Supporting Information

Single cell enzyme-free dissociation of neurospheres using a microfluidic chip

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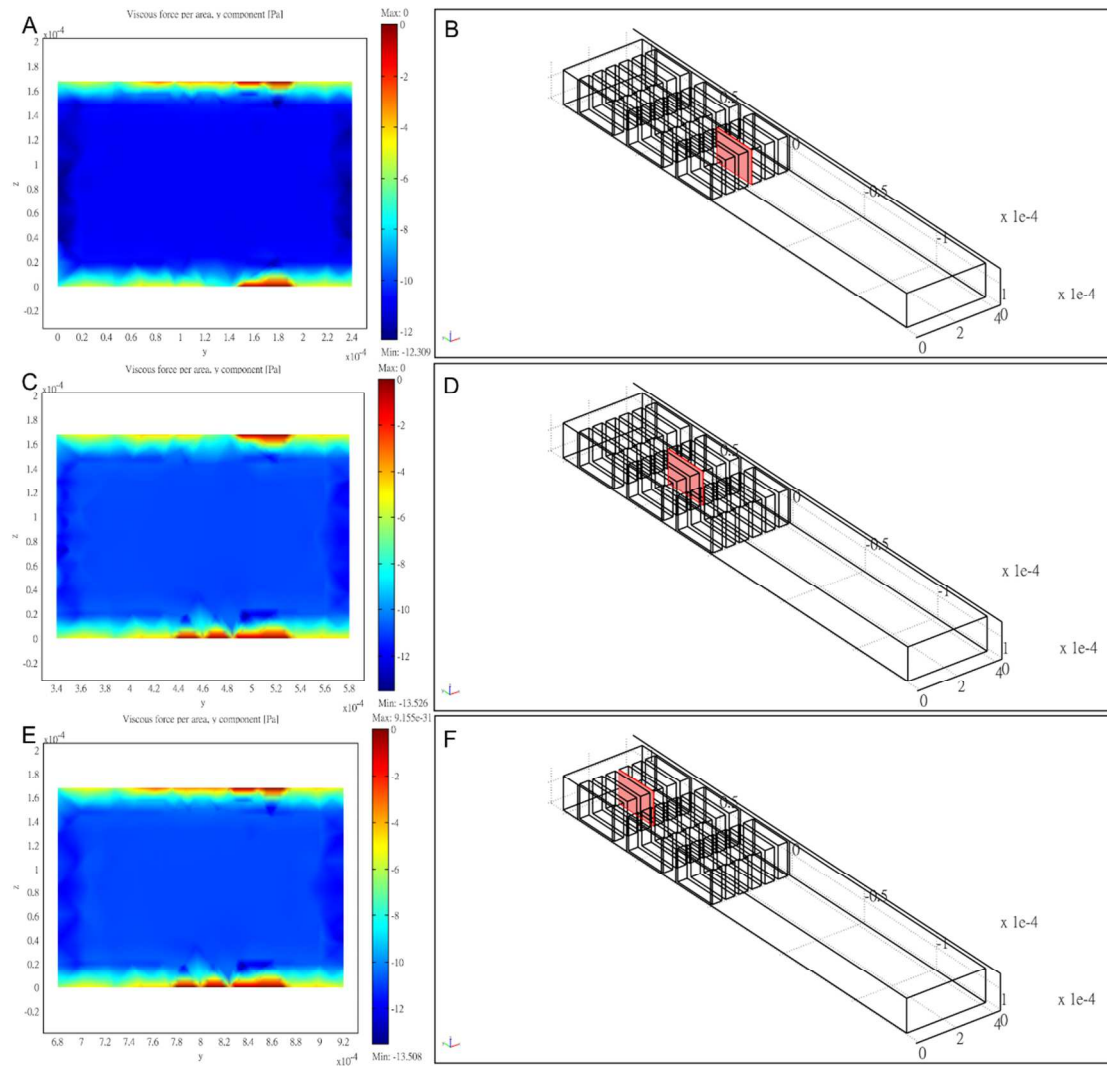Corresponding author Email address: chsu@nhri.org.tw and ingming@nhri.org.tw

