Lab on a Chip
Supplementary Information

Adhesion-free bacterial chemotaxis in static gradients quantified in a biopolymer membrane-integrated microfluidic platform

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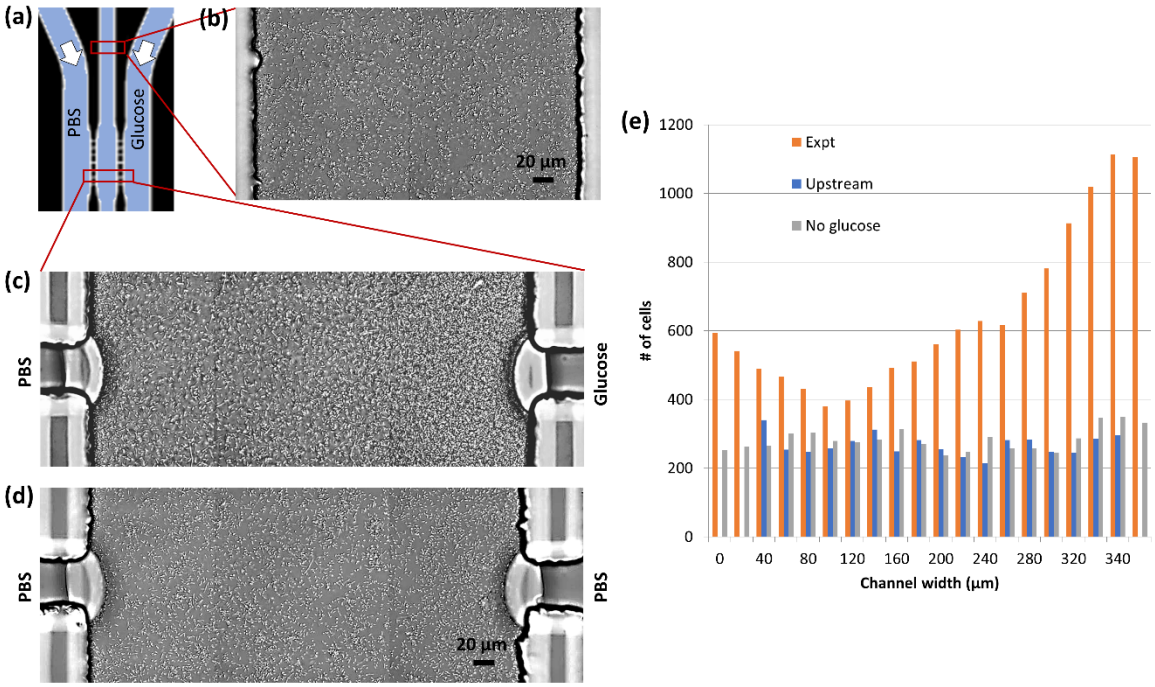

Figure S1. Control experiments of *E. coli* chemotaxis to glucose. **(a)** Schematic of regions of interest for control and experimental cell distributions after establishing static glucose gradients for 30 min. **(b)** Cell distribution at the upstream of the middle channel (control_1). **(c)** Cell distribution with static glucose gradients for 30 min (experiment). **(d)** Cell distribution without static glucose gradients (control_2). **(e)** Particle counting analysis of the experiment and controls.

Legends for Supplementary Videos

Supplementary video 1: The real-time chemotactic migration of *E. coli* cells in the middle channel under steady gradient of glucose for 30 minutes. The concentration of glucose was from 0 to 1 mM from left edge to right edge. *E. coli* cells was suspended in PBS and the OD of *E. coli* cells was 0.97.

Supplementary video 2: The chemotaxis process of green fluorescence protein (GFP)-expressing *E. coli* cells in static glucose gradient for 30 minutes. The left channel was filled with constant flow of PBS while the right channel was filled with constant flow of 1 mM glucose. GFP-expressing *E. coli* cells was suspended in PBS and the OD of *E. coli* cells was 1.35. Fluorescent image was taken every 30 seconds to avoid photobleaching.