Supplementary Information

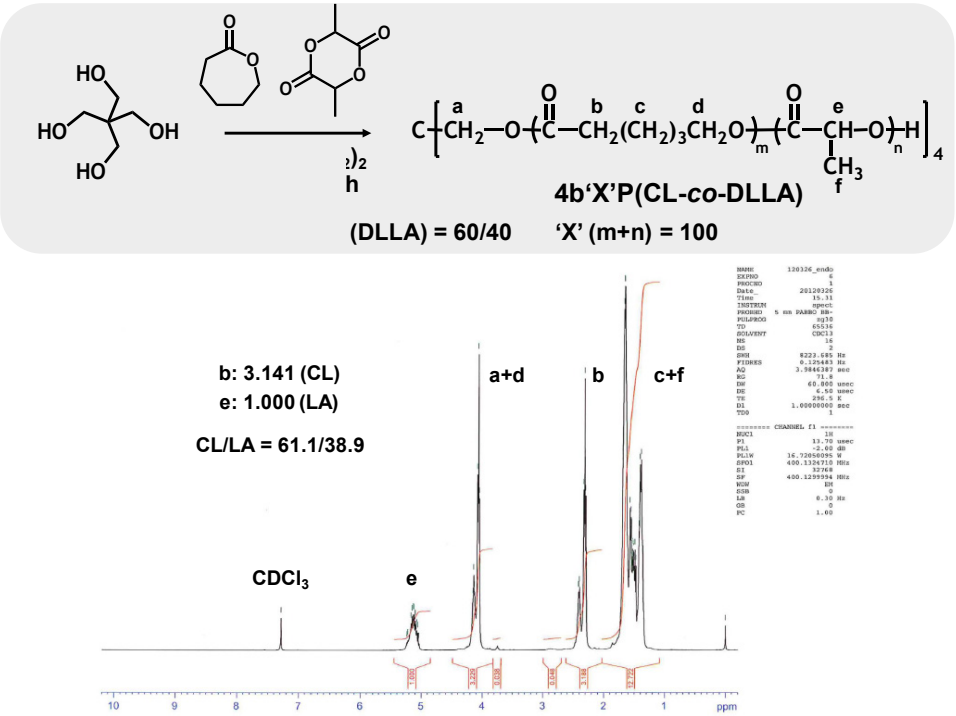


Figure S1. Synthesis of four branched P(CL-*co*-DLLA) with 60/40 CL/DLLA composition and ^{1}H NMR of synthesized P(CL-*co*-DLLA) in $CDCl_3$.

Table S1. Characterization of synthesized four-branched P(CL-*co*-DLLA) substrate

CL/DLLA unit per branch	In feed		In copolymer[a]		Copolymer			
	CL (mol%)	DLLA (mol%)	CL (mol%)	DLLA (mol%)	Mt[b]	Mn[c]	Mw[c]	Mw/Mn[c]
100	60	40	61.1	38.9	39100	40900	59600	1.46

[a] Determined by 1H NMR (solvent: CDCl3).

[b] Theoretical molecular weight.

[c] Estimated by GPC (solvent: DMF, standard: PEG).

