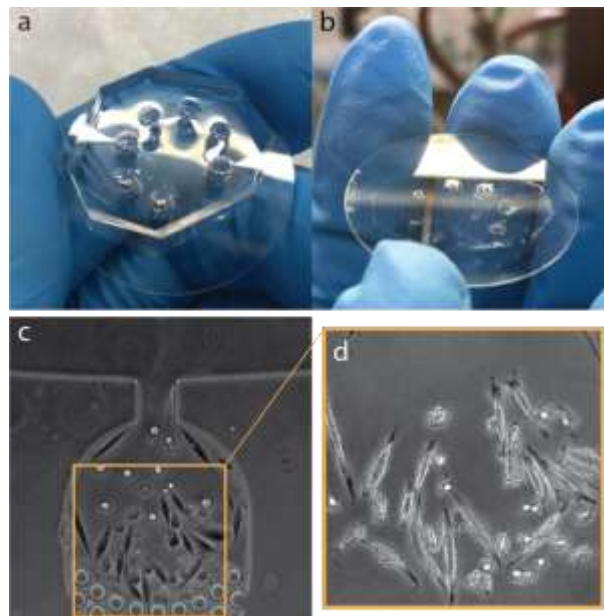


The VersaLive platform enables microfluidic mammalian cell culture for versatile applications – Supplementary Material

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Supplementary Figure 1: (a, b) Opening of the chip for direct access to the cultivated cells. (c, d) On-chip chemical fixation of previously live-imaged cells and PDMS chip removal. PDMS removal does not affect the cell position of on-chip chemically fixed CHO-K1 cells respect to the live imaged sample. We envision this feature to enable cell re-plating, cell sequencing and all applications that require full recovery of the sample. Panel (c) is 410 μm in width.

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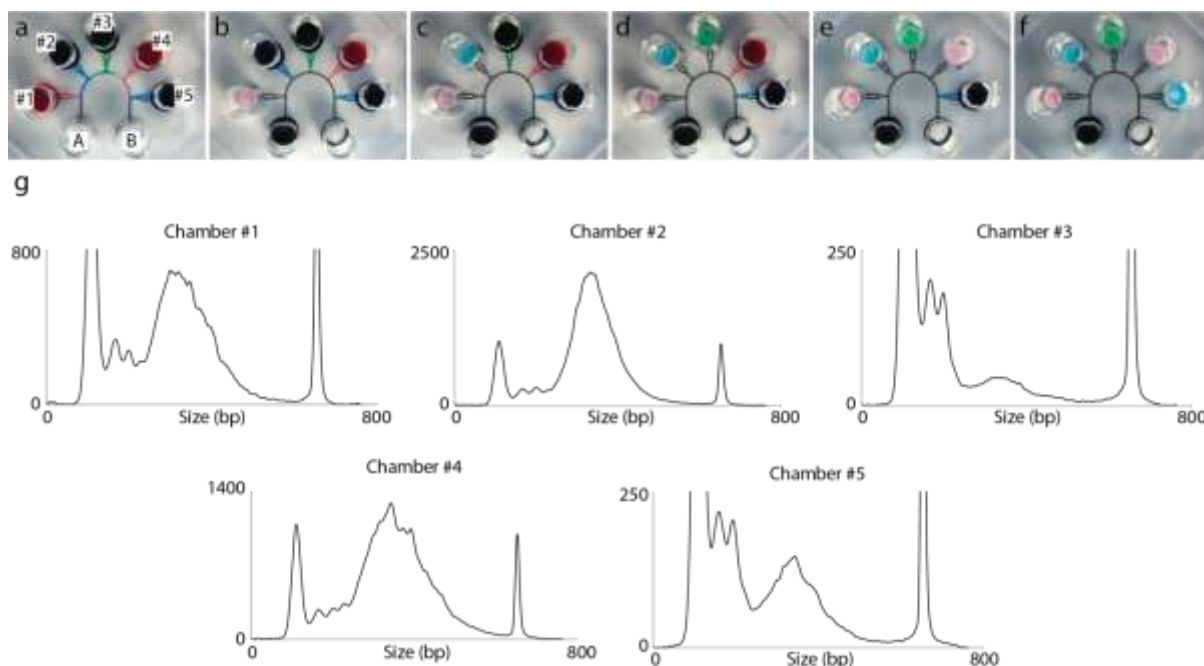
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Supplementary Figure 2: RNA extraction from VersaLive chip. (a-f) Operation sequence of the protocol for RNA extraction from each chamber that prevents cross-contaminations. (g) RNA analysis and quantification of the cDNA library extracted from each chamber of a same chip.

Supplementary Table 1 List of required materials and equipment for producing VersaLive chips in the lab.

Item name	Item description, link
VersaLive master	Mold for replicating VersaLive PMDS chips. Master fabrication requires a cleanroom environment but masters can also be purchased from specialized companies or facilities.
PDMS kit	Material for the fabrication of the microfluidic chips via soft-lithography (Dow SYLGARD™ 184 Silicone Elastomer Kit)
Trichloro(1 <i>H</i> ,1 <i>H</i> ,2 <i>H</i> ,2 <i>H</i> -perfluorooctyl)silane	Fluorosilane for master passivation (CAS number: 78560-45-9)
Vacuum desiccator	For the degassing of the uncured PDMS as well as the passivation of the master

Glass slides, 30 mm diameter, #1 thickness	Slides for the sealing of the bottom side of the chips (Marienfeld, ref. 0111700)
Plasma surface activator (chamber or corona discharge wand)	Plasma activation is required to bond the PDMS to the glass slides. It can be achieved by using plasma chambers but also cheaper corona discharge wands.
Tweezers, fine tip	Tweezers are useful to handle all components (Bahco, ref. TL AA-SA SL)
Biopsy punch	Punches are required to open the access ports of the chips. A diameter of 3 mm is suitable for most applications but other sizes can be used too (World Precise Instrument, ref. 504649)
Single-edge razor blades	To cut chips out of the PDMS slabs (Personna, ref. PSA660210)
[Optional] Scalpel	A curved blade is particularly useful to free the PDMS slab from the master mold (Swann-Morton, blade n. 12)
[Optional] Chip holder	Useful tool to carry the chips without the risk of damaging them (ThorLabs, ref. SM30L05)
[Optional] Chip holder support	Adapter for OkoLab H101 stage incubator for Nikon Ti light microscope (custom made, 2 mm laser cut acrylic). See Supplementary File 1