Electronic Supplementary Material (ESI) for Lab on a Chip.
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Supporting Information for

Rapid Large Area Fabrication of Multiscale Through-hole Membrane

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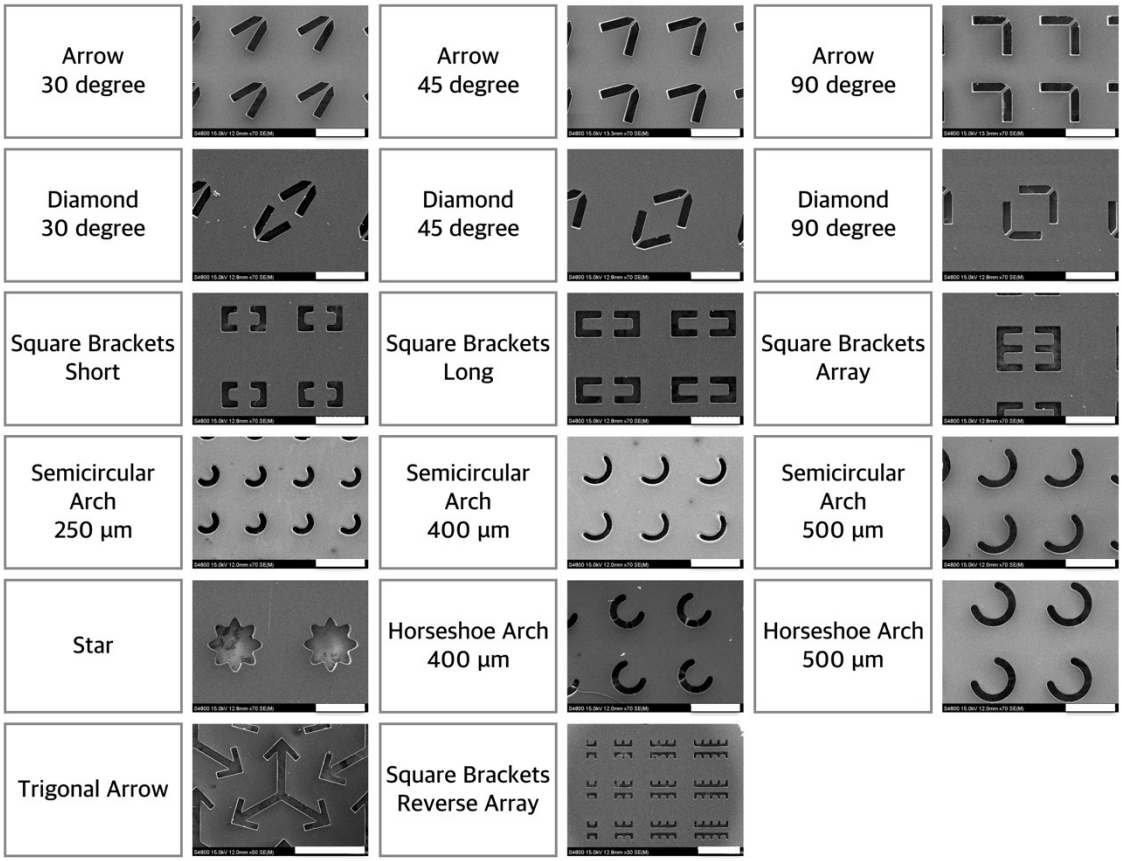

Figure S1. A detailed SEM image for the diverse design of micro membrane. All of the white scale bar indicates 500 μm except trigonal arrow and square brackets reverse array (1cm).

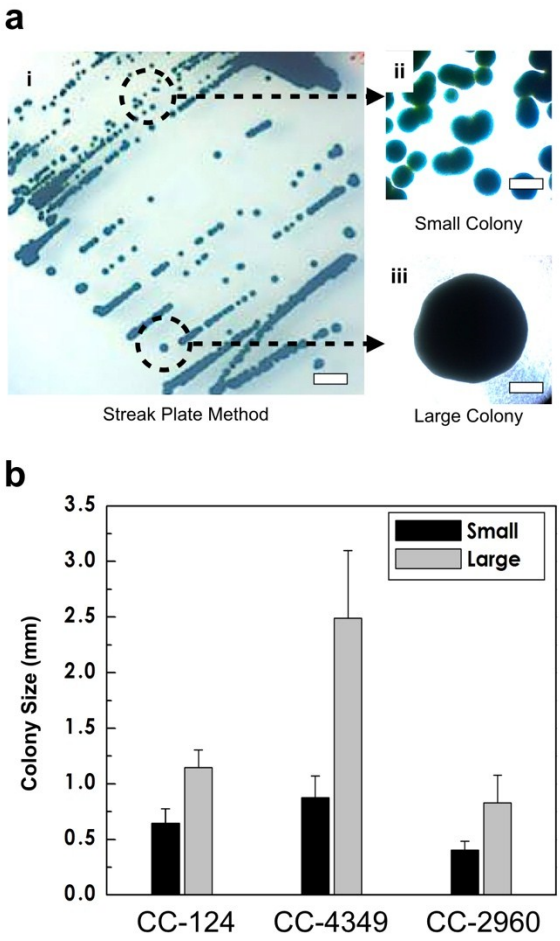

Figure S2. a) Microalgae culture on the solid nutrient medium by streak plate method. High density of microalgae area showed small colony, and low density area show the large colony size. This means quorum sensing effect. b) The average of colony size which was composed of three different microalgae cell strains [CC-124 (*137c, mt-*), CC- 4349 (*cw15 mt- strain*) and CC-2960 (*pf14 nic7 mt+*)] as a large or small colony, was slighly different depends on cell strain.

