

1 **Supplementary Videos**

2 **Title: A microfluidic co-cultivation platform to investigate microbial** 3 **interactions on single-cell level**

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18 **V1:**

19 Time-lapse video of one microfluidic co-cultivation chamber with growing *C. glutamicum* DM1800 and
20 *C. glutamicum* $\Delta lysA$ pEKEX2-eYFP cells. Cells are supplied with CGXII medium and 10 mM lysine.
21 Images were taken in an interval of 10 min.

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23 **V2:**

24 Microfluidic control experiments with *C. glutamicum* $\Delta lysA$ pEKEX2-eYFP. Left frame shows time-lapse
25 images of the growing lysine auxotrophic strain supplied with CGXII and 10 mM lysine. Right frame
26 shows time-lapse images of the lysine auxotrophic strain in CGXII medium without additional lysine.
27 Images were taken in an interval of 10 min.

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29 **V3:**

30 Contact-dependent interaction experiment with *E. coli* S17-1 pRhokHi-2-eYFP and *P. putida* KT2440
31 pJT'Tmcs-mCherry in microfluidic co-cultivation chambers. Cells are supplied with LB medium.

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33 **V4:**

34 Contact-dependent interaction experiment with *E. coli* S17-1 pRhokHi-2-eYFP and *P. putida* KT2440
35 pJT'Tmcs-mCherry in microfluidic monolayer growth chambers. Direct cell contact is allowed and
36 plasmid transfer occurs, which leads to a colour shift in single cells. Cells are supplied with LB medium.

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