

## Supporting Information

# Tetrafluoroethylene-Propylene Elastomer for Fabrication of Microfluidic Organs-on-Chips Resistant to Drug Absorption

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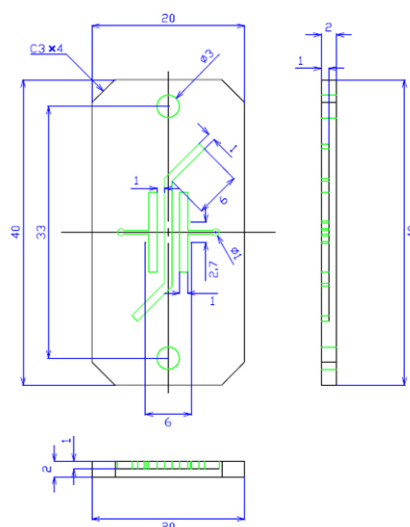
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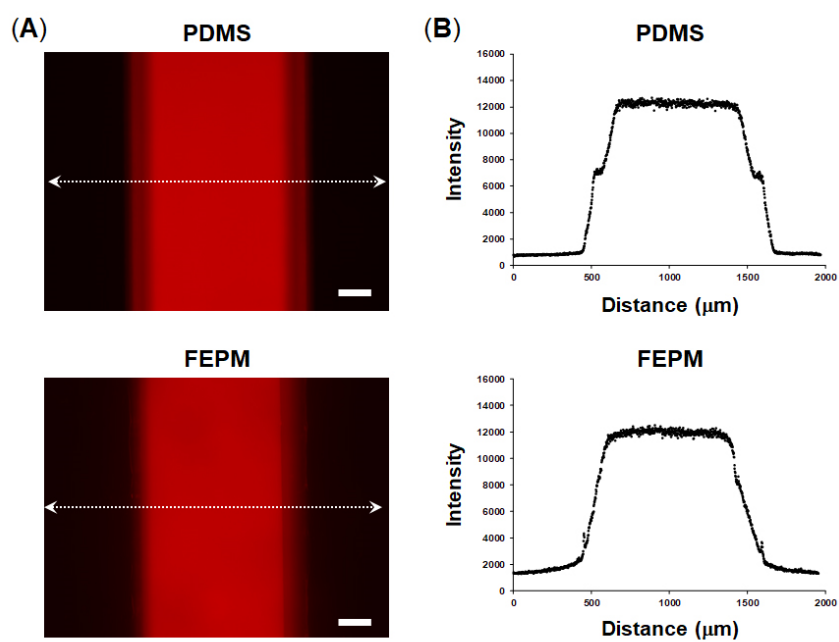
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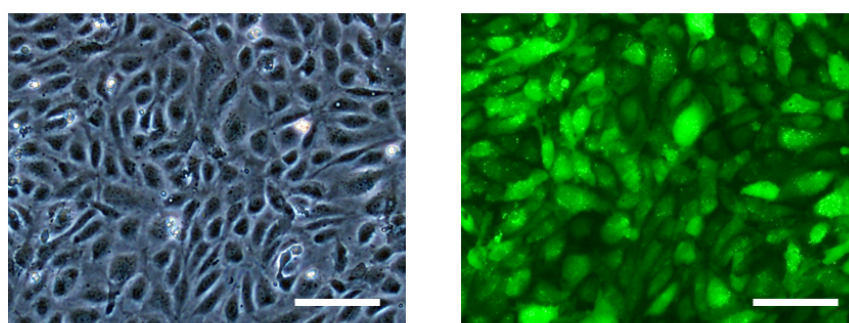
† These authors contributed equally to this work.



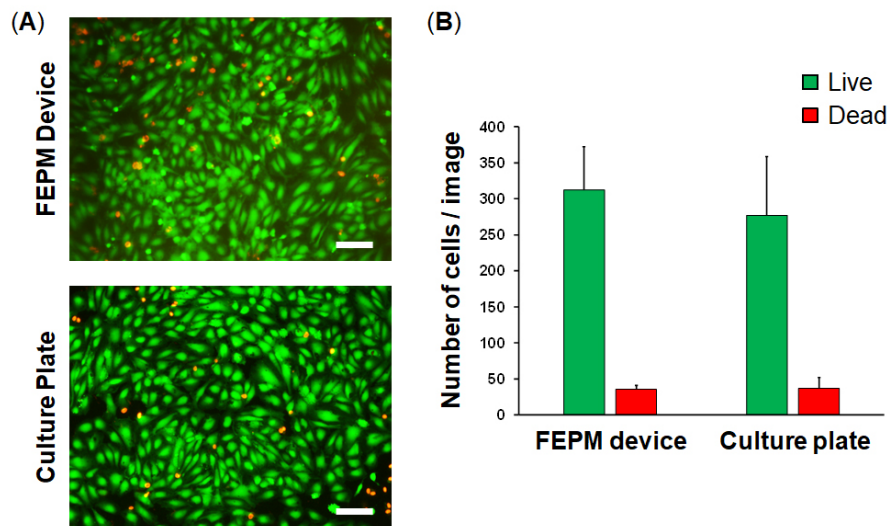
**Supplementary Fig. S1.** Design of the FEPM channel layer. All dimensions in millimeters.



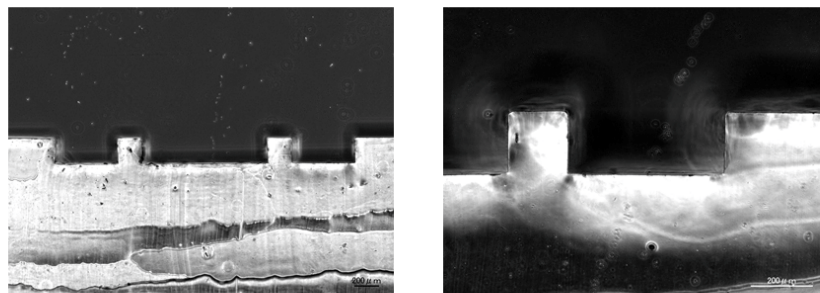
**Supplementary Fig. S2.** (A) Fluorescence images of a solution containing 10  $\mu\text{M}$  Rhodamine B inside PDMS and FEPM channels with an exposure time of 5 ms. Scale bars, 200  $\mu\text{m}$ . (B) Line profiles of the fluorescence images shown in (A) (indicated by white dotted lines). (n=3)



**Supplementary Fig. S3.** Optical (left) and fluorescence (right) images of GFP-expressing HUVECs cultured on a cell culture plate for 7 days. (n=3) Scale bars, 100  $\mu\text{m}$ .



**Supplementary Fig. S4.** Cellular viability after 24 hours treatment of mitomycin C. (A) Fluorescence images of lived/dead strained HUVECs in the FEPM device and in a 96-well culture plate 24 hours after incubation with mitomycin C ( $10 \mu\text{g mL}^{-1}$ ). Scale bars,  $100 \mu\text{m}$ . (B) The average number of live and dead cells in each image area (ca.  $0.58 \text{ mm}^2$ ) evaluated using 3 different observation areas from 3 independent experiments.



**Supplementary Fig. S5.** Cross-sectional images of FEPM layers consisting of small channels. The cross-sectional sizes of the channels are  $1 \text{ mm}$  (width)  $\times$   $200 \mu\text{m}$  (height) for the central channel and  $500 \mu\text{m}$  (width)  $\times$   $200 \mu\text{m}$  (height) for the side channels. The gaps between the microchannels are  $100 \mu\text{m}$ . Scale bars,  $200 \mu\text{m}$ .