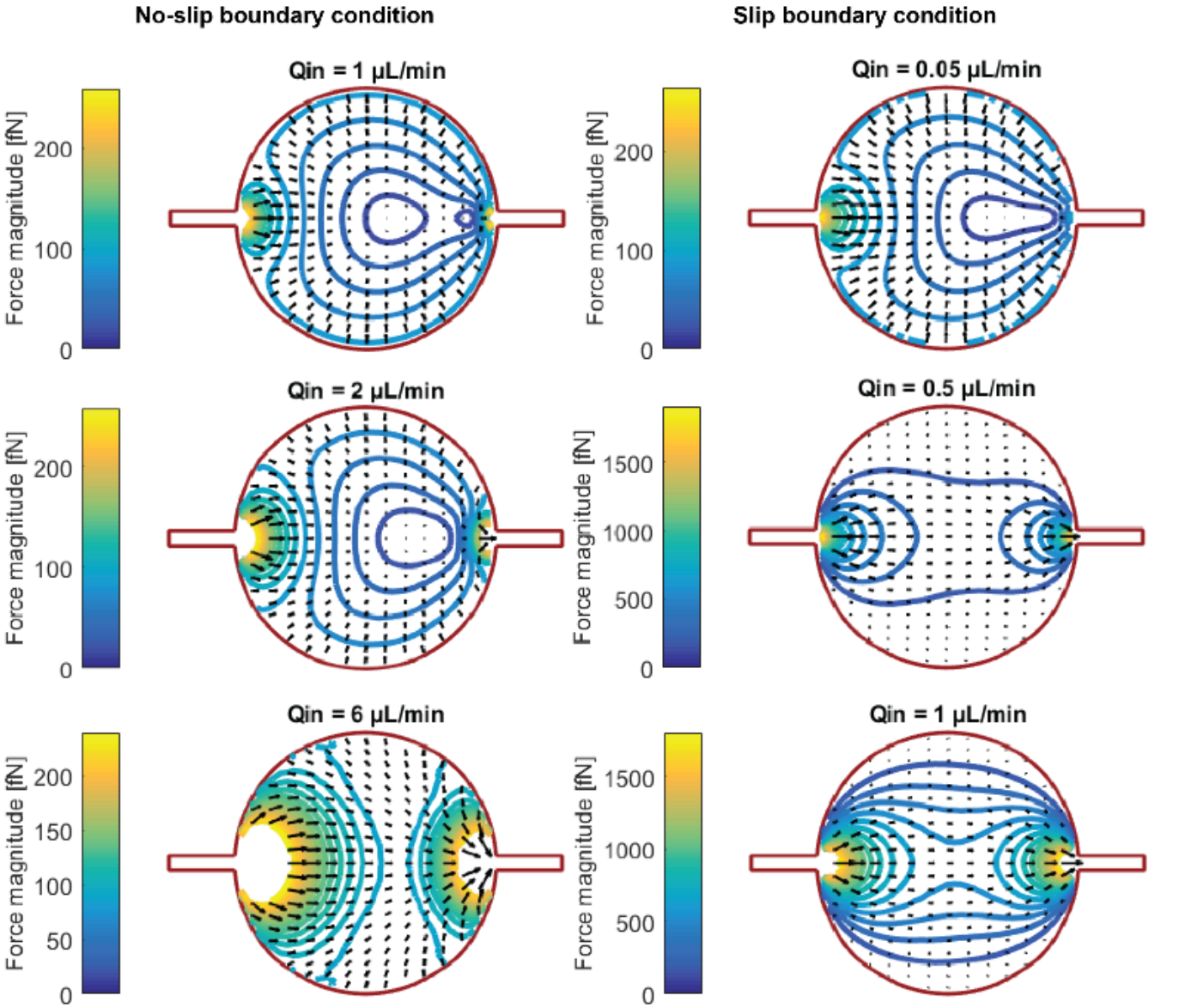
Electronic Supplementary Material (ESI) for Lab on a Chip.

Electronic Supplementary Information



Supplementary Figure 1: Net-tangential-force mapping at the ALI for no-slip and slip boundary conditions. This figure shows that only a flow rate 20-fold lower than what is experimentally feasible (0.05 µL min^{-1}) can generate a stagnation area under a slip boundary condition. This figure also shows that a 6-fold higher flow rate than what is experimentally feasible could enable a free flow of cells under a no-slip boundary condition. Finally, the forces at a flow rate of 6 µL min^{-1} show that a net tangential force above 100 fN ensures free bead flow.

Supplementary Video 1: Time lapse video of beads flowing or stagnating in a hanging drop for 3 different drop heights reported in Figure 6b.

Supplementary Video 2: Time lapse video of cells flowing or stagnating in a hanging drop for 3 different drop heights reported in Figure 6c.