Functional Packaging of Lateral Flow Strip Allows Simple Delivery of Multiple Reagents for Multistep Assays

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Figure S1. SEM image of cellulose pad and glass fiber pad
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Figure S1. Pore size comparison. Scanning electron microscopic images of (A) cellulose pad and (B) glass fiber pad. Cellulose fibers are more densely packed together whereas there are larger empty spaces between the fibers of glass fiber pad. The average pore size of cellulose pad and glass fiber pad was measured to be 5.71 and 105.60 µm, respectively.
Figure S2. Assay sequence optimization. Photos of $5 \times 10^5$ CFU/mL *E. coli* O157:H7 detection after (A) four-step sequential assay showing no background signal, and (B) three-step assay by mixing HRP-IgG with sample showing severe nonspecific background signal. Photos of $5 \times 10^6$ CFU/mL *E. coli* O157:H7 detection after (C) four-step sequential assay showing vivid test line and control line signal, and (D) three-step assay without wash step showing weak signals due to nonspecifically bound target bacteria and HRP throughout the strip.
**Figure S3.** Loading volume effect. Graph shows the detection line’s signal intensity of $5 \times 10^5$ CFU/mL *E. coli* O157:H7 with different sample loading volumes (Only test lines are shown for clear comparison of intensities). One-way ANOVA showed that there was no statistically significant difference between the average signal intensities of the three groups. ($F(2,6) = 1.099$, $P = 0.3919$).