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

Supplementary data

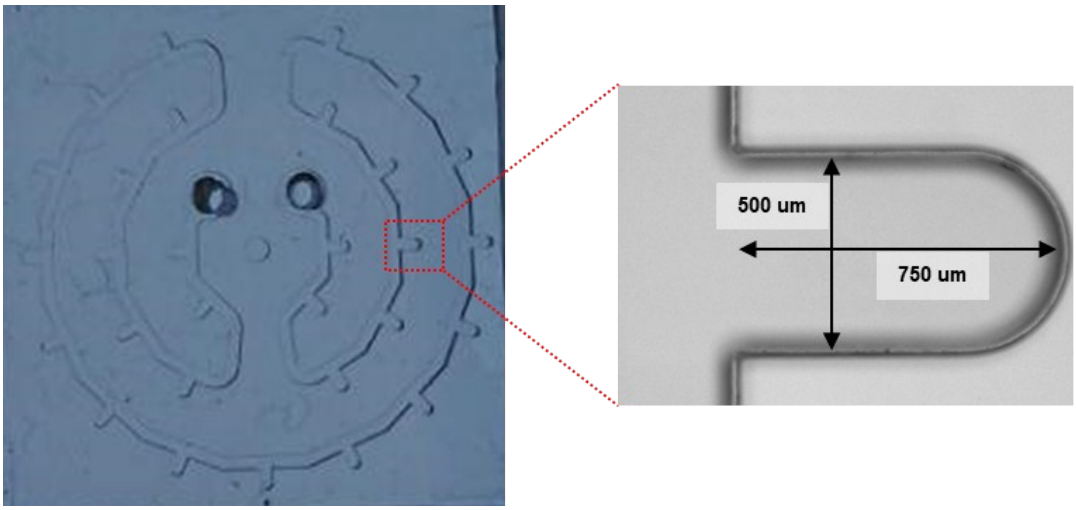

Fig. S1. Photograph of the PDMS chip. PDMS chips 20 mm x 20 mm in area were fabricated with an integrated well width of 500 µm and a depth of 750 µm.

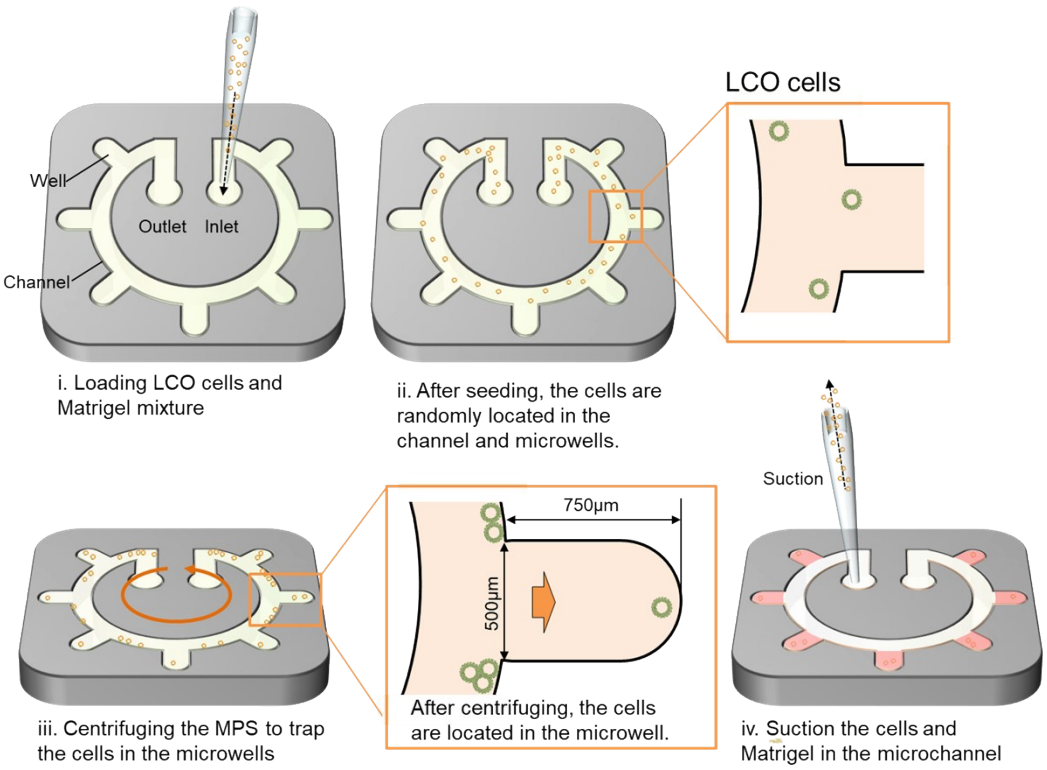

Fig. S2. Overview of the seeding and trapping procedure of LCOs on the MPS. The mixture of mechanically dissociated cells is introduced into the microchannel on the device, and cells are trapped into the microwells by centrifugal force. After cell trapping, remaining cells in the microchannel are removed.

