

# Supplementary Figures

## Cryopreservable Arrays of Paper-Based 3D Tumor Models for High Throughput Drug Screening

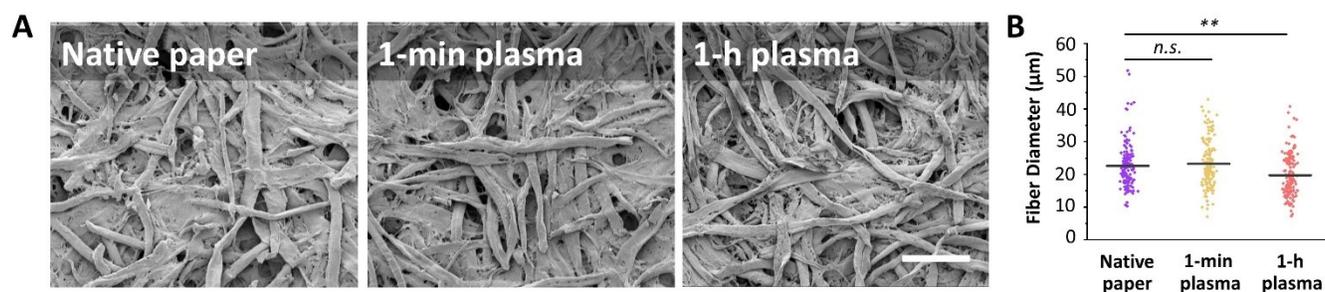
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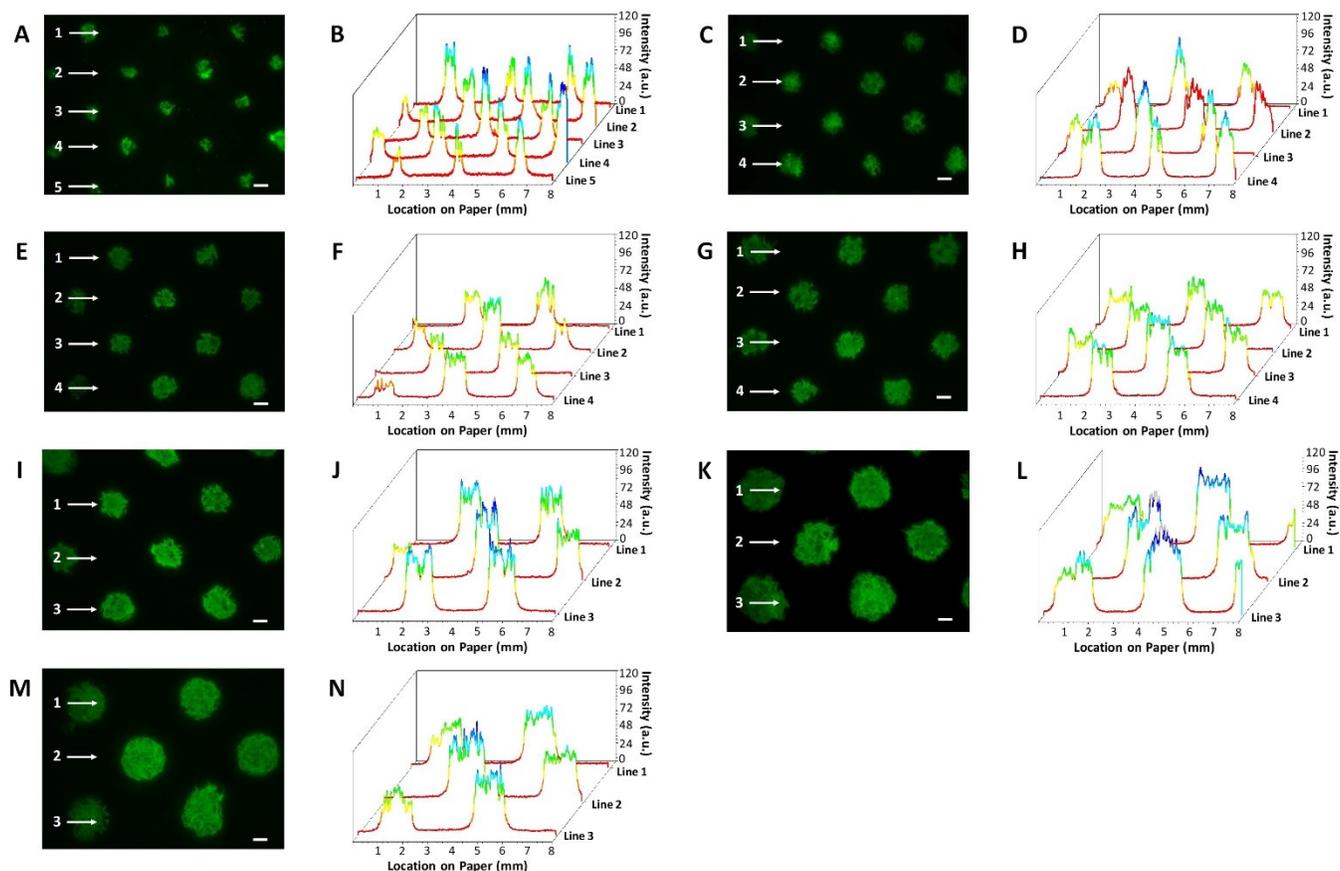
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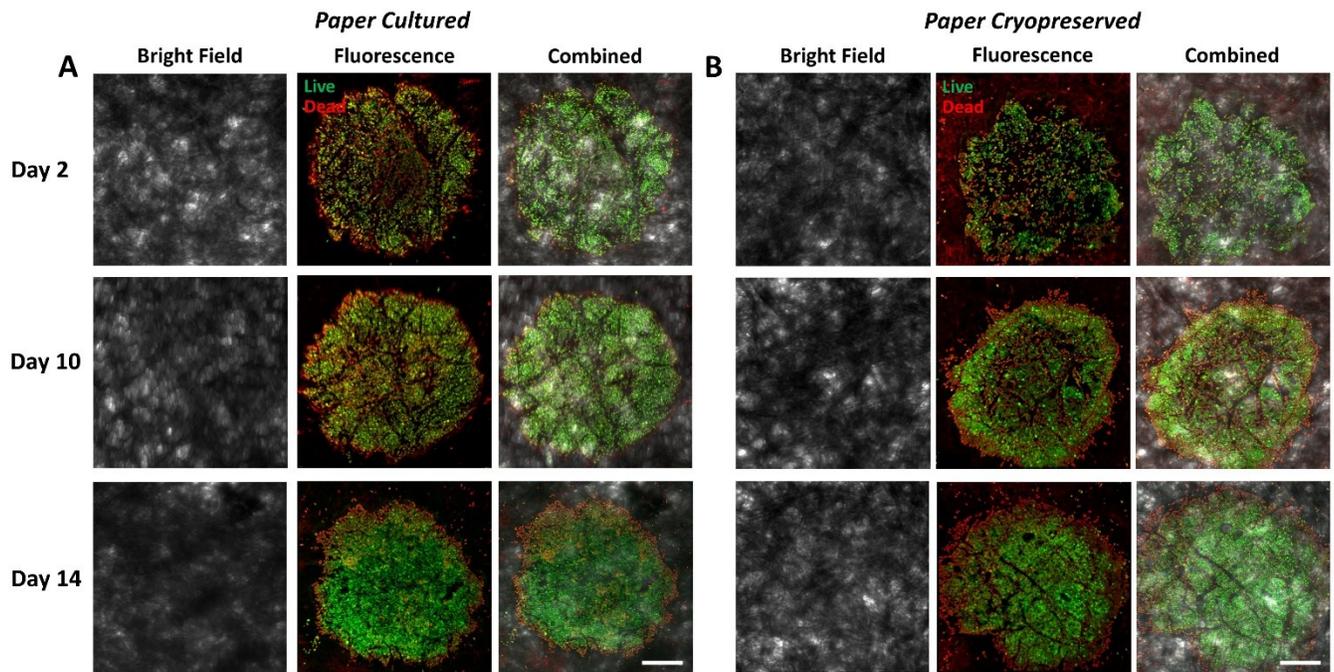
**Fig. S1 Effect of air plasma treatment on microstructure of paper fibers. (A)** SEM images show the surface characteristic of native (untreated) and 1-min and 1-h plasma-treated paper fibers. Exposure of one hour caused significant reduction in fiber diameters compared to exposure of one minute and untreated fibers. The scale bar is 150 μm. **(B)** Diameter distribution of paper fibers as measured for native paper and after 1-min and 1-h plasma exposures. n.s.: not significant and \*\*: significant at  $P < 0.05$  using two-sided student's t-test.

# Supplementary Figures



**Fig. S2 Fluorescein characterization of hydrophilic microspots created using 3D printed masks with circular through-holes of different diameters.** Fluorescence and 3D plots show fluorescence images of patterned microspots and the intensity across lines of patterns with hole diameters of (A-B) 400  $\mu\text{m}$ , (C-D) 500  $\mu\text{m}$ , (E-F) 600  $\mu\text{m}$ , (G-H) 700  $\mu\text{m}$ , (I-J) 800  $\mu\text{m}$ , (K-L) 900  $\mu\text{m}$ , and (M-N) 1000  $\mu\text{m}$ . The scale bars are 500  $\mu\text{m}$ .

# Supplementary Figures



**Fig. S3 Bright field and fluorescence images of cell aggregates within microspots.** Imaging in bright field mode did not provide useful approach in viewing cells, which was mainly due the paper thickness that prevented the light to effectively pass through. The scale bars are 250  $\mu\text{m}$ .