Figure S-1. Finite element simulation shows that the maximum stress on the micropillars

sidewall was about 10–12 Pa (y component) at the central area of the sidewall at a normal inflow

velocity of 0.01 m/sec for the inlet. The proximal side is set as the inlet and the opposite side as

the outlet (pressure = 0). The entire left and right sides of the outside channel are set as

symmetric boundaries, while other surfaces of this model are set as walls (non-slippery).
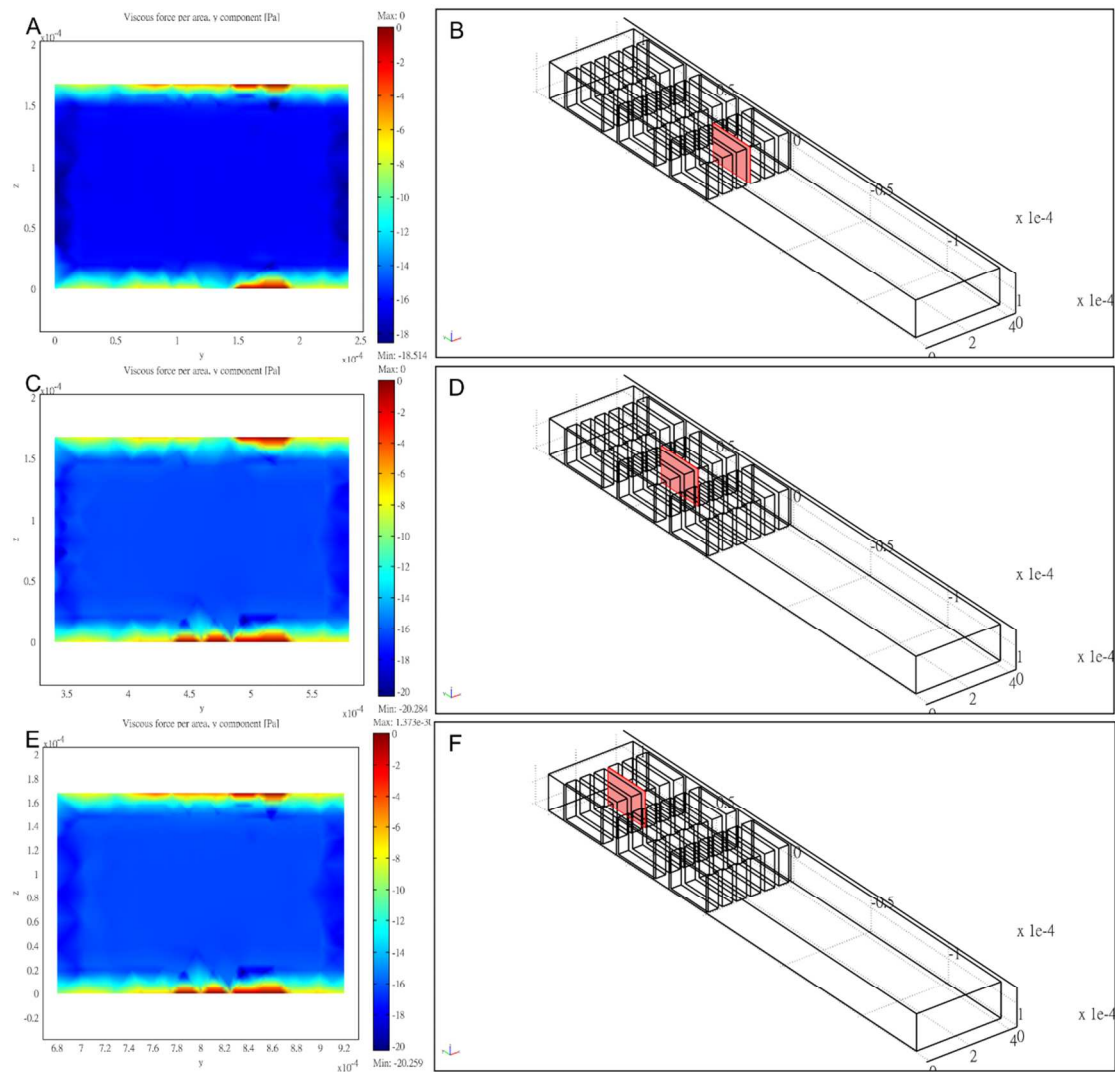
Figure S-2. Finite element simulation shows that the maximum stress on the micropillars

