

Supplementary Information

Hydrodynamic shuttling for deterministic high-efficiency multiple single-cell capture in a microfluidic chip

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Table S1. Microchannel dimensions and resistance ratio.

	Trap width	Trap height	Channel width	Channel height	Chamber width	Chamber height	Q1/Q2 ^a
Design	6.0 μm	5.0 μm	25.0 μm	25.0 μm	500.0 μm	100.0 μm	2.125
Results	6.0 μm	4.6 μm	25.0 μm	26.4 μm	500.3 μm	111.3 μm	3.717

^a Q1: the volumetric flow rate of capture site; Q2: the volumetric flow rate of bypassing channel.

Table S2. One-way ANOVA and Tukey's HSD test results of individual cell average motility speeds at different time points in different groups.

	One-way ANOVA	Tukey's HSD test	Group average
pLKO-GFP	$P < 0.01$		
pLKO-GFP : pLKO-GFP with LECs		$P < 0.01$	0.089 : 0.132
pLKO-GFP : pLKO-GFP with WNT5B sh4		NS	
pLKO-GFP : Triple culture		NS	
pLKO-GFP with LECs : pLKO-GFP with WNT5B sh4		$P < 0.05$	
pLKO-GFP with LECs : Triple culture		NS	
pLKO-GFP with WNT5B sh4 : Triple culture		NS	
WNT5B sh4	$P < 0.01$		
WNT5B sh4 : pLKO-GFP with WNT5B sh4		NS	
WNT5B sh4 : WNT5B sh4 with LECs		NS	
WNT5B sh4 : Triple culture		$P < 0.01$	0.121 : 0.816
pLKO-GFP with WNT5B sh4 : WNT5B sh4 with LECs		NS	
pLKO-GFP with WNT5B sh4 : Triple culture		$P < 0.01$	0.159 : 0.816
WNT5B sh4 with LECs : Triple culture		$P < 0.01$	0.315 : 0.816
LECs	$P < 0.01$		
LECs : pLKO-GFP with LECs		NS	
LECs : WNT5B sh4 with LECs		$P < 0.01$	0.107 : 0.284
LECs : Triple culture		$P < 0.01$	0.107 : 0.262
pLKO-GFP with LECs : WNT5B sh4 with LECs		$P < 0.01$	0.139 : 0.284
pLKO-GFP with LECs : Triple culture		$P < 0.01$	0.139 : 0.262
WNT5B sh4 with LECs : Triple culture		NS	

Group average, Total average motility speeds. NS, Nonsignificant.

Table S3. One-way ANOVA and Tukey's HSD test results of different individual cell average motility speeds in the same group at various time points.

	One-way ANOVA	Tukey's HSD test	Group average
Monoculture	$P < 0.05$		
pLKO-GFP : WNT5B sh4		$P < 0.01$	0.089 : 0.121
pLKO-GFP : LECs		NS	
WNT5B sh4 : LECs		NS	
Co-culture	$P < 0.01$		
pLKO-GFP : WNT5B sh4		$P < 0.01$	0.116 : 0.237
pLKO-GFP : LECs		$P < 0.01$	0.116 : 0.212
WNT5B sh4 : LECs		NS	
Triple culture	$P < 0.01$		
pLKO-GFP : WNT5B sh4		$P < 0.01$	0.103 : 0.817
pLKO-GFP : LECs		NS	
WNT5B sh4 : LECs		$P < 0.01$	0.817 : 0.262

Group average, Total average motility speeds. NS, Nonsignificant.