Supplementary Document

Evaluation and comparison of Recombinase polymerase amplification coupled with lateral-flow bioassay for *Escherichia coli* O157: H7 detection using different genes

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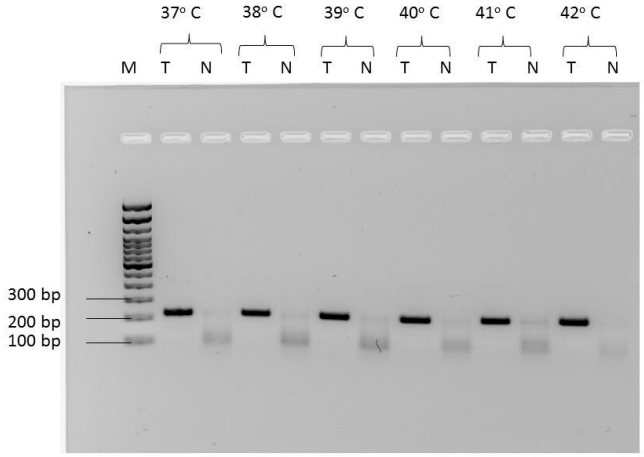

Figure S1: Temperature optimization of rfbE F1/R1 primer set by RPA-EF assay. Lane 1: Molecular marker 100 bp; from left to right, lane 2,4,6,8,10 and 12 have RPA of *E. coli* O157:H7 template (**T**) at 37° C, 38° C, 39° C, 40° C, 41° C and 42° C respectively. Lane 3, 5, 7, 9, 11 and 13 have non-template control (**NTC**) at 37° C, 38° C, 39° C, 40° C, 41° C and 42° C respectively. M= Molecular marker, T= template, N= non-template control.

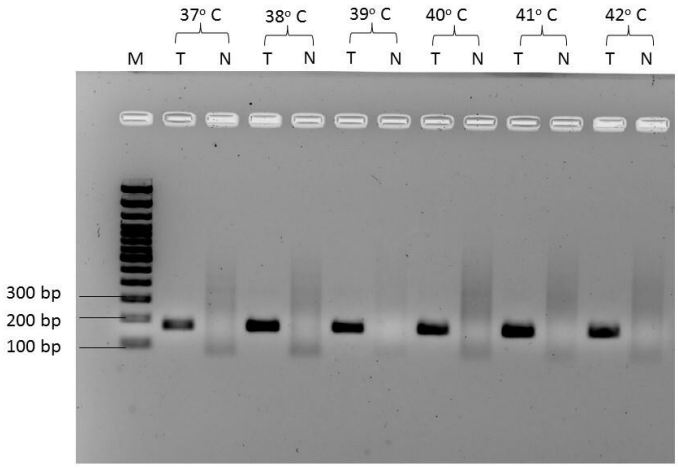

Figure S2: Temperature optimization of fliC F1/R1 primer set by RPA-EF assay. Lane 1: Molecular marker 100 bp; from left to right, lane 2, 4, 6, 8, 10 and 12 have RPA of *E. coli* O157:H7 template (**T**) at 37° C, 38° C, 39° C, 40° C, 41° C, 42° C respectively. Lane 3, 5, 7, 9, 11 and 13 have non-template control (**NTC**) at 37° C, 38° C, 39° C, 40° C, 41° C, 42° C respectively. M= Molecular marker, T= template, N= non-template control.

