

Micro-cold-forming: A simple, rapid, and inexpensive method for the fabrication of microcavities for 3D cell culture

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Supplementary information

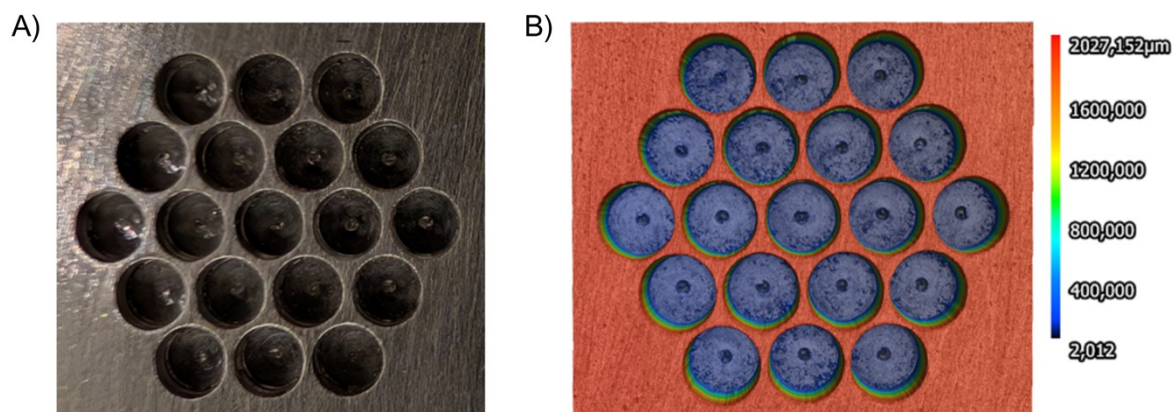


Fig. S1: (A) Photo and (B) optical profilometer-derived height-map of stainless-steel mold used for micro-cold-forming.

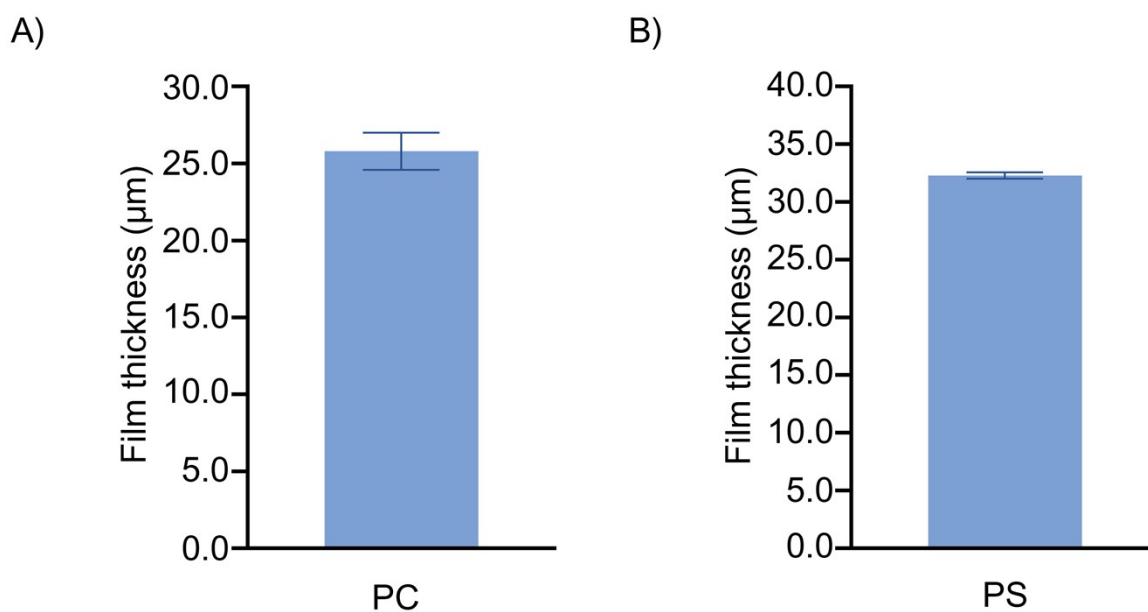


Fig. S2: Measurement of the thickness of the (A) PC and (B) PS film used in this study. Bars and error bars represent mean values \pm SD. N = 5.

Table S1: qPCR primers

| Gene | Forward primer sequence 5'-3' | Reverse primer sequence 5'-3' |
|----------------|-------------------------------|-------------------------------|
| <i>GAPDH</i> | GATTTGGTCGTATTGGGCGC | TTCCCGTTCTCAGCCTTGAC |
| <i>ANPEP</i> | TGAGCTGTTTGACGCCATCT | GCCCTGCTTGAATACGTCCT |
| <i>ABCC4</i> | CTCACGCTCATGGGGATGTT | GGTGGTGGGCGTTTCTGATA |
| <i>SLC4A4</i> | TCTCCAGTGCAAGTAGGATGT | GGTCCTTCTCCGGTTTATCAGA |
| <i>CLDN10</i> | CCTGGGCTTCTTTGGTTCCA | TCATTGAGCACAGCCCTGAC |
| <i>PCBD1</i> | GGGTGGAATGAGCTGGAAGG | AGCGTGATGTGGACCTTGTT |
| <i>AQP3</i> | CTGGATCAAGCTGCCATCT | CATTGGGGCCCGAAACAAAA |
| <i>NR3C2</i> | TGTCCTGCTTGCAGACTTCAGA | GCTGCTCCTCGTGAATCCCT |
| <i>SLC41A3</i> | AGCCGAATCTCAACCTACCTG | CATGGAATTGATTTCTGACGTGC |
| <i>TRPM7</i> | TCCATTTACACCTGTGCCTCC | GCTCTTCGTAAACCTCCTCCC |
| <i>HNF1B</i> | ACCAAGCCGGTCTTCCATACT | GGTGTGTCATAGTCGTCGCC |
| <i>GATA3</i> | GCCCTACTACGGAAACTCGG | GGTGGATGGACGTCTTGAG |
| <i>MECOM</i> | TATCCACGAAGAACGGCAATATC | CATGGAAACTTTTGGTGATCTGC |

Table S2: Summary of analyzed genes and their associated nephron segments and functions

| Gene | Associated nephron segments and functions |
|----------------|---|
| <i>ANPEP</i> | Expressed in proximal tubules and involved in peptide metabolism |
| <i>ABCC4</i> | Expressed in proximal tubules and collecting ducts and involved in ion transport |
| <i>SLC4A4</i> | Expressed in proximal tubules and involved in bicarbonate transport and pH regulation |
| <i>CLDN10</i> | Expressed in thick ascending limb of Henle's loop and involved in tight junction formation and ion permeability |
| <i>PCBD1</i> | Expressed in distal tubules and involved in transcriptional regulation |
| <i>AQP3</i> | Expressed in collecting ducts and involved in facilitating water and glycerol transport |
| <i>NR3C2</i> | Expressed in distal tubules and collecting ducts and important for sodium and water balance |
| <i>SLC41A3</i> | Expressed in nephron segments and involved in magnesium transport |
| <i>TRPM7</i> | Expressed in distal tubules and involved in magnesium and calcium transport |

| | |
|--------------|---|
| <i>HNFB</i> | Expressed in renal progenitors and epithelial cells and involved in regulation of nephron segment differentiation |
| <i>GATA3</i> | Expressed in ureteric bud and collecting ducts, involved in branching morphogenesis |
| <i>MECOM</i> | Expressed in progenitor cells and renal mesenchyme and involved in kidney development |