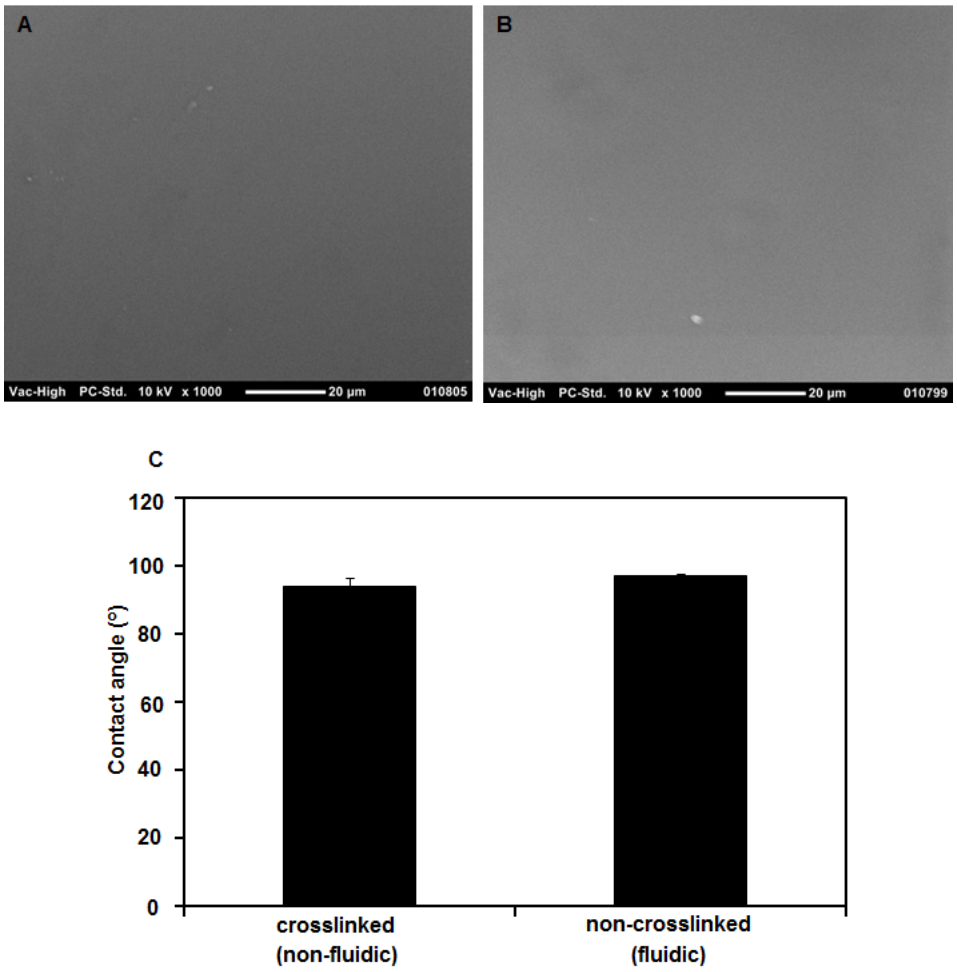


Figure S2. Scanning electron microscope (SEM) images of (A) crosslinked and (B) non-crosslinked P(CL-*co*-DLLA) substrates. (C). The wettability of crosslinked and non-crosslinked P(CL-*co*-DLLA) substrates determined by contact angle meter. Each data represents mean ±SD.

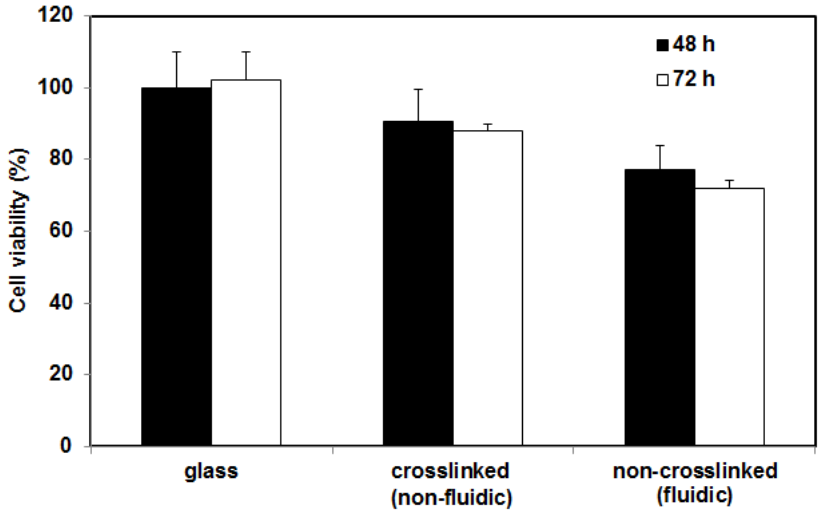
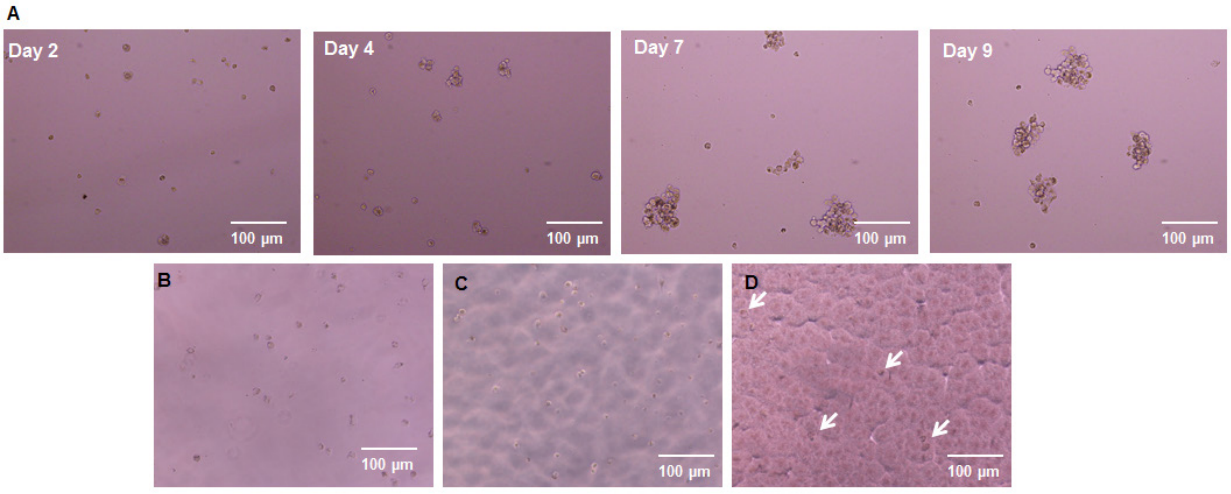


