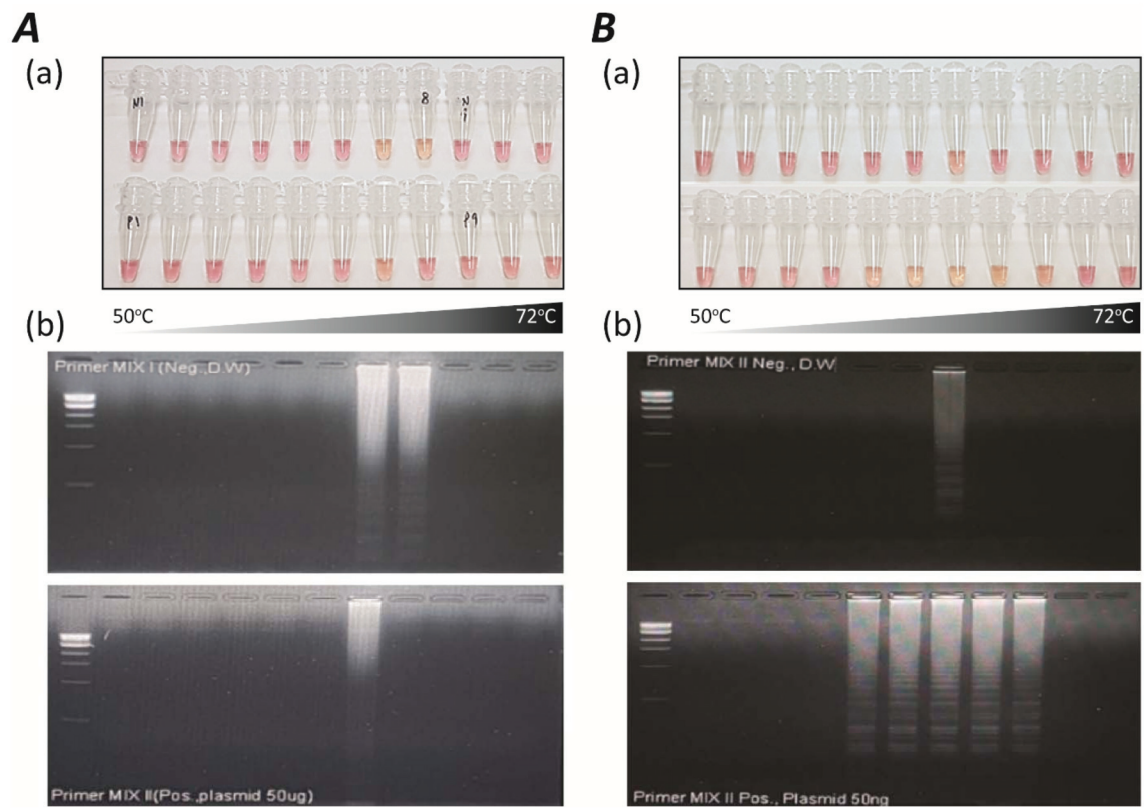


**Supplementary Table 1.** The target sequences for amplification.

Target gene	Sequence	Length (bp)
ORF1b	TACAAGCAGAAAATGTAAGTGGACTTTTTAAGGACTGTAGTAAGATCATTACTGGTCTTC ATCCTACACAGGCACCTACACACCTCAGCGTTGATATAAAGTTCAAGACTGAAGGATTAT GTGTTGACATACCAGGCATACCAAAGGACATGACCTACCGTAGACTCATCTCTATGATGG GTTTCAAAATGAATTACCAAGTCAATGGTTACCCTAATATGTTTATCACCCGGAAGAAG CTATTTCGTCACGTTTCGTGCGTGGATTGGCTTTGATGTAGAGGGCTGTCATGCAACTAGAG ATGCTGTGGGTAACCTACTCTCCAGCTAGGATTTCTACAGGTGTTAACTTAGTAG CTGTACCGACTGGTTATGTTGACTGAAAATAACACAGAATTCACCAGAGTTAATGCAA AACCTCCACCAGGTGACCAGTTAAACATCTTATACCAC	459
N	ATGTCTGATAATGGACCCCAATCAAACCAACGTAGTGCCCCCGCATTACATTTGGTGGGA CCCACAGATTTCAACTGACAATAACCAGAATGGAGGACGCAATGGGGCAAGGCCAAAACAG CGCCGACCCCAAGGTTTACCAATAATACTGCGTCTTGGTTCACAGCTCTCACTCAGCAT GGCAAGGAGGAACTTAGATTCCCTCGAGGCCAGGGCGTTCCAATCAACACCAATAGTGGT CCAGATGACCAAATTGGCTACTACCGAAGAGCTACCCGACGAGTTCGTGGTGGTGACGGC AAAATGAAAGAGCTCAGCCCCAGATGGTACTTCTATTACCTAGGAACTGGCCAGAAGCT TCACTTCCCTACGGCGCTAACAAAAGAAGGCATCGTATGGGTTGCAACTGAGGGAGCCTTG AATACACCCAAAGACCACATTGGCACCCGAATCCTAATAACAATGCTGCCACCGTGCTA CAACTTCTCAAGGAACAACATTGCCAAAAGGCTTCTACGCAGAGGGAAGCAGAGGGCGGC AGTCAAGCCTCTTCTCGTCTCTATCAGTAGTCGCGTAATTCAAGAAATTCAACTCT	600



**Supplementary Figure 1S.** Color change in LAMP Assay. Primer set II (six primers) for N genes was used for amplification. A, Before amplification; B, After amplification. An orange color indicates a positive and a neutral pink color indicates a negative reaction. C, Gel electrophoresis of LAMP products (POS: positive; NEG: negative; C: control).



**Supplementary Figure 2S.** LAMP primer set optimization with two LAMP primer set. A, four primers (F3, B3, FIP, BIP); and B, six primers (added Loop F and Loop B primers to A primer set). Detection of LAMP products by (a) naked eye with color change and (b) agarose gel electrophoresis (Top: negative control (non-template control, NTC); Bottom: positive control with 50 ng of genomic DNA). An orange color indicates a positive and a neutral pink color indicates a negative reaction. (b) Agarose electrophoresis results of LAMP assay (temperature gradient from 50°C (lane 2) to 72°C (lane 12), 1kb DNA ladder; lane 1). Optimal temperature was determined to be 65°C for both targets.