

Lab on a Chip

Supplementary Information

Probing mutual interactions between *Pseudomonas aeruginosa* and *Candida albicans* in a biofabricated membrane-based microfluidic platform

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The promoting and inhibitory effects from *Ca* and *Pa*, respectively, were confirmed with standard liquid culture experiments in which we measured colony forming unites (CFU). Figure S1 shows that mono and cocultures in tube exhibited similar mutual phenomena as in the biofabricated membrane-based microfluidic platform. Figure S1 shows that *Pa* cell count (blue dots) after 24 hours in coculture was 4.3×10^{10} ($\pm 8.6 \times 10^9$), or a 79% increase, as compared to 2.4×10^{10} ($\pm 2.4 \times 10^9$) CFU/mL in monoculture. On the other hand, *Ca* growth (white bars) after 24 hours in coculture was found to be nearly completely inhibited as the \log_{10} counts were reduced from 8.5 $\text{Log}_{10}(\text{CFU/mL})$ to 1.8 $\text{Log}_{10}(\text{CFU/mL})$. Although the liquid culture experiments show similar promoting and suppressing effects of *Ca* and *Pa*, respectively, our biofabricated membrane-based microfluidic platform revealed additional details about the dynamics of the growth phenotypes that are not easily observable with standard culturing approaches.

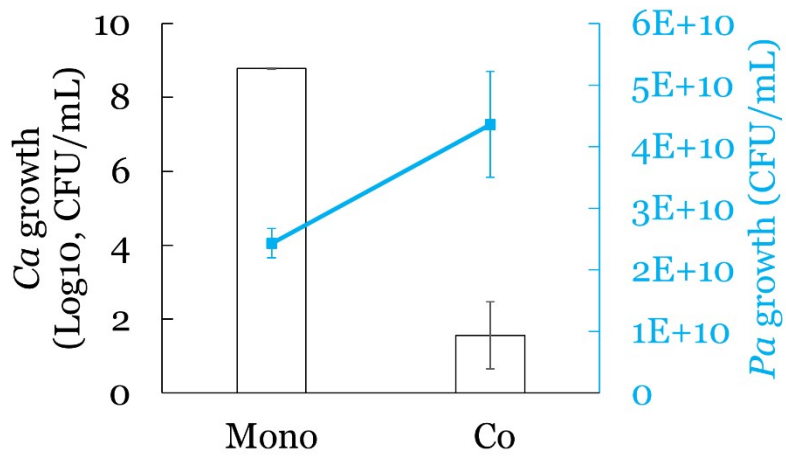


Figure S1. *Pa* and *Ca* growth in tubes after 24 h in monoculture vs. coculture. The *Ca* growth (white bars) reduced in coculture with *Pa* while the *Pa* growth (blue points) increased at the presence of *Ca*.