Figure S3. Effects of crosslinked and non-crosslinked P(CL-*co*-DLLA) substrates on cell viability. MCF 10A cells were cultured on glass, crosslinked (non-fluidic) or non-crosslinked (fluidic) P(CL-*co*-DLLA) substrates. The percentage of viable cells was calculated from the control group (glass) at 48h and 72h.



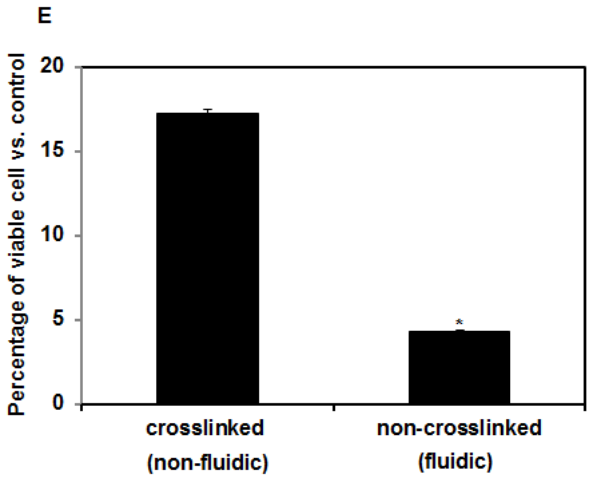
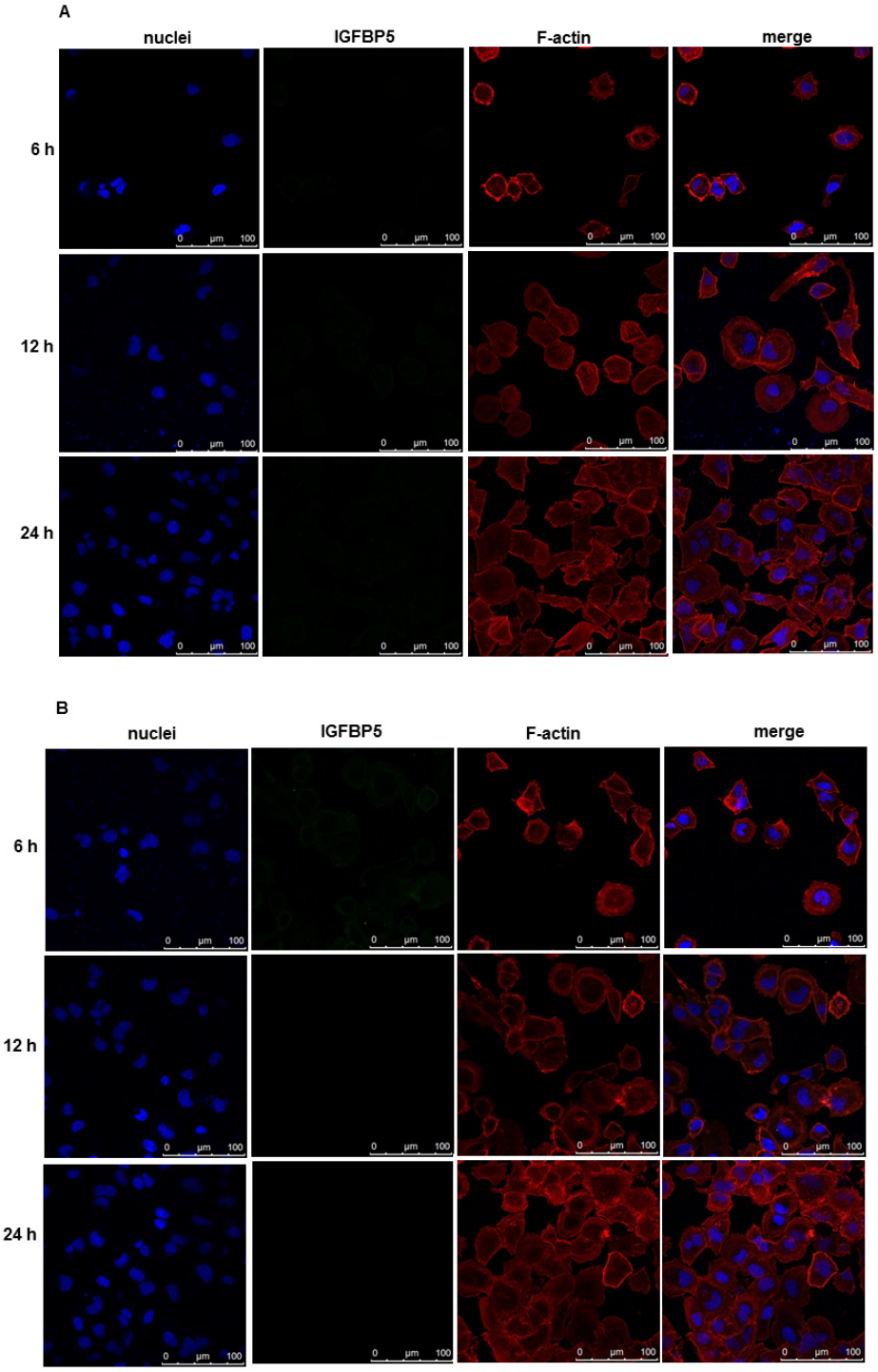