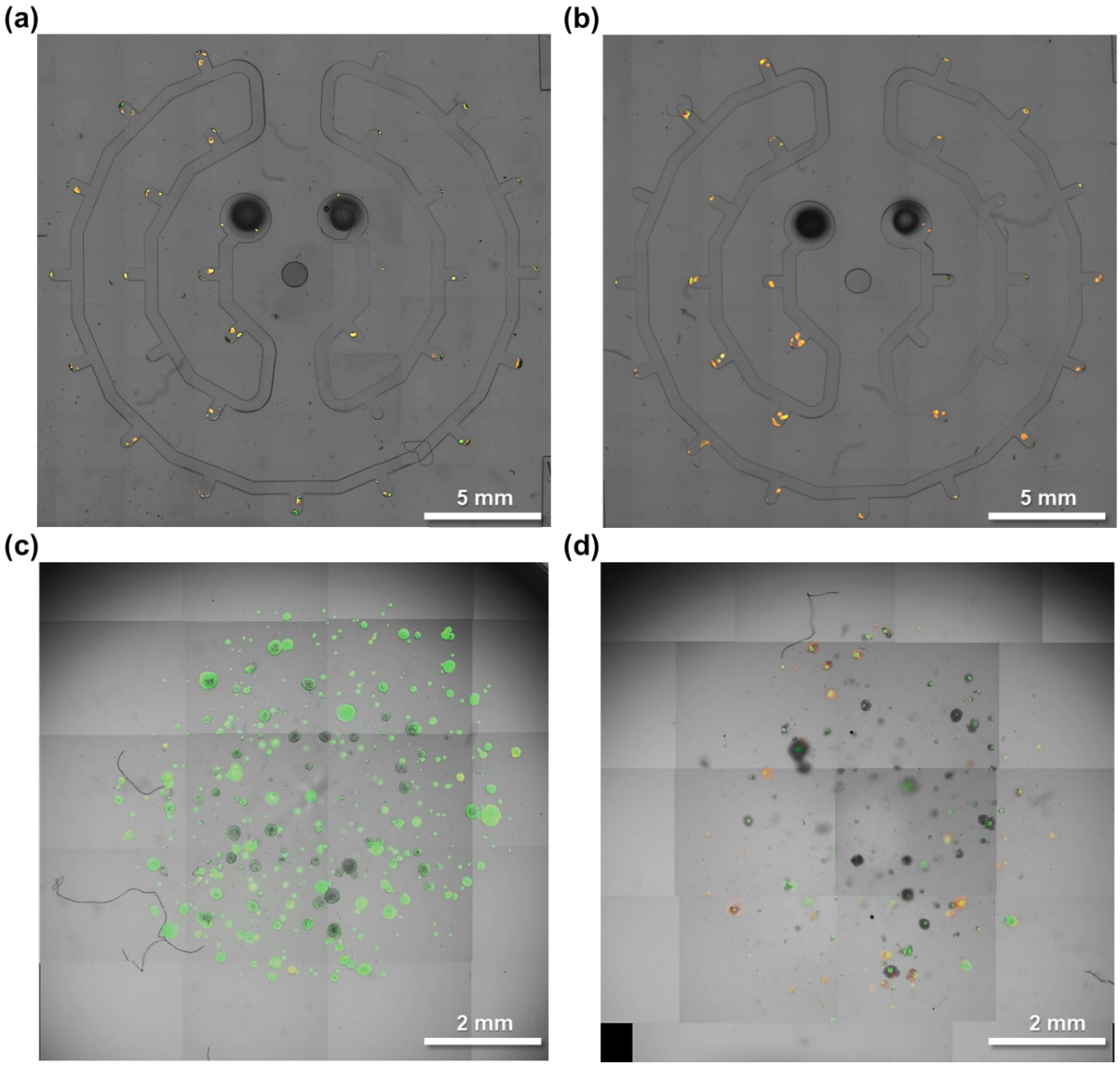

Fig. S3. The microfluidic-based PDMS chip for testing drug response. (a and b) Composite tile scan image of live/dead staining of LCOs in the microfluidic culture platform treated for 72 h with (a) 40 µM cisplatin or (b) 20 µM etoposide. (c and d) Composite tile scan image of live/dead staining of LCOs in adherent Matrigel droplet culture conditions treated for 72 h with (c) 40 µM cisplatin or (d) 20 µM etoposide. Bar, 5 mm in (a), (b); 2 mm in (c), (d).