sidewall was about 16–18 Pa (y component) at the central area of the sidewall at a normal inflow

velocity of 0.015 m/sec for the inlet. The same boundary conditions as described in Fig. S-1
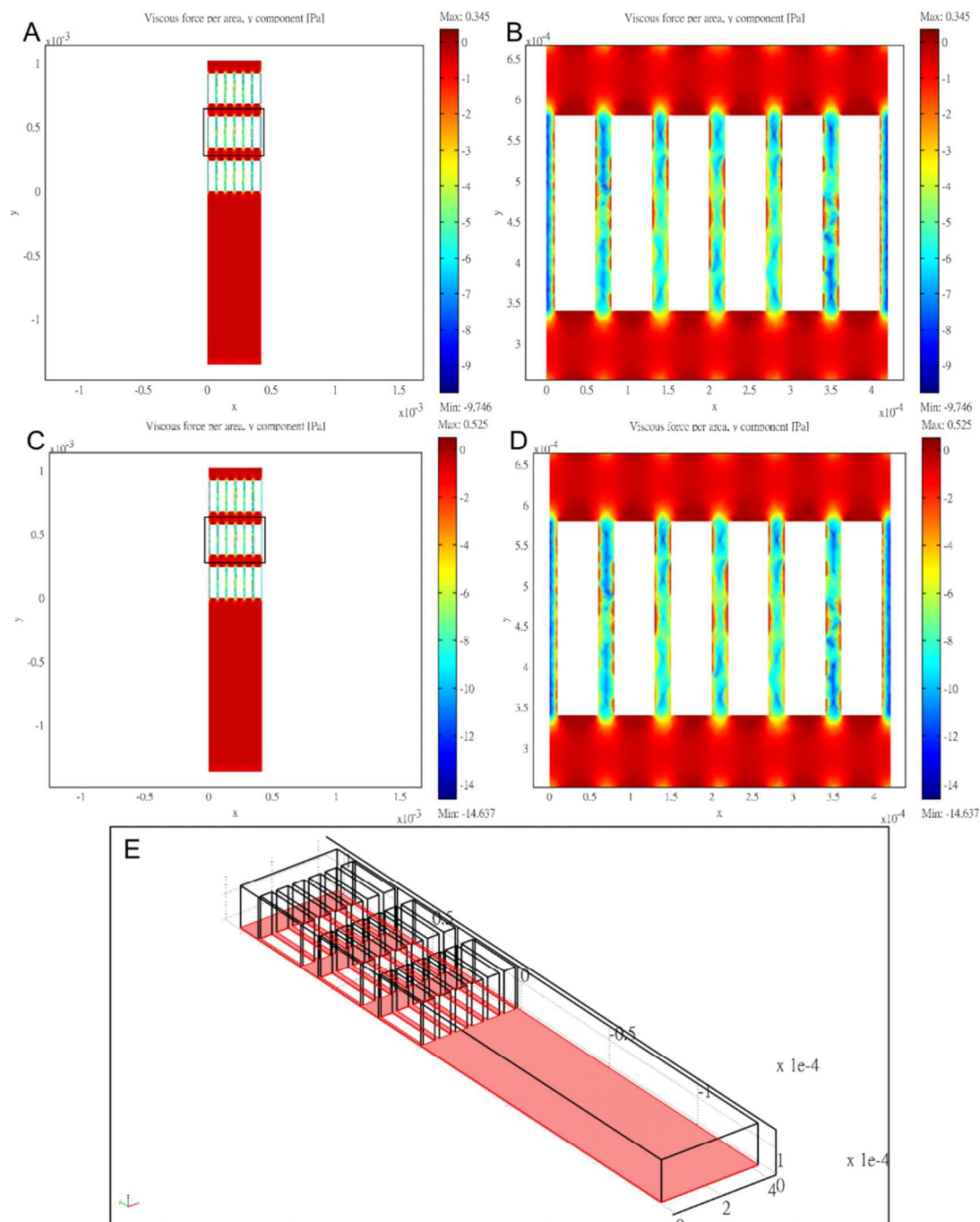
caption are used.