Figure S4. (A). Preparation of cancer stem cells (CSCs) from NCI-H23 cells. The sizes of tumospheres increased while increasing the cell culture for 9 days. At day 9, the CSCs were collected and cultured on (B) glass or (C) crosslinked and (D) non-crosslinked (white arrows) P(CL-*co*-DLLA) substrates. (E). The percentage of viable CSCs on crosslinked and non-crosslinked P(CL-*co*-DLLA) substrates compared to control (glass). Each data represents mean ±SD, where n = 3 *p < 0.05.


A
nuclei
IGFBP5
F-actin
merge
6 h
12 h
24 h
B
nuclei
IGFBP5
F-actin
merge
6 h
12 h
24 h

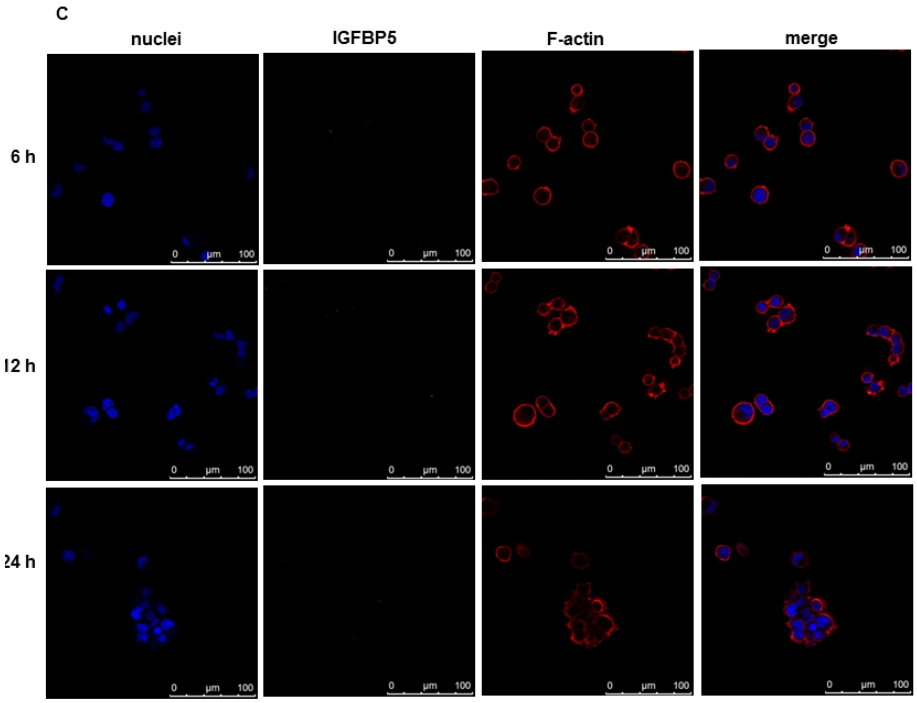


Figure S5. Confocal images of NCI-H23 cells grew on glass (A), crosslinked (non-fluidic) (B) and non-crosslinked (fluidic) P(CL-*co*-CLLA) substrates (C). The cells were immunostained by IGFBP 5 antibodies at different time periods from 6 to 24 h. The images were documented using confocal laser scanning microscope. IGFBP5 protein is not detected in any of the samples.

