

## Supplementary Information

### 3D microdevices that perform sample purification and multiplex qRT-PCR for early cancer detection with confirmation of specific RNAs

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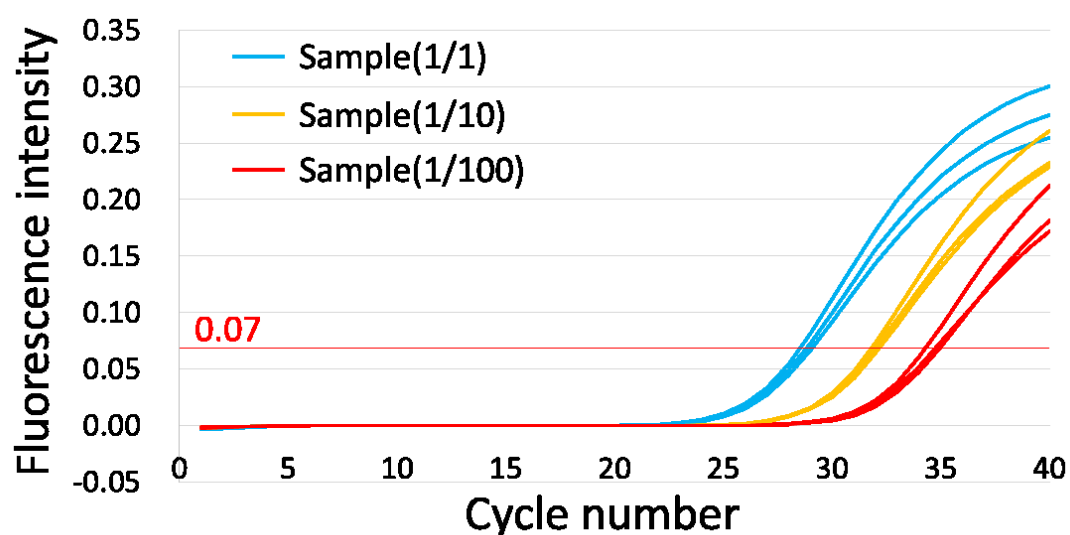
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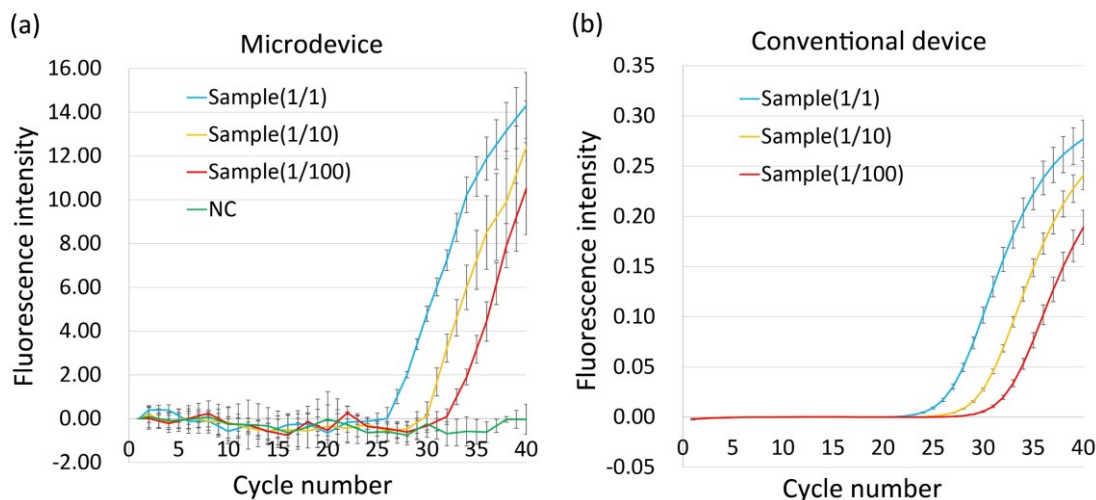
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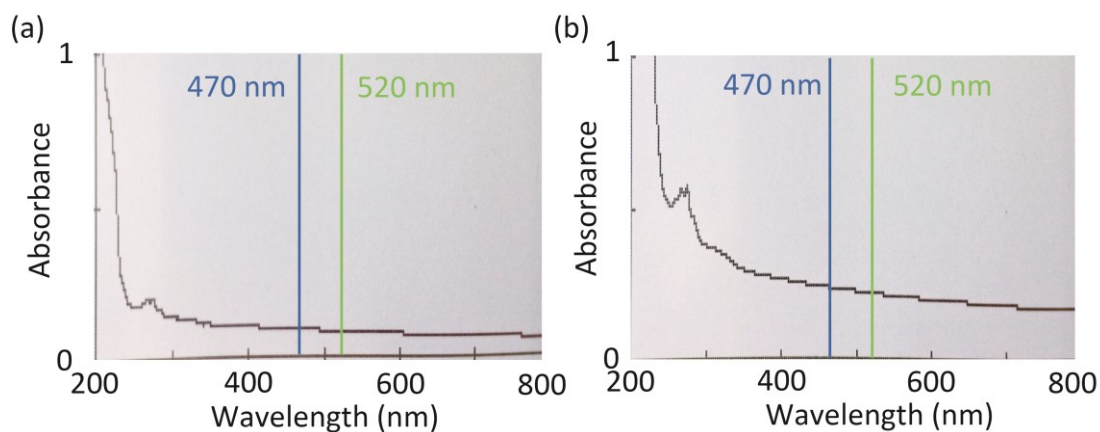
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**Supplementary Fig. 1** qRT-PCR on a conventional device. This is the result of qRT-PCR using the same sample as that used in Fig. 6a but on a conventional device (Eco, illumina). The red line shows the fluorescence threshold line (=0.07).