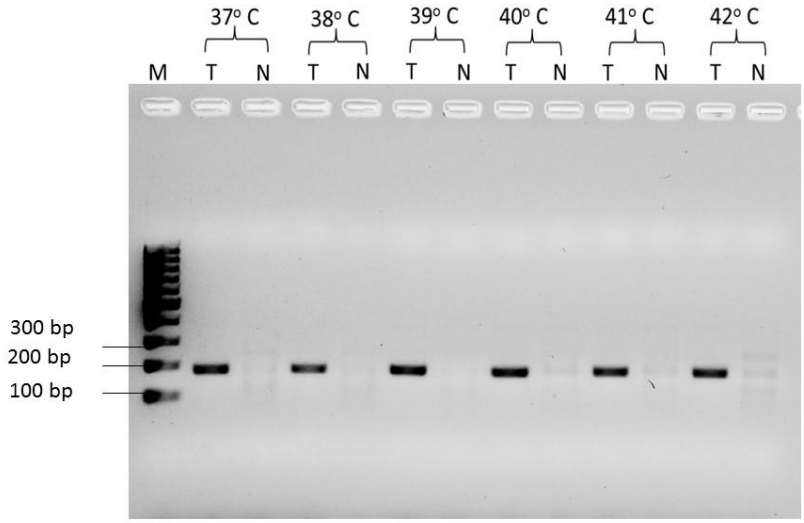

Figure S3: Temperature optimization of stx2 F1/R1 primer set by RPA-EF assay. Lane 1: Molecular marker 100 bp; from left to right, lane 2, 4, 6, 8, 10 and 12 have RPA of *E. coli* O157:H7 template (**T**) at 37° C, 38° C, 39° C, 40° C, 41° C and 42° C respectively. Lane 3, 5, 7, 9, 11 and 13 have non-template control (**NTC**) at 37° C, 38° C, 39° C, 40° C, 41° C and 42° C respectively. M= Molecular marker, T= template, N= non-template control.

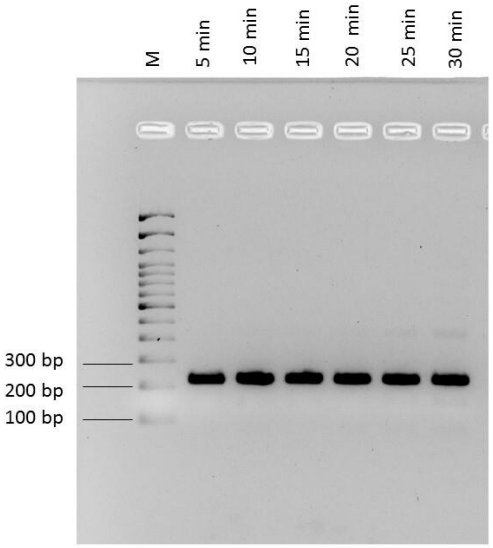

Figure S4: Optimization of reaction time for primer set rfbE F1/R1 with RPA-EF assay. Lane M: Molecular marker 100 bp, lane 2-7: different time incubation from 5 minutes to 30 minutes by using the same amount of template (2 ng).

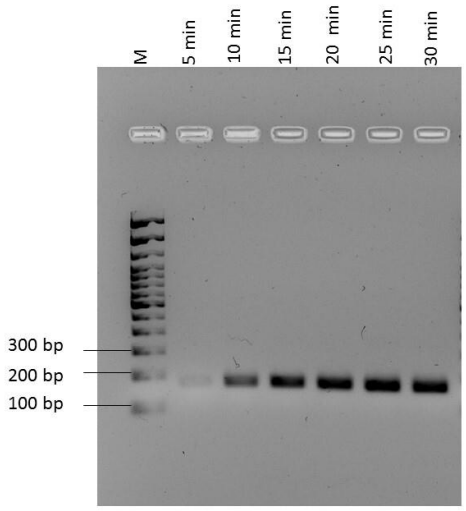

Figure S5: Optimization of reaction time for primer set fliC F2/R2 with RPA-EF assay. Lane M: Molecular marker 100 bp, lane 2-7: different time incubation from 5 minutes to 30 minutes by using the same amount of template (2 ng).

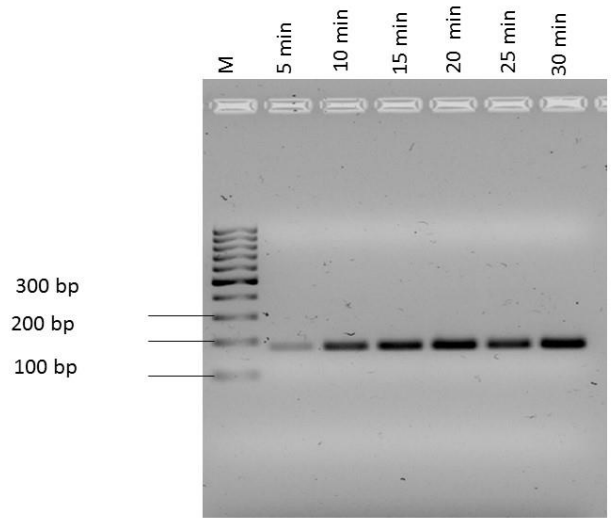

Figure S6: Optimization of reaction time for primer set stx2 F1/R1 with RPA-EF assay. Lane M: Molecular marker 100 bp, lane 2-7: different time incubation from 5 minutes to 30 minutes by using the same amount of template (2 ng).