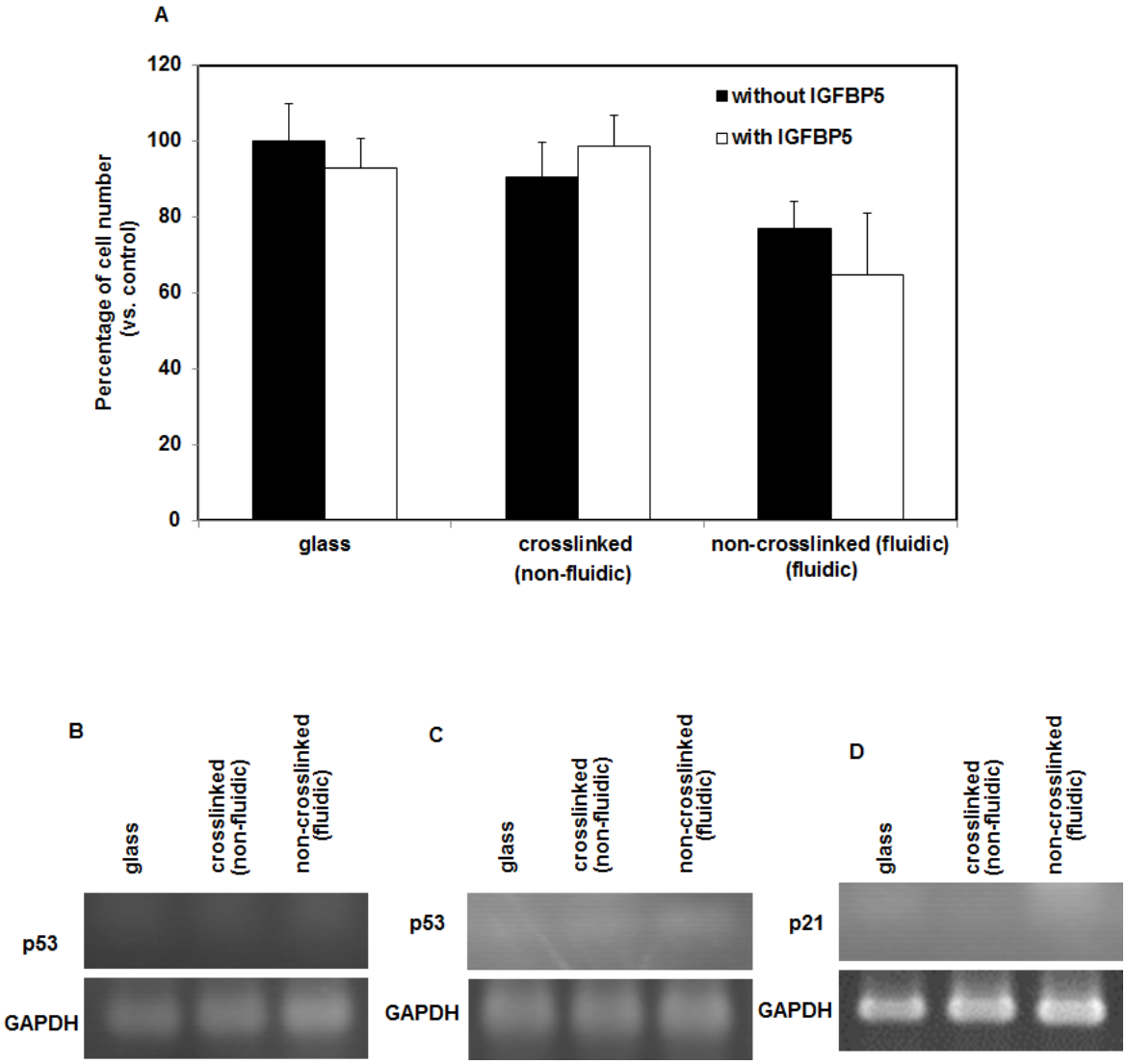


Figure S6. (A) Growth behavior of MCF 10A cells in rhIGFBP5 protein supplemented medium. The cells were exposed to 200ng/mL concentration of rIGFBP5 protein and the cell numbers were determined after one day culture on crosslinked or non-crosslinked P(CL-*co*-DLLA) substrates. Cell numbers were calculated and the data were compared to control group (without rhIGFBP5 exposure) of the corresponding samples. Each data represents mean± SD, n=3. Expression of p53 on MCF 10 A cells (B) without rhIGFBP5 protein (C) with

rhIGFBP5 protein and (D) p21 on NCI-H23 cells at three days culture on crosslinked or non-crosslinked P(CL-*co*-DLLA) substrates by reverse transcriptase (RT) PCR.