Figure S-3. Finite element simulation of the shear stress on the bottom surface of the microchannel. (A and B) The maximum shear stress occurs at the areas between two adjacent micropillars at 10 ml/min flow rate and (C and D) 15 ml/min flow rate. The same boundary conditions as described in Fig. S-1 caption are used.
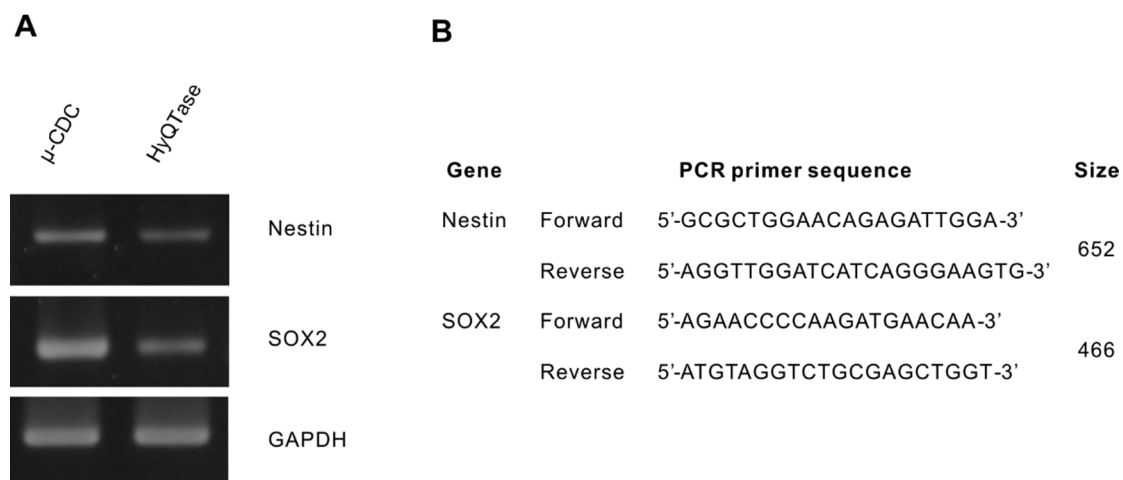
A

B

Gene		PCR primer sequence	Size
Nestin	Forward	5'-GCGCTGGAACAGAGATTGGA-3'	
	Reverse	5'-AGGTTGGATCATCAGGGAAGTG-3'	652
SOX2	Forward	5'-AGAACCCCAAGATGAACAA-3'	
	Reverse	5'-ATGTAGGTCTGCGAGCTGGT-3'	466

Figure S-4. mRNA expression of stemness markers Nestin and SOX2 of μ-CDC and HyQTase dissociated KT98 cells. (A) KT98 neural cells from both μ-CDC (10 mL/min) and HyQTase dissociated cells showed the expressions of Nestin and SOX2 markers. The GAPDH expression was used as an internal standard. (B) List of Nestin, and SOX2 PCR primer sequences and sizes used in this study.