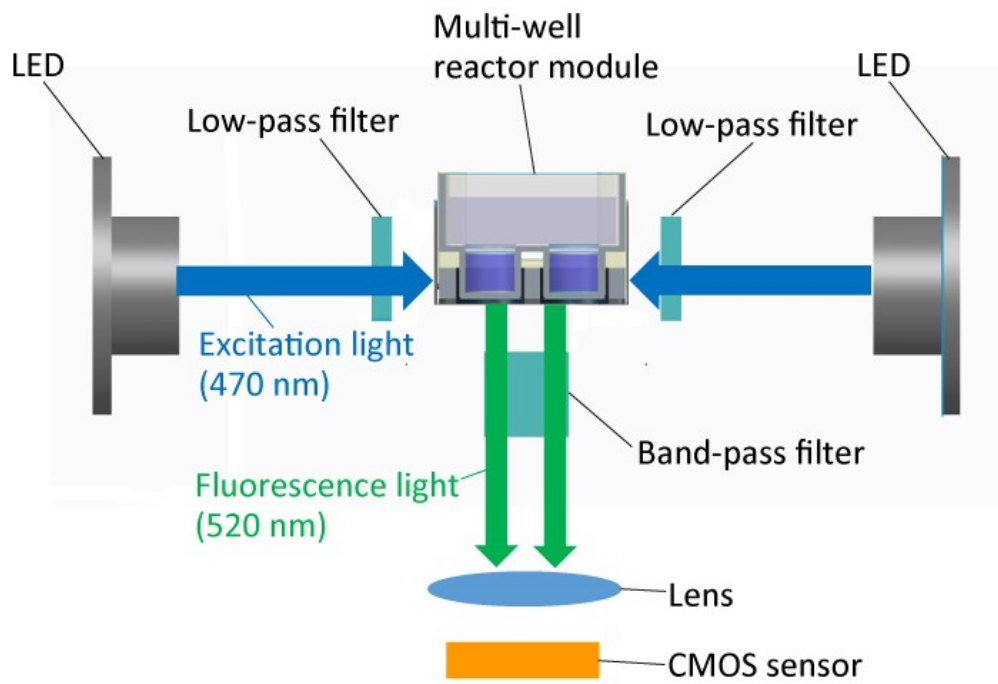
**Supplementary Fig. 2** The average and the standard deviation of qRT-PCR. These graphs show the average and the standard deviation of the fluorescence intensity when we repeated the same qRT-PCR experiment for 3 times (a) on the microdevice or (b) on the conventional device.



**Supplementary Fig. 3** The absorbance of the (a) 100 μm PP film and (b) 350 μm PP sheet. We measured the absorbance of the 100 μm PP film and 350 μm PP sheet by the absorptiometer (UV-1800, SHIMADZU) and calculated the transmittance of the excitation light and fluorescence used in this paper.

100 μm PP film 470 nm: 82.4%, 520 nm: 83.6%

350 μm PP sheet 470 nm: 60.7%, 520 nm: 59.5%



**Supplementary Fig. 4** Observation system using the observation module.