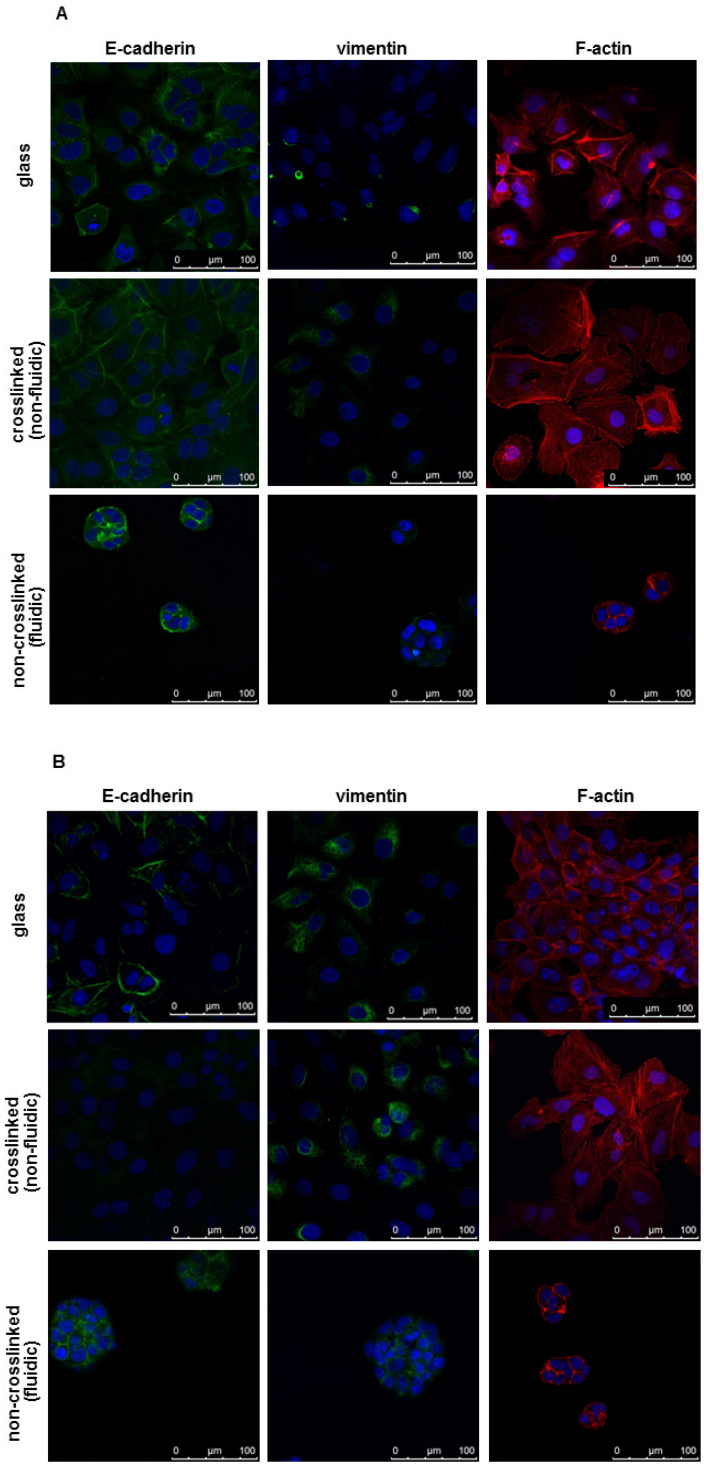


Figure S7. Epithelial to mesenchymal transition (EMT) behavior of NCI-H23 cells on crosslinked (non-fluidic) or non-crosslinked (fluidic) P(CL-*co*-DLLA) substrates (A) 24 h, (B) 48 h. NCI-H232 cells were stained for epithelial (E-cadherin) and mesenchymal (vimentin) markers at the designated period.