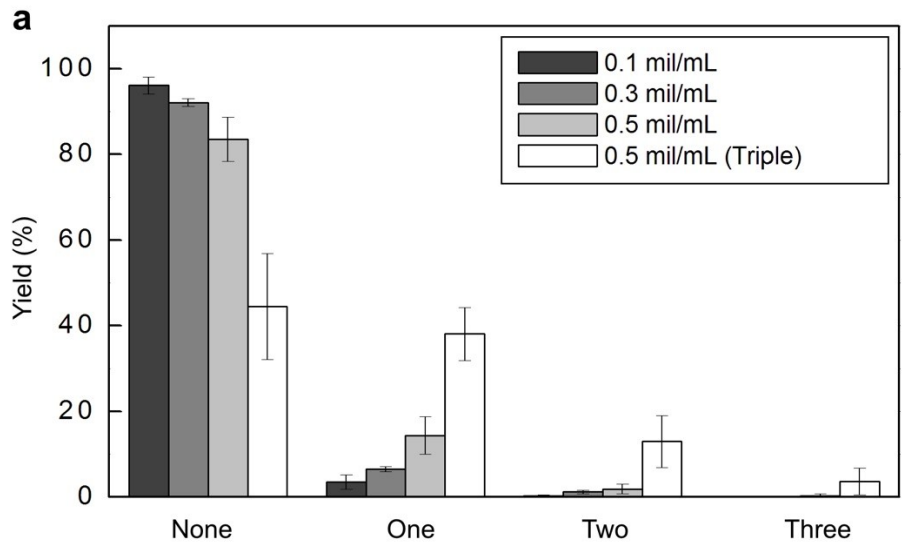

Figure S3. a) The cell trapping efficiency. The total hole number in a single membrane sheet was 2500, and the high concentration and high try number had a high value of cells trapped efficiency in a single pore. In Figure 3d) shows the efficiency of trapped cells such as one, two and three.

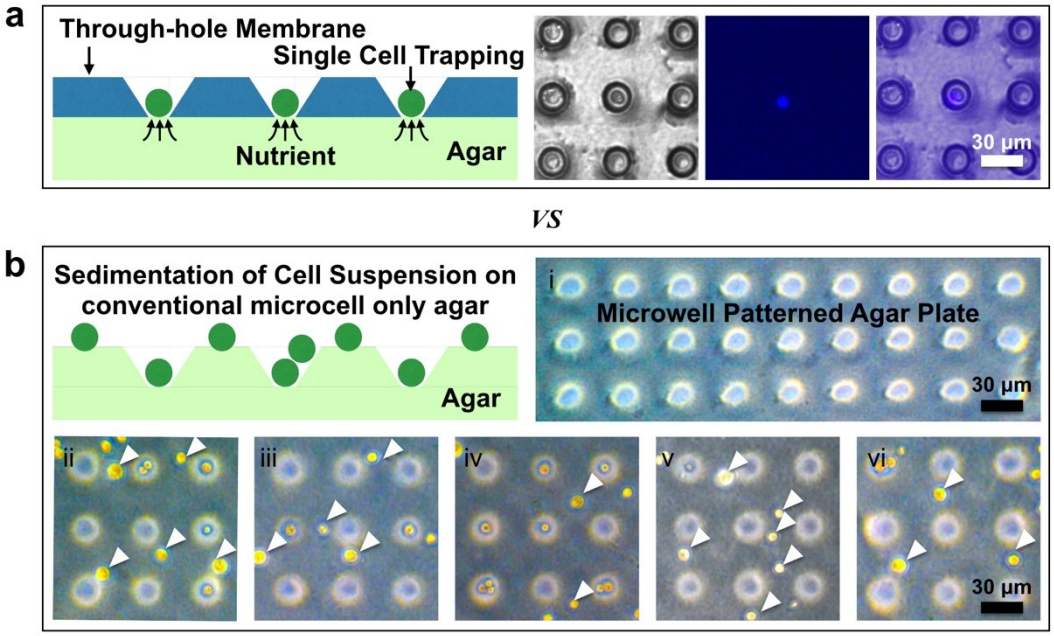

Figure S4. The single cell trapping method by novel through-hole membrane (a) versus conventional microwell cell trapping only agar (b).