Supporting Information

Label-Free Sequence-Specific Visualization of LAMP Amplified *Salmonella* via DNA Machine Produces G-Quadruplex DNAzyme

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1. Supplementary Tables and Figures

1.1. Supplementary Tables

Table S1. Sequences employed in this work.

Oligonucleo-tides [a]	Sequence (5'-3') [b,c,d]
FIP	TCCCGGCAGAGTTCCCATTGAAATCATGAC-GCAGCTGTTGAA
BIP	TTCCCGCTGCCGGTATTTGTTGCTACGTTTTGCTTCAC-GGA
F3	GCGATAATATGGGGCGGAAT
B3	CGCCTTTGCTGGTTTTAGGT
LF	TATTCGGTGGTTTTAAGCGTACTC
LB	GCCGTAACAACCAATACAAATGG
Nick-FIP	TCCCGGCAGAGTTCCCATTGAA<u>GAGTC</u>ATCATGAC-GCAGCTGTTGAA
Nick-BIP	TTCCCGCTGCCGGTATTTGTT<u>GAGTC</u>GCTACGTTTT-GCTTCACGGA
M-G	**<u>TCCCAACCCGCCCTACCC</u>**TTTT*GACTC*GGCAGAG-TTCCCATTGAAAT

[a] FIP and BIP are inner primers. F3 and B3 are outer primers. LF and LB are loop primers. Nick-FIP and Nick BIP are FIP and BIP, respectively, incorporated with a nicking endonuclease recognition site. M-G is the molecular machine. [b] Underlined letters indicate the recognition site of Nt.BstNBI. [c] Italic letters in bold indicate the complementary bases of the recognition site of Nt.BstNBI. [d] Under-lined letters in bold indicate the complementary sequence of the G-rich sequence.

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                                F3                                  F2
781  CGTAAATGGC GATAGCGATA ATATGGGGCG GAATATCATG ACGCAGCTGT TGAACAACCC

             cLoop B                                         F1
841  ATTTGTATTG GTTGTTACGG CTATTTTGAC CATTTCAATG GGAACTCTGC CGGGATTCCC
                                                              ScrFI

                                      Loop F
901  ACTGCCGGTT TTTGTTATTT TATCGGTGGT TTTAAGCGTA CTCTTCTATT TTAAATTCCG
      B1c                                                      DraI

961  TGAAGCAAAA CGTAGCGCCG CCAAACCTAA AACCAGCAAA GGCGAGCAGC CGCTCAGTAT
      B2c                                        B3c
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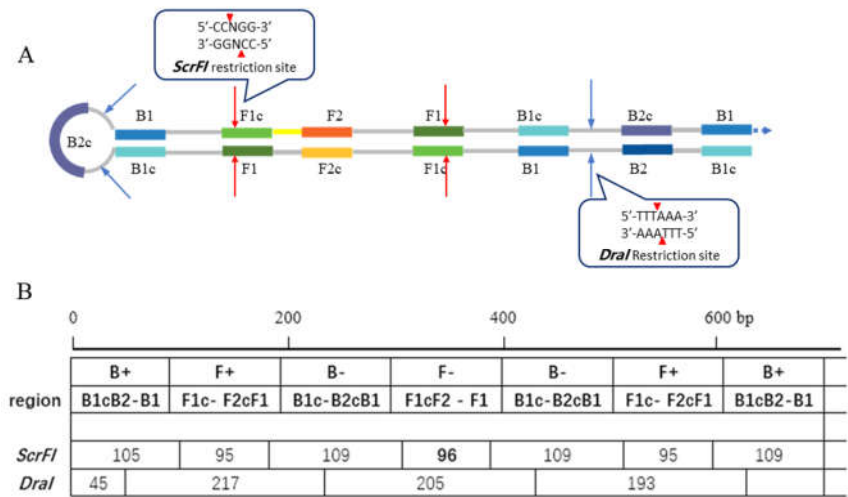**Figure S1.** Template sequence for LAMP-Res-Nick amplification of the invA gene of *Salmonella*.

Figure S2. The effect of restriction endonuclease, ScrFI, and DraI, on cleaving LAMP products of invA gene of *Salmonella*. (**A**) Scheme illustrating the restriction sites of ScrFI and DraI on the long stem-loop structure of LAMP products. Red arrows indicate the restriction site of ScrFI. And the blue arrows indicate the restriction site of DraI. (**B**) The expected LAMP products extended from Nick-FIP. The numbers in the box denote the expected length of the amplification products.