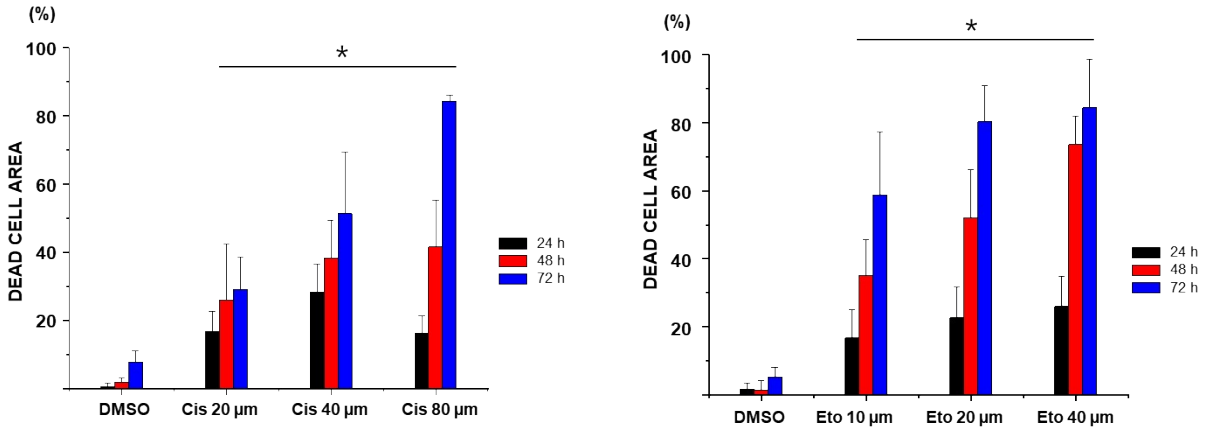

Fig. S4. The microfluidic-based PDMS chip for testing drug response. Cell viability was measured by live/dead fluorescence after drug treatment using the microfluidic device and quantification of the fluorescence intensity. Data represent the means ± S.D. *p <0.05, using two-way ANOVA with Tukey's posttest.

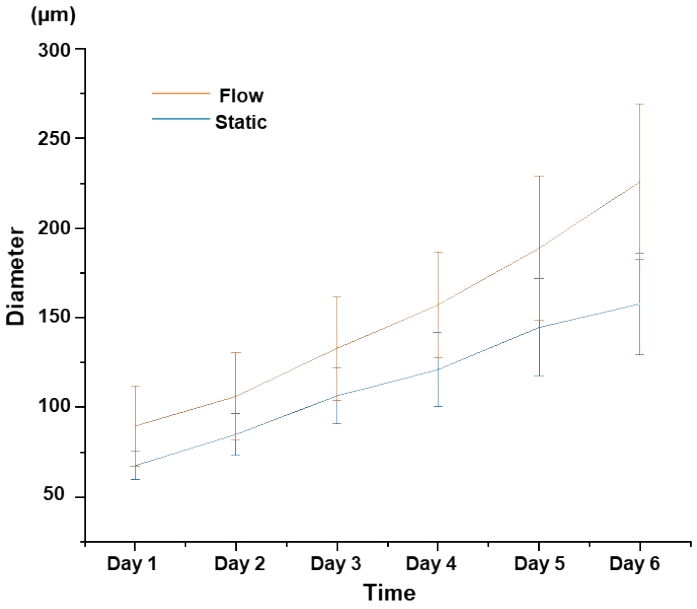

Fig. S5. Effect of circulatory flow on growth of LCOs. Monitored the diameter of the LCOs over a time course. LCOs diameter was recorded using ImageJ software. Data represent the mean ± S.D. from 3 independent measurements (n=18, respectively)

Table S1. DNA Primers used in this study.

Gene	Forward primer	Reversed primer
GAPDH	AGG GCT GCT TTT AAC TCT GGT	CCC CAC TTG ATT TTG GAG GGA
CD133	AAC AGT TTG CCC CCA GGA AA	GAA GGA CTC GTT GCT GGT GA
SOX2	GGA TAA GTA CAC GCT GCC CG	ATG TGC GCG TAA CTG TCC AT
NANOG	AGT CCC AAA GGC AAA CAA CCC ACT TC	TGC TGG AGG CTG AGG TAT TTC TGT CTC
Chromogranin A	GTC GGG GTA TAT AAG CGG GG	CGT CTG TCG GTC GAT CCT C
Synaptophysin	AGT GCG CTA GAG CAT TCT GG	TCT GCC TCG CTT AAA GCC TC
TTF1	GCG CTT TCG GAG GGT TAG A	GTG GCC CTG TCC